1. INTRODUCTION

On January 20, 1999, the City of Sacramento (City) and County of Sacramento (County) distributed the Draft Environmental Impact Report (Draft EIR) for the Water Forum Proposal (WFP) to public agencies and the general public. The WFP was formulated by stakeholder representatives in the Water Forum Working Group, as a proposal for the effective long-term management of the region's water resources. The WFP was formulated based on the two coequal objectives of the Water Forum: 1) provide a reliable and safe water supply for the region's economic health and planned development through the year 2030; and 2) preserve the fishery, wildlife, recreational, and aesthetic values of the Lower American River.

The environmental analysis in the Draft EIR is based on an evaluation of how environmental conditions would be expected to change as a result of implementing the WFP. As a first-tier, Program EIR of the WFP, the impact analysis addresses both the impacts resulting from the WFP and a cumulative evaluation of all the participating purveyor's water resource actions in the region, along with many other water management actions outside the region. The WFP Draft EIR also considers the impacts of various alternatives to the WFP.

The California Environmental Quality Act (CEQA) Guidelines §15205(d) requires a 45-day review period for the Draft EIR. The review period for the WFP Draft EIR was 60 days, from January 20, 1999, to March 22, 1999, and was extended for an additional 14 days until April 5, 1999. Comments on environmental issues evaluated in the Draft EIR were received from the public, and state and local agencies during the review period. In addition, a public hearing was held in the Cooperative Agricultural Extension Office, 4145 Branch Center Road, Sacramento, California, on March 3, 1999, to allow oral comments on the Draft EIR.

As specified in §15088(b) of the State CEQA Guidelines, the focus of the responses to comments is on the disposition of significant environmental issues. Detailed responses are not required on comments regarding the merits of the proposed project. Comments on the merits of the project will be forwarded to agency decision makers for consideration prior to approving or denying the proposed project.

All comments on the Draft EIR, and the responses thereto, are presented in this report. Section 4 of this volume, Comments on the Draft EIR and Responses, contains the written comments (verbatim) and transcripts of oral comments on the Draft EIR, and responses to significant environmental issues raised in the comments, as required by the State CEQA Guidelines §15132. Each comment letter is labeled to correspond with an index list in Section 3. If a comment results in a change to the Draft EIR text, the text is revised and the changes compiled in Section 5, Corrections and Revisions to the Draft EIR. The text deletions are shown in strikeout (~~strikeout~~) and additions are shown in underline (<u>underline</u>).

The Final EIR consists of the following documents in their entirety:

- Draft Environmental Impact Report for the Water Forum Proposal, including:
  - Appendices A - D
  - Appendices E - G and I - K
  - Appendix H
- Responses to Comments and Additional Information, including:
  - Appendix L
  - Appendix M
  - Appendix N

2. Update to Water Forum Purveyor-Specific Agreements

BACKGROUND

At the time the WFP Draft EIR was prepared, some purveyors who were stakeholders in the Water Forum process had remaining issues that had not been resolved. Although final agreements had not yet been reached with these stakeholders, it was reasonable to assume that some agreement would be reached prior to adoption of the Water Forum Agreement. To ensure adequate consideration of the effects of these purveyors' participation in the Water Forum Agreement, the water resources modeling on which much of the WFP Draft EIR analysis was based assumed participation by all of the stakeholder purveyors at diversion amounts based upon reasonable expectations in light of the ongoing negotiations and the facts and circumstances relevant to each purveyor's water needs during the life of the project. Thus, the WFP Draft EIR analyzed the impacts of the WFP assuming all stakeholders would join in the Water Forum Agreement.

The purveyors with unresolved issues at the time the WFP Draft EIR was prepared were Arcade Water District, El Dorado Irrigation District, Georgetown Divide Public Utility District, Rancho Murieta Community Services District, and Rio Linda Elverta Community Water District. This section of the WFP Draft EIR describes the current status of these purveyors' participation in the Water Forum Agreement and how the agreements that have been reached affect the environmental analysis in the WFP Draft EIR.

The Rio Linda Elverta Community Water District, which had agreed to enter into a Procedural Agreement, has completed negotiations that will allow this agency to join in the Water Forum Agreement (see details below).

The issues of concern to Arcade Water District, El Dorado Irrigation District, and Georgetown Divide Public Utilities District, and Rancho Murieta Community Services District remain unresolved. These purveyors are expected to enter into Procedural Agreements with signatories to the Water Forum Agreement and will not be initial signatories to the Agreement. Until these agencies sign the Water Forum Agreement, their projects are outside the scope of the project. Water Forum signatories have committed to work in good faith with these stakeholders to negotiate mutually acceptable agreements to resolve remaining issues. Once these issues are resolved, the Water Forum Agreement is expected to be amended to include them. At this time, there is no reason to believe that these issues will be resolved in a way that would change the results of the analysis in the WFP Draft EIR. In the event that the future agreements differ substantially from the assumptions used in the WFP Draft EIR, additional environmental analysis could be required, including consideration of cumulative impacts of water diversion during dry and critically dry years, and mitigation.

Rio Linda Elverta Community Water District

Rio Linda Elverta Community Water District (RLECWD) has negotiated a purveyor-specific agreement with Water Forum stakeholders that provides for RLECWD's year 2030 water supply needs. RLECWD acknowledges in the agreement that decisions on how to maintain the long-term sustainable yield of the North Area groundwater basin will be made by the Sacramento North Area Groundwater Management Authority (SNAGMA) with representation of the RLECWD on the SNAGMA's governing board consistent with the joint powers agreement establishing SNAGMA. SNAGMA management of the Sacramento North Area groundwater basin is described at page 4.2-4 of the WFP Draft EIR.

The agreement would allow RLECWD to meet future demands without exceeding the parameters of the diversion levels modeled for other purveyors and it is entirely consistent with what was analyzed in the WFP Draft EIR. Therefore, the agreement would not produce any new significant impacts or a substantial increase in the severity of significant impacts identified in the WFP Draft EIR.

3. Comments Received on the Draft EIR

Letter No.	Commentor	Date	Page No.
A	Bill Kiene, Kiene's Fly Shop 2654 Marconi Avenue Sacramento, CA	2/19/99	4-3
B	Thomas "Rico" Oller Assemblyman Fourth District P.O. Box 942849 Sacramento, CA 94249	2/25/99	4-5
C	Kurt Ladensack, EBMUD, Oakland Public Hearing	3/3/99	4-9
D	Sandy Kozlen 4500 Colby Way, Carmichael, CA Public Hearing	3/3/99	4-25
E	Harry M. Schueller, Chief State Water Resources Control Board	3/11/99	4-31
F	William L. Berry, Jr. 3420 Brookside Way Carmichael, CA	3/12/99	4-39
G	Craig Thomas, Conservation Director Center for Sierra Nevada Conservation	3/21/99	4-53
H	Louis B. Green, County Counsel, El Dorado County	3/18/99	4-57
I	Herum, Crabtree, Dyer, Zolezzi & Terpstra, LLP, for Stockton East Water District	3/19/99	4-61
J	John Farhar, Sr. Planner, Sutter County Community Services Department	3/19/99	4-67
K	Wayne S. White, Field Supervisor U.S. Fish & Wildlife Service	3/22/99	4-79
L	Arthur Feinstein, Executive Director Golden Gate Audubon	3/17/99	4-95
M	Paul Olmstead, Water & Power Resources, SMUD	4/5/99	4-97
N	Kronick, Moskovitz, Tiedemann & Girard for Westlands Water District	4/2/99	4-125
O	Rick LeFlore, District Planner California Department of Parks & Recreation	4/1/99	4-163
P	Wendell H. Kido Sacramento Regional County Sanitation District	4/5/99	4-179
Q	Alice Q. Howard El Dorado County Taxpayers for Quality Growth	4/3/99	4-189

Letter No.	Commentor	Date	Page No.
R	Nick Wilcox, Chief, Bay-Delta Unit State Water Resources Control Board	4/3/99	4-195
S	Ronald Stork, Friends of the River	4/5/99	4-197
T	Michael J. McDougall, Palisades Properties	4/5/99	4-201
U	Vicki Lee, Chair Sierra Club-Mother Lode Chapter	4/5/99	4-209
V	Derrick H. Whitehead, Environmental Utilities Director City of Roseville	4/5/99	4-221
W	David Witter, Project Administrator El Dorado Irrigation District	4/5/99	4-225
X	Merv de Haas, General Manager El Dorado County Water Agency	4/2/99	4-227
Y	Kurt Ladensack, EBMUD	4/5/99	4-231
Z	Harold Kenster 2372 Rogue River Drive, Sacramento	4/5/99	4-267
AA	Richard A. Denton, Water Resources Manager Contra Costa Water District	4/5/99	4-269
BB	Richard H. Sears, Jr. 921 La Sierra Drive, Sacramento	4/5/99	4-287
CC	Alan Wade, President Save the American River Association	3/30/99	4-291
DD	Thomas J. Aiken, Area Manager Bureau of Reclamation	4/5/99	4-297
EE	John T. Doolittle U.S. Representative, 4th District	4/5/99	4-313

4. comments on the draft eir and responses

This section of the EIR contains comment letters received during the 74-day public review period, ending March 22, 1999, and extended to April 5, 1999, for the Water Forum Proposal Draft EIR. In conformance with State CEQA Guidelines §15088(a), written responses to comments on environmental issues received from reviewers of the WFP Draft EIR were prepared. State CEQA Guidelines §15088(b) provides that "... written response[s] shall describe the disposition of significant environmental issues raised ¼." This section of the Final EIR document also contains responses to environmental issues raised during the public hearing, held on March 3, 1999.

Amendments and revisions to the WFP Draft EIR in response to comment(s) made are found in Chapter 5, Corrections and Revisions to the WFP Draft EIR, of this Final EIR.

The written comments received on the WFP Draft EIR and the responses to those comments are provided in this section. Each comment letter is reproduced in its entirety and is followed by the response(s) to the comment letter. The public hearing transcript is reproduced for each substantiative public hearing comment and a response is provided. Where a commentor has provided multiple comments, each separate comment is indicated by brackets and an identifying number in the margin of the comment letter or hearing transcript.

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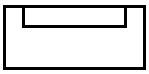
A Comment

LETTER
A

Subject: A Comment
Date: Fri, 19 Feb 1999 11:19:20 -0800
From: "Lisa Scovel" <lisa@tmsonline.com>
To: <sdavidson@sacto.org>

name = Bill Kiene
title = owner
org = Kiene's fly Shop
address = 2654 Marconi Avenue
phone = 916/486-9958
fax = 916/486-2611
E-Mail: = bkiene@ns.net
section = Action Plan
sectnum =
COMMENTS = A minimum flow for wade fishing
on the river is about 1,500cfs.
Below that I think the people
start really impacting the fish
by waklking where they are swimming.
Above 5,000cfs is dangerous to wade
fish in the river. I have worked in
a tackle or fly shop near the lower
American River for 35 years so
this is something that I have delt
with for my entire adult life.
I would like to see the minimum low
flow raised to 1,000cfs. The river
fishes best for wading at about
2,000cfs in my opinion.

A-1



Bill Kiene
Kiene's Fly Shop
February 19, 1999

A-1 The commentor's opinion regarding appropriate flow levels for wade fishing is noted. For a complete discussion of fisheries impacts, see Section 4.5, Fisheries Resources and Aquatic Habitat, of the WFP Draft EIR.

LETTER
B

CAPITOL OFFICE
P.O. BOX 942849
SACRAMENTO, CA 94249-0001
(916) 319-2004
FAX: (916) 319-2104

DISTRICT OFFICE
J DOUGLAS BLVD., SUITE 120
ROSEVILLE, CA 95661
(916) 774-4430
FAX: (916) 774-4433
e-mail: Rico.Oller@assembly.ca.gov

Assembly
California Legislature

THOMAS "RICO" OLLER
ASSEMBLYMAN, FOURTH DISTRICT

ASSISTANT REPUBLICAN LEADER

COMMITTEES:
VICE-CHAIRMAN,
INSURANCE COMMITTEE
LABOR AND EMPLOYMENT
NATURAL RESOURCES
PUBLIC SAFETY

February 25, 1999

Susan Davidson
Sacramento City-County Office of Metropolitan Water Planning
5770 Freeport Blvd. Ste. 200
Sacramento, CA 95822

Dear Ms. Davidson:

I am writing to express my concern over one issue that has not been addressed by the Water Forum. The Water Forum Proposal does not speak to the significant impacts that will be made on recreational activities prevalent on and around the bodies of water affected by Water Forum decisions.

It is imperative that the impacts made on recreation be mitigated. The current Water Forum Proposal and its Draft Environmental Impact Report needs to include an analysis on how all recreation will be affected. It ought to delineate precisely what mitigation measures will be used to offset negative impacts on recreation and establish how these measures will be implemented and paid for. These issues should be addressed before any agreements are reached or contracts are ratified. B-1

The Water Forum effects a large number of agencies, local governments and other entities that serve literally millions of people. These people have a stake in the decisions made by the Water Forum. The Forum's sole purpose should be to promote their best interests—ignoring their recreational needs and rights is wrong.

Please strongly consider these points as the Water Forum completes its proposal.

Sincerely,

Rico Oller

THOMAS "RICO" OLLER

Representing the counties of Alpine, Amador, Calaveras, El Dorado, Mono and Placer.

Thomas "Rico" Oller
Assemblyman Fourth District
February 25, 1999

B-1 The comment requests consultation and additional detail regarding mitigation measures related to Folsom Reservoir. Since receipt of the Draft EIR comments, Water Forum staff and purveyors have had several meetings with representatives of the California Department of Parks and Recreation (CDPR) and staff to Congressman Doolittle. During these meetings the CDPR has clarified that its comments relate to recreation, particularly the anticipated loss of visitor days. An approach for mitigation has been developed during these meetings that responds to this comment and also addresses comments O-4, O-8, O-10, O-11, and EE-1.

Summary

Water Forum signatories will work with their elected officials, CDPR and other agencies that have an interest in reservoir levels, such as Congress, USBR, California Department of Boating and Waterways and the Sacramento Area Flood Control Agency, to obtain at least $3,000,000 of new funding for improvements to Folsom Reservoir recreation facilities.[1]

Background

Historically, many Water Forum purveyors secured water rights prior to the construction of the Folsom Reservoir. After construction of the reservoir, USBR assumed responsibility for operating the reservoir to store and manage water for the operation of the CVP, among other purposes. The reservoir has historically held and released to CVP customers water that Water Forum purveyors were entitled to but had not diverted. As purveyors increase diversions in accordance with historic entitlements, the manner in which USBR operates the reservoir together with flood control operations will influence reservoir levels. For these reasons and because CEQA defines "impacts" and "effects" as "direct or primary effects which are *caused* by the project" (14 Cal. Code Regs. § 15358), some purveyors believe that reservoir declines are properly viewed as being caused by the lack of replacement water supplies for the Central Valley Project as senior water rights are exercised and CVP yield is required to be used for environmental purposes. Accordingly, these purveyors believe that CEQA mitigation for reservoir impacts is not a legally required purveyor responsibility. As described below, however, the Water Forum project will include measures that will tend to lessen the effect of the reduction in Folsom Reservoir levels that would occur in the future.

[1] New funding means funding Water Forum signatories are instrumental in obtaining that was not authorized, appropriated, or requested as of January 1, 2000.

continued ...

As noted in the WFP Draft EIR, the Water Forum project includes measures that limit the extent of reservoir reductions by restricting diversions in dry years and imposing more extensive water conservation measures than would occur in the absence of the Water Forum Agreement. To help offset the effects of reservoir reductions that do occur, the Water Forum will work with other agencies that have an interest in reservoir levels, such as Congress, USBR, California Department of Boating and Waterways, and Sacramento Area Flood Control Agency, to obtain at least $3,000,000 of new funds for improvements to Folsom Reservoir recreation facilities. The CDPR is the agency responsible for managing the resources of Folsom Reservoir. Therefore, it is the appropriate agency to receive these funds and manage the recreational improvement projects.

The CDPR will develop a list of potential recreation improvement projects as part of the funding request. One type of project could be "mini-dikes," i.e., sculpted embankments within the lake bed to impound water for swimming use when reservoir levels are low. The design of the recreational improvements in the lake would also include design features for improving warm water fishery habitat, such as structural complexity for fish on the lake side of the mini-dike embankment, which would also support recreational fishing. Other projects could include, but not be limited to, those identified in the WFP Draft EIR. The improvements are intended to help mitigate the anticipated loss of visitor days.

The USBR will contribute separate funding for an update by CDPR of the Folsom Lake State Recreation Area General Plan.

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LETTER
C

This transcript presents one of two comments offered at a public hearing held on March 3, 1999, at the Cooperative Agricultural Extension Office, Sacramento, California, to receive comments on the WFP Draft EIR.

MR. KURT LADENSACK: Certainly. My name is Kurt Ladensack. I'm here representing the East Bay Municipal Utility District in Oakland, California.

Okay. Thanks. Kings have an open slot on their line-up there.

Tonight, I would like to provide the District's comments. Our review of this document is ongoing. And these comments share our initial reactions regarding the adequacy of the draft E.I.R. East Bay MUD will be preparing more extensive written comments and be submitting them by the comment deadline.

The Water Forum has laudable goals and East Bay MUD is supportive of consensus-based planning processes. Water 1

C-1

Forum' effort has been to develop a regional plan among stakeholders that balances the needs for reliable water supplies with the need for environmental protection on the Lower American River. C-1

However, the exclusion of East Bay MUD, which has been significant stakeholder on the American River for 30 years, from the Water Forum's action alternative is a glaring exception to this consensus approach. It's also disappointing considering the lengthy negotiations that resulted in the joint project alternative with the City, County, East Bay MUD and Water Forum stakeholders that were endorsed -- excuse me, the lengthy negotiations that resulted in a joint project that was endorsed by the Water Forum stakeholders in the draft recommendations published in the Water Forum agreement in January 1997. C-2

Subsequent activities that were undertaken to implement that joint project have included two years of preliminary design and environmental documentation involving the City, the County, and East Bay MUD. These efforts were completed consistent with the joint project facilities and operations as they were described in the draft recommendations of the Water Forum.

Contrary to recent public statements by some Water Forum stakeholders, the draft E.I.R. does not support the contention that the East Bay MUD joint project diversions C-3

cause unacceptable fishery impacts. The only place where the East Bay MUD joint project diversions are displayed in the document and analyzed is in the cumulative scenario.

Other changes that affect conditions in the Sacramento River and in the Delta and which only show up in the cumulative scenario include: increased Trinity River flows out of the Sacramento River Basin and increased State Water Project demands. The assumed East Bay MUD diversions are dwarfed when compared to these changes. C-3

In addition, it's not possible for the reviewer to discern, from the draft E.I.R. information, how to allocate the cumulative impacts identified in the Sacramento River or in the Delta and to what extent they are attributable to East Bay MUD deliveries.

The Water Forum document does not utilize nor reference available relevant information, such as the East Bay MUD October 1997 draft E.I.R./E.I.S., which does evaluate the City, County, and East Bay MUD project, as well as East Bay MUD's alternative project. That document finds the fishery impacts to be less than significant for both alternatives. C-4

The Water Forum cumulative analysis is inadequate in that it does not evaluate an East Bay MUD diversion consistent with either the existing contract for East Bay MUD to divert from the Folsom South Canal at Grant Line Road C-5

or the project analyzed in the East Bay MUD October '97 E.I.R. C-5

Further, the model East Bay MUD diversions are not consistent with the draft Bureau of Reclamation contract currently under public review. And, as a consequence, the modeling done by the Forum overstates deliveries to East Bay MUD. This overstatement of deliveries to East Bay MUD is especially true in dry years, when the potential fishery impacts are of particular concern. The model American River flows are based upon CVPIA anadromous fish restoration plan as the rule for the river to protect anadromous fisheries. These flows would be essentially the same with or without an East Bay MUD diversion. C-6

It is not at all clear how any American River impacts, as were displayed in the staff presentation this evening, are caused by either of the East Bay MUD diversion alternatives. The Water Forum planned deliveries, which are collectively much greater than the proposed East Bay MUD deliveries, appear to be the primary cause of American River impacts. C-7

Another problematic area of the draft E.I.R. analysis is the inclusion of the temperature control device within the Water Forum plan action alternative. The temperature control device is an independent Bureau of Reclamation project that was covered for convenience in the E.I.S. for C-8

the Public Law 101514 Fazio Environmental Document. By including the temperature control device within the Water Forum actions, the temperature impacts are understated.

A more appropriate analysis would include the temperature control device in the cumulative condition. This is a serious methodology error. The draft E.I.R., therefore, fails to disclose to the public the true Water Forum planned impacts. If more significant impacts would result from considering the temperature control device in only the cumulative case, the draft E.I.R. analysis must be supplemented and recirculated. Additionally, the Water Forum has used a number of other questionable modeling approaches. C-8

East Bay MUD has previously requested, via letter several times over the past three years, that a common comment and coordinated approach to hydrologic modeling of the American River be undertaken to ensure consistency among the various concurrent modeling efforts.

East Bay MUD has fully disclosed its modeling done to examine the effects of the two alternative projects examined in its E.I.R./E.I.S. and has made this information available to anyone that has requested it. In contrast, Water Forum officials have decided not to collaborate or provide such detailed information to the public. C-9

To date, the Water Forum staff and consultants have

still not provided sufficient information to allow a reviewer to adequately understand the modeling effort.

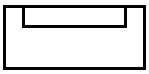
East Bay MUD has specifically requested additional information related to the preprocessing of upstream operations above Folsom, additional information regarding the demands and certain modeling assumptions that were made. The required executable file has not yet been provided to East Bay MUD.

I, again, as part of this hearing, request that this information be made available to the interested public, including East Bay MUD. Until this information is provided, no reviewer can adequately evaluate the analyses or make an informed judgment as to the draft E.I.R.'s adequacy. C-9

Once this information is provided, East Bay MUD believes that we will require additional time to review and analyze the modeling and the associated impact analyses. Therefore, East Bay MUD is formally requesting a 60 to 90 day extension of the comment period. The length of the extension needed will depend on the timing of our receiving the requested information.

East Bay MUD remains committed to working with the City and County and Water Forum stakeholders to develop a joint project of mutual benefits. Our comments are to provide an early notice to the Water Forum of critical flaws in the E.I.R. and the need for, at a minimum, 60 to 90 day extension to the comment period. C-10

Thank you.



Kurt Ladensack
EBMUD, Oakland
Public Hearing, March 3, 1999

C-1 Comment noted.

C-2 Although there have been extensive negotiations among EBMUD, the City of Sacramento, the County of Sacramento and the Water Forum Environmental Caucus, no definitive joint project has yet received support from all the parties. Because EBMUD's proposed diversions are not included in the WFP, they are not analyzed as part of the project in the WFP Draft EIR. However, it is recognized that EBMUD may divert from the American River at some point in the future. Therefore the cumulative impact analysis includes an EBMUD diversion from the American River near the confluence with the Sacramento River consistent with the project described by the commentor.

C-3 Because the EBMUD project diversions are not a part of the Water Forum Proposal, it is beyond the scope of the WFP Draft EIR to analyze and discuss what impacts may be caused specifically by EBMUD diversions. As the commentor noted, the WFP Draft EIR does include the EBMUD project diversions as a part of the cumulative impact analysis. Also, it is not necessary for the WFP Draft EIR to identify and assess the incremental contribution of EBMUD project diversions or specific other system-wide actions within the future cumulative condition.

C-4 Reference to the EBMUD Supplemental Water Supply Project environmental documentation is made on page 3-31 of the WFP Draft EIR in the context of describing other regional water planning efforts.

The impact analysis in the WFP Draft EIR was based on output of PROSIM, the computer simulation model for the CVP and SWP. Modeling parameters and assumptions for the WFP were developed in concert with staff of the U.S. Bureau of Reclamation (USBR). Substantial changes to the model and modeling assumptions were made that post-date the publication of EBMUD's October 1997 Draft EIR/EIS. These changes precluded extensive utilization of the 1997 document. The WFP Draft EIR includes an assessment of both WFP impacts alone, and cumulative impacts which include EBMUD diversions near the mouth of the American River, increased Trinity River flows, and increased water demands by CVP and SWP contractors. Based on this analysis, implementation of the WFP would result in potentially significant impacts on the warm water fisheries of Folsom Reservoir, and on fall-run chinook salmon and splittail in the American River. Under cumulative conditions, which include EBMUD's diversions, potentially significant impacts would occur to warm water fisheries of Folsom, Shasta, and Trinity reservoirs; on fall-run chinook salmon and splittail in the American River; on fisheries of the Sacramento River due to temperature increases; and on Delta fish populations due to reduced outflow.

continued ...

C-5 There is considerable uncertainty as to whether, how much, and under what conditions EBMUD would divert water from the American River. The WFP Draft EIR includes in the cumulative analysis a future diversion by EBMUD from the American River near the confluence with the Sacramento River. The diversion would be for a maximum of 112,000 acre-feet of water per year subject only to deficiencies imposed by the Central Valley Project. These assumptions with regard to diversion location and amount are reasonable in that they were under consideration at the time the WFP Draft EIR was prepared.

In order to provide additional information regarding the potential range of cumulative impacts, supplemental modeling and analysis was prepared that, as requested by the commentor, considers EBMUD diversions under its existing contact with USBR, including diversion at Nimbus Dam. This supplemental cumulative impacts analysis is included in Section 6 of the Final EIR.

Impacts identified in that supplemental cumulative analysis do not differ substantially from the impacts identified in the impact analysis in the WFP Draft EIR.

C-6 The EBMUD diversion volume modeled in the WFP Draft EIR was based on diversion volumes that were contemplated by negotiations for the joint project occurring while the WFP Draft EIR was being prepared. As such, the diversion volumes selected were reasonable for the purposes of projecting potential impacts. The draft amendatory contract mentioned by the commentor was not released until after the WFP Draft EIR was completed and distributed for public review. Accordingly, it was not feasible to present the specific volumes in that agreement in the WFP Draft EIR.

It is not possible to know how and whether the draft amendatory contract will be adopted and/or implemented. (See, for example, the August 27, 1999, letter from Pat Beneke, Assistant Secretary for Water and Science, U.S. Department of the Interior, to M. Johnson of the Sacramento County Board of Supervisors, concerning plans to explore alternatives to the amendatory contract.) Although the diversion location assumed in the WFP Draft EIR modeling could be allowed under the amendatory contract if that contract is adopted, it is also possible that it could be located elsewhere. Because it is not feasible to model each potential future scenario, the WFP Draft EIR seeks to provide information illustrating the potential extent of cumulative impacts. Towards that end, and at the request of the commentor, a supplemental cumulative impacts analysis has been prepared that assumes implementation of EBMUD's existing contract with the USBR (see Section 6, Supplemental Cumulative Impacts Analysis). It is possible that if additional dry-year restrictions are imposed beyond those contemplated in the supplemental modeling, the extent of cumulative impacts could be lower than predicted in the WFP Draft EIR.

C-7 American River impacts that were discussed during the staff presentation preceeding the public hearing on the WFP Draft EIR were associated with either the proposed WFP project, or with the future cumulative condition (which is characterized by numerous potential system-wide future actions). The presentation did not include any discussion of

the incremental contribution of EBMUD project diversions to American River fisheries impacts associated with the future cumulative condition. See also response to comment C-3.

C-8 The Temperature Control Device (TCD) on the urban water intake at Folsom Reservoir is included as part of the Project modeling because the TCD is an integral component of the WFP. The TCD would allow release of water from different levels within Folsom Reservoir at the existing urban water intake, resulting in beneficial effects on temperature conditions of the Lower American River, through coldwater pool management. This commentor suggests that the TCD should have been included in the cumulative condition; other commentors suggest that it should have been included in the baseline condition.

Under CEQA, the analysis of project impacts must include the whole of a proposed action, including all integral components of and pre-requisites to the action. As the Water Forum Action Plan notes, the TCD is essential to the implementation of the Water Forum Agreement. (See WFP Draft EIR at 2-7, 3-23, 4.5-34; Water Forum Action Plan at 3.) All Water Forum stakeholders' support for water supply entitlements and facilities is contingent on the adequate authorization and funding of the TCD. (Water Forum Action Plan at 53 [Memorandum of Understanding for the Water Forum Agreement].) In recognition of this fact, Water Forum stakeholders expended substantial time and resources in seeking federal authorization for the TCD. As a necessary pre-requisite to the project, it is appropriately included in the Project modeling.

The EIR "baseline" represents the physical environmental conditions in the vicinity of the project as they exist at the time the notice of preparation is published (State CEQA Guidelines §15125(a)). The TCD could not be appropriately included in the baseline because it did not exist at the time the notice of preparation was published, nor does it exist as of the date of the preparation of this response. (See WFP Draft EIR at 4.5-34.)

The cumulative condition must include reasonably foreseeable future projects producing related or cumulative impacts (State CEQA Guidelines §15130). Because the WFP Draft EIR reasonably anticipated that the TCD would be in-place as a necessary pre-condition to Water Forum Agreement diversions increasing to the levels modeled under the WFP, the TCD was properly included as part of the Project modeling. (See WFP Draft EIR at 4.5-34.) Its beneficial effects are still reflected in the cumulative condition because the Project modeling is part of the cumulative condition.

C-9 The Water Forum modeling information was made available in commonly understood formats such as Excel spreadsheets to anyone requesting it. Information provided to EBMUD included the following:

- WFP Draft EIR, including assumptions used for the WFP Draft EIR modeling
- Appendix H to the WFP Draft EIR

continued ...

- CD-ROM that included the PROSIM Model, the Temperature Model, and the Salmon Mortality Model
- Basis for EBMUD Demand
- Water Forum Demands
- The American River watershed model analysis of the American River, upstream of Folsom
- Spreadsheets used to develop the Water Forum demands on the American River
- Groundwater seepage estimates for the American River basin
- Assumptions and time series for Eastside streams
- ONEVAR post-processor – At EBMUD's request, this was recompiled to include the Lahey DOS Extender "TNT.EXE". This executable file allows ready access to those data.

See attached requests by EBMUD and Metropolitan Water Planning transmittal letter dated March 18, 1999.

C-10 Section 15087(c) of the California Environmental Quality Act requires a minimum review period of 45 days. The WFP Draft EIR was initially circulated for a 60-day period. At this commentor's earlier request the WFP Draft EIR comment period was extended an additional fourteen days to close on April 5, 1999.

EAST BAY
MUNICIPAL UTILITY DISTRICT

March 2, 1999

Mr. Jonas Minton, Executive Director
Mr. Jim McCormack
Sacramento Water Forum
5770 Freeport Boulevard, Suite 200
Sacramento CA 95822
transmitted via facsimile 916/433-6295

Subject: Second Data Request for Water Forum Draft EIR

Messrs. Minton and McCormack:

This letter requests data necessary for evaluation of the Water Forum Draft EIR PROSIM modeling. This request is in addition to the three items requested in my February 17th letter. We have not yet received this information, which I understand you are preparing. As we have discussed, this information is critical for us to begin our review of the EIR modeling. The additional items are:

4. The American River watershed model analysis of the American River, upstream of Folsom, including the input (data, level of development, basis, source), output, and key assumptions (especially any assumed reoperation, transfers, or rescheduling).

5. The spreadsheet or other analysis used to develop the Forum demands on the American River. This would supplement item 2 in my February 17th request. It appears that much of the Forum demand is determined external to the PROSIM model using rules and insights on hydrology that are not apparent to the reader.

6. Groundwater pumping and seepage assumptions for the American River basin. Also the basis and calculation methodology for these estimates, especially how they relate to the public CVPIA PEIS assumptions.

7. Assumptions and time series for Eastside streams (Cosumnes, Mokelumne, Calaveras) contribution to Delta inflow.

These materials can be sent to me at EBMUD, 375 11th Street, MS612, Oakland 94607-4240, faxed to 510/287-1913, or by e-mail mwmson@ebmud.com.

Thank you,

MS Williamson 510/287/1214

Mark S. Williamson
Senior Civil Engineer

375 ELEVENTH STREET . OAKLAND . CA 94607-4240 . (510) 835-3000


continued ...

EAST BAY
MUNICIPAL UTILITY DISTRICT

JOHN B. LAMPE
DIRECTOR OF WATER AND NATURAL RESOURCES
(510) 287-1127
jlampe@ebmud.com

ROBERT C. NUZUM
MANAGER OF NATURAL RESOURCES
(510) 287-0407
nuzum@ebmud.com

February 17, 1999

Mr. Jonas Minton, Executive Director
Sacramento Water Forum
5770 Freeport Boulevard, Suite 200
Sacramento CA 95822
transmitted via facsimile 916/433-6295

Subject: Data Request for Water Forum Draft EIR

Jonas Minton:

This letter requests additional data needed for evaluation of the Water Forum Draft EIR PROSIM modeling. As I requested via voice mail, the following information is required for us to begin our review:

1. Basis for EBMUD demand. This is listed in the document as "EBMUD 8/6/98 Offer". We are not aware of what this Offer is, nor why it is appropriate for analysis. Please provide a copy of this Offer, and your reasoning why this and not the District's (then current) CVP contract was not appropriate for this purpose.

2. Water Forum demands. Please provide a time series of the demands for each Water Forum entity, for each scenario considered in the DEIR. The demands are aggregated to a few nodes in the PROSIM input files and cannot be determined individually.

3. ONEVAR post-processor. We are unable to use the Forum-specific ONEVAR post-processor required for reading PROSIM output. A "fatal error" message is displayed indicating that program TNT.EXE is missing. This program is not included on the Water Forum Appendix H disk, and is required initiate our analyses.

These materials can be sent to me at EBMUD, 375 11th Street, MS612, Oakland 94607-4240, faxed to 510/287-1913, or by e-mail mwmson@ebmud.com.

Thank you,

Mark S. Williamson
Senior Civil Engineer

375 ELEVENTH STREET . OAKLAND . CA 94607-4240 . FAX (510) 287-1275
P.O. BOX 24055 . OAKLAND . CA 94623-1055


continued ...

continued ...

Metropolitan Water Planning

Sacramento City-County
Office of Metropolitan
Water Planning

5770 Freeport Boulevard
Suite 200
Sacramento, CA 95822

Phone: 916-433-6276
FAX: 916-433-6295

March 18, 1999

Mark S. Willamson,
Senior Civil Engineer
East Bay Municipal Utility District
375 11th Street, MS612
Oakland, CA 94607-4240

VIA E-Mail, Copy and Diskettes to follow

Subject: Data Request for Water Forum Draft EIR

Dear Mark:

This letter is in response to your requests for additional data for evaluation of the Water Forum Draft EIR PROSIM modeling.

Response to request 1
Basis for EBMUD demand. The reference in the document as "EBMUD 8/6/98 Offer" refers to the negotiations that were going on between EBMUD and the Bureau on your Amendatory Contract. This apparently was an intermediate offer that was being discussed. We did not use this Offer in the modeling. What we did model for EBMUD was 112,000 AF at the mouth subject to CVP M&I deficiency criteria.

Response to request 2 and 5.
Enclosed are four Excel spreadsheets containing American River demands. The four spreadsheets correspond to the four simulations presented in the DEIR: Base condition, Water Forum Proposal, 2030 with Water Forum Proposal, and 2030 constrained alternative. American River CVP demands input to PROSIM are subject to CVP deficiencies based on input water supply allocation guidelines, and delivery level determined by PROSIM. There are two ZIP files containing American River demand spreadsheets named AMERDMD1.ZIP and AMERDMD2.ZIP that include the following Excel spreadsheet files:

- dmd_bas.xls American River demands for the Base condition
- dmd_cum.xls American River demands for the Cumulative condition
- dmd_con.xls American River demands for the Future Constrained alternative
- dmd_wfa.xls American River demands for the Water Forum Agreement

continued ...

Response to request 3
The ONEVAR post-processor has been recompiled to include the Lahey DOS Extender "TNT.EXE". Included is a new version of ONEVAR, the executable file name is "ONEVAR.EXE".

Response to request 4
Enclosed are inputs and outputs for the upper American River watershed model for each simulation performed for the Water Forum EIR. The upper American river information is included in a ZIP file named "Forums Upper American River Simulations Sep-98.zip" which contains a file named READ.ME that describes the contents of this ZIP file.

Response to request 6
Groundwater pumping assumptions are documented in Appendix E of the DEIR. Enclosed are the groundwater seepage estimates for the existing conditions and the Water Forum Proposal. The excel spreadsheet files containing American River seepage are named:

- Am. Rv. GW Gain 1990.xls — LAR Groundwater seepage for the Base condition
- Am. Rv. GW Gain WFA.xls — LAR Groundwater seepage for the WFA

Response to request 7
Monthly time series for the Eastside streams inflow to the Delta are included in PROSIM input. This monthly time series was provided by Reclamation and is the same for each alternative.

Sincerely,

Jonas Minton

Jonas Minton, Executive Director

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This transcript presents one of two comments offered at a public hearing held on March 3, 1999, at the Cooperative Agricultural Extension Office, Sacramento, California, to receive comments on the WFP Draft EIR.

MR. ROBERT CAIKOSKI: Thank you, Kurt.

The second slip I have is from Sandy, I believe it's Kozlen.

LETTER D

MR. ROBERT CAIKOSKI: Excuse me.

MR. SANDY KOZLEN: Hello. My name is Sandy Kozlen. I'm a Board member for the -- 4500 Colby Way, Carmichael, California.

I'm a Board member on the Carmichael Water District. I'm also representing my district on the Sacramento Metropolitan Water Authority and was appointed by the County to the SNAGMA, Sacramento North Area Groundwater Management Agency, in its formulation. However, I do not have charter from any of my Board participants to speak. So, I speak here for myself and I wish to have that as a matter of record.

And it's interesting that East Bay MUD was here because I was very interested in making sure that the references to East Bay MUD are a part of the comment response. So, it looks like East Bay MUD will take care of that for me.

It's interesting to note the 60 to 90 day request. It -- I'm glad to see their contract time was giving us what? 30 days additional?

There are a series of outside influences on the Water Forum's process that I would recommend be acknowledged. Water districts are subject to best management practices and, within the area of the Bay Delta accords that are being generated, there is a set of best management practices there that will influence.

So, I would ask that the Water Forum's process acknowledge the external influences as a requirement for the follow-on process; that there's going to be much involved here that will come back. And it may -- we may find that our best management practices that we've agreed to in the Water Forums are not consistent with those being imposed by the State from an outside source. So, it becomes then a part of the follow-on endeavor to have a method for dealing with that. D-1

External, also, of course, is the East Bay MUD contract with the Bureau. And I took -- I find some confusion in the comments from East Bay MUD about the inadequacies of the modeling and everything because my perception of the Water Forum's process was that the Bureau was at the table with us the whole time. And, while they're not a signer to the process, they were a participant in the process. So, I think the relationship to the Bureau is a -- is a question of -- of concern. D-2

I -- I see no -- no direct answer. I mean, that's

24

going to have to come from the wisdom of this staff right here as to how to address that. D-2

There is one part of the East Bay MUD contract, and I would address the East Bay MUD contract and the East Bay MUD diversions and the lack of consistency with those diversions with the intent of the Water Forum's agreement to let the water be drawn down at the mouth of the river. Nobody is denying, it's my understanding, East Bay MUD the water. It's the location of the point of diversion that is at issue. And I would hope that the project could come together. D-3

One specific item that I would ask that the Water Forums address, in the East Bay MUD contract, it appears at the bottom of page 10 of that contract. And the contract that's being circulated is a complete rewrite of the ~~additional~~ Original contract. It says so specifically in the contract. So, it voids the old agreement and is a completely new one.

And that paragraph at the bottom of page 10, starts at the bottom of page 10 and goes on to page 11, it says: In addition to the quantities of D-4

> project waters specified in subsections 1 through 3 above, the contractor shall be offered an annual contract for a portion of the non-storable surplus

25

water project available in any year...

And that's a reasonable statement. However, that doesn't end with a period right there. That ends with a comma. And, then, they go on to define the rest of the non-storable water as:

> ...up to the available capacity of the contractor's diversion and conveyance facilities providing the contracting officer determines that such water is available.

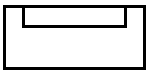
D-4

Argumentatively, what this says is that East Bay MUD has absolute first call on any non-storable water, 215 water, up to its full hundred percent fill of its capacity. And I would like to see that specifically addressed, along with other issues.

There are several other issues within the contract. And the contract is not that long a document. But I would -- the implications of the existence of the contract, I don't think it's appropriate or a test for the staff here to -- to deal with the whole contract; but, I think an awareness of the implications of the contract needs to be spelled out. And that one point in particular, I think, should be addressed.

D-5

I thank you very much for all your work. I'm particularly proud of my community for what was created in



Sandy Kozlen
4500 Colby Way, Carmichael
Public Hearing, March 3, 1999

D-1 The WFP Draft EIR discusses outside influences on the Water Forum Agreement (WFA) in Section 6, Cumulative Impacts Analysis. In addition, the WFP Draft EIR notes that mitigation of several significant impacts identified in the WFP Draft EIR will depend, in part, on the cooperation of other agencies. The WFP Draft EIR was prepared as a "Program Draft EIR" in recognition of the fact that the WFA is a general agreement which will be implemented over time by a number of specific actions. Element VII of the Water Forum project is the Water Forum Successor Effort, which will be made up of members of organizations signatory to the WFA. The purpose of the Water Forum Successor Effort will be to implement the WFA over several decades, responding to changed conditions as necessary. The WFA specifies that any future proposals to amend the agreement will be considered in the context of the coequal objectives, and will use the same interest-based collaborative processes used to develop the initial agreement. Amendments to the WFA and implementing actions pursuant to the WFA will be carried out in accordance with the requirements of the California Environmental Quality Act.

D-2 See response to comments C-2 through C-7 regarding EBMUD diversions. The comment regarding USBR involvement is acknowledged. Though not a participant in the negotiation process as a stakeholder, USBR staff have participated in agency workshops and meetings, and have worked closely with Water Forum staff and consultants on model revisions and assumptions for the WFP Draft EIR.

D-3 Please see response to comments C-5 and C-6.

D-4 Please see response to comments C-5 and C-6.

D-5 The commentor requests that the WFP Draft EIR address the implications of the amendatory contract. This issue is addressed in detail in response to comments C-5 and C-6.

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LETTER
E

State Water Resources Control Board

Division of Water Rights
901 P Street • Sacramento, California 95814 • (916) 657-1377
Mailing Address: P.O. Box 2000 • Sacramento, California • 95812
FAX (916) 657-1485 • Web Site Address: http://www.swrcb.ca.gov

'inston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

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March 11, 1999

Ms. Susan Davidson
Sacramento City-County Office of
Metropolitan Water Planning
5770 Freeport Boulevard, Suite 200
Sacramento, CA 95822

COMMENTS ON SACRAMENTO WATER FORUM DRAFT ENVIRONMENTAL IMPACT REPORT

Dear Ms. Davidson:

Thank you for the opportunity to review the Draft Environmental Impact Report (EIR) for the Water Forum Proposal.

The Sacramento Area Water Forum, which consists of 40 local water agencies, environmental organizations and business interests have prepared a draft EIR on the Water Forum Proposal (WFP). The WFP was formulated based on two co-equal objectives of the Water Forum: 1) provide a reliable and safe water supply for the region's economic health and planned development through the year 2030; (2 preserve the fishery, wildlife, recreational, and aesthetic values of the Lower American River. The Sacramento Water Forum has done an excellent job in the preparation of the WFP Draft EIR. The State Water Resources Control Board's (SWRCB) staff has the following specific comments: E-1

Page 4.5-12, Paragraph two, CDFG 1980: Painter, Wixom and Meinz authored referenced report. See page 9-14, Painter et.al. (1980).

Page 4.5-13, Sacramento Splittail, Paragraph two: Splittail migrate upstream into the American River to spawn from where? E-2

Page 4.5-21, Paragraph one, Salmon Mortality Model: Model output is not sensitive enough to address potential mortality during critical periods. The model estimates annual losses rather than monthly or daily losses. More sensitivity is needed particularly during October/November at Nimbus. Water temperature in the American River during October/November is critical for successful Chinook Salmon spawning and directly related the cold water reserves available in Folsom Lake. E-3

Page 4.5-22, Paragraph one and Page 4.5-24, Cold Water Fisheries: Comparative models used to evaluate WFP impacts to water temperature assume that there is a direct relationship reservoir surface elevation and the volume of the cold water pool. This assumption seems invalid since water can be selectively withdrawn from different lake levels. In comparing "pre" and "post" project conditions, the model(s) should address from what lake level water is withdrawn from (epilimnion, metalimnion or hypolimnion). It would seem that if future summer withdraws under the WEP are primarily from the meta- or hypolimnion, temperature-related impacts could become more of a problem. E-4

Page 4.5-25, Nimbus Hatchery: Losses in the hatchery could become a problem if temperatures exceed 65 degrees Fahrenheit in the fall. This was the case during the recent drought when the cold water pool in Folsom Lake was over drafted. A model only looking at mean monthly temperature is not sensitive enough to detect temperature-related impacts. Just a couple of days of lethal temperatures during October/November would be detrimental to salmon survival, but not detected in your monthly model. E-5

Page 4.5-27, Paragraph two: For comment, refer above to comment relative to Page 4.5-25, Nimbus Hatchery. It would seem that during critical time periods like October/November, the comparative models should be looking at average daily or weekly water temperatures. E-6

Page 4.5-55: Information supporting statements about emigration of juvenile salmon and flow rates should be documented. E-7

Page 4.5-60, American Shad: Documentation is needed to support conclusions that American shad will successfully spawn elsewhere if not attracted into the American River. E-8

Page 4.5-60: Frequency of May/June flow reduction in the discussion of impacts to American shad is in conflict with May/June flow data used to discuss impacts to striped bass. E-9

If you have any questions regarding these comments, please call Mike Falkenstein of my staff at (916) 657-1377.

Sincerely,

Gerald E. Johns

for Harry M. Schueller, Chief
Division of Water Rights

Harry M. Schueller, Chief
State Water Resources Control Board
March 11, 1999

E-1 The State Water Resources Control Board's comment that the Water Forum has done an excellent job in preparation of the WFP Draft EIR is noted. The citation for CDFG 1980 has been expanded in Section 5, Corrections and Revisions to the WFP Draft EIR. This change does not alter the conclusions presented in the WFP Draft EIR.

In response to comment E-1, the second paragraph on page 4.5-12 of the WFP Draft EIR is revised as follows:

> Based on laboratory experiments conducted on American shad incubation, Walburg and Nichols (1967) concluded that temperatures suitable for normal egg development ranged from about 54°F to 70°F. These investigators further reported that eggs hatched in 3 to 5 days at 68°F to 74°F and in 4 to 6 days at temperatures of 59°F to 64.4°F. Egg incubation and hatching, therefore, are coincident with the primary spawning period (i.e., May through June). A large percentage of the eggs spawned in the Lower American River probably do not hatch until they have drifted down river and entered the Sacramento River (CDFG 1986). Few juvenile American shad have been collected in the Lower American River ~~(CDFG 1980)~~ (Painter et al 1980). Thus, the presence of American shad in the Lower American River is primarily restricted to adult immigration, spawning, and fry lifestages.

E-2 Splittail that spawn in the Lower American River originate from the Sacramento-San Joaquin Delta and downstream Sacramento River locations.

E-3 USBR's Lower American River salmon mortality model is based on input from USBR's Lower American River temperature model. While USBR's temperature model can be used to determine monthly mean temperatures, it cannot define day-to-day temperature variations within a month and, therefore, its output does not allow quantification of daily changes in chinook salmon mortality. A daily temperature model would be required for such evaluations. At this time, a daily temperature model that could work effectively with the 69-year period of record is not available. Thus, a more sensitive evaluation is not feasible at this time. As explained below, the analysis in the WFP Draft EIR provides a clear basis for evaluating the effects of the project and alternatives. The salmon mortality model is programmed to interpolate daily mean temperatures from monthly mean temperature data output from the USBR water temperature model.

Because mortality estimates output from the model are based on modeled mean monthly water temperatures, mortality estimates are not presented in the WFP Draft EIR as true quantitative predictions, but rather as a "relative index" of chinook salmon early-life-stage losses resulting from different thermal exposure scenarios. The temperature and salmon mortality models do not, and are not intended to, predict actual temperature and

continued ...

subsequent mortality conditions. The salmon mortality model is an impact assessment tool utilized to compare different project alternatives. Biases are equal among alternatives and therefore allow the public and decision-makers to make meaningful comparisons of alternatives.

The salmon mortality model takes into account the October and November spawning period. In calculating average annual mortality rates, the salmon mortality model takes into account pre-spawning egg losses, average run timing, temporal and spatial distribution of spawning in the Lower American River, and time and temperature requirements for egg development. The annual mortality model thus provides a single value which represents an overall annual mortality rate, which provides meaningful information to compare the impacts resulting from different alternatives. Determination of an instantaneous mortality rate in terms of monthly or daily averages would not provide meaningful information regarding salmon mortality. The ultimate concern from a fisheries management perspective is how a potential action will affect initial year-class strength. Insight into how a project alternative would affect initial annual year-class strength is best provided through calculation of the annual early-life-stage mortality rate. The time of year that mortality occurs is not relevant; rather the total mortality following the annual adult immigration, spawning and incubation period provides the most meaningful information regarding the project's effects on salmon population. This methodology reflects the water temperature concerns cited by the commentor.

E-4 As described on page 3-23 of the WFP Draft EIR, optimal use of the coldwater pool is essential for implementation of the WFP. The importance of the coldwater pool to coldwater fish populations of Folsom Reservoir and Lower American River fall-run Chinook salmon and steelhead is further described on page 4.5-2 of the WFP Draft EIR. Therefore, the modeling effort conducted for the WFP Draft EIR took into consideration the relationship between reservoir surface elevation and cold-water pool volume. In addition, the modeling took into account the fact that Folsom Dam shutter operations can be manipulated to withdraw water from various elevations, which in turn will affect downstream Lower American River water temperatures. The modeling effort considered how Folsom Dam's shutter configuration would be likely to be manipulated under both the Base Condition and the WFP alternative based on set target temperature objectives. Thus, the temperature modeling output and all reservoir, Nimbus Hatchery and Lower American River temperature-related impact assessments reflect reasonable assumptions about how water would be selectively withdrawn from various levels within Folsom Reservoir.

E-5 As discussed on page 4.5-25 of the WFP Draft EIR, increased disease and mortality of hatchery-reared fish becomes a particular problem when hatchery water temperatures exceed 65°F for extended periods. Water temperatures exceeding 68°F for short periods (e.g., days) can be particularly detrimental to hatchery fish. As discussed in response to comment E-3, while the USBR's temperature model can be used to determine mean monthly temperatures, it does not define day-to-day temperature variations within a month and, therefore, its output does not allow quantification of daily temperature

continued ...

changes. Although a daily temperature model would provide greater insight into daily temperatures throughout each month, no such model is available, moreover, the general trends observed within the monthly model output would remain the same. Temperature modeling output reveals that average monthly temperatures at Nimbus Dam under the WFP condition would generally be cooler than those under the Base Condition during the October and November period. This general trend of cooler conditions under the WFP would be observed with either daily or monthly model output. Average monthly temperatures under the WFP would exceed 65°F less than 10% of the time in October, with average monthly temperatures never exceeding 68°F. Average monthly temperatures during November would never exceed 62°F. Moreover, average temperatures under the WFP would generally be cooler than those under the Base Condition during the July through September period, a period of much greater concern, relative to the October and November period, with regard to temperature effects on salmonid production at Nimbus Hatchery.

In addition, although hatchery temperatures may at times approach harmful levels, these events would not necessarily be caused by any one individual project. The comment provides an example where the cold-water pool of Folsom Reservoir was "over-drafted" during a recent drought condition. During such conditions, Folsom Reservoir's cold-water pool may be so limited that adequate volumes of "cool" water may not be available to meet preferred water temperature regimes for Nimbus Hatchery and downstream temperature goals in the Lower American River. During drought conditions, even the best cold-water pool management efforts may not provide Nimbus Hatchery with water of ideal quality. In any case, implementation of the WFP will reduce the occurrence of "lethal days" because it contains or is dependent upon features that will increase the cold-water pool, including the TCD, optimum cold-water pool management, revised shutters, and monitoring by the Lower American River Operations Group. The impacts analysis conducted through PROSIM provides a monthly average temperature that makes it reasonable to assume that there will not be sufficiently severe temperatures during a consecutive number of days to result in a significant impact at the Nimbus Hatchery.

E-6 See response to comment E-5.

E-7 Statements in the WFP Draft EIR regarding emigration of juvenile salmon and flow rates are supported by published scientific information. As stated in Snider et al. (1998; pg. I) in reference to Lower American River juvenile chinook salmon emigration during the 1993-94, 1994-95 and 1995-96 seasons, "*In none of the three survey-years was the timing of* [juvenile chinook salmon] *emigration coincident with the timing of peak spring flows*." This reference is added to Section 9, References and Personal Communications, of the WFP Draft EIR. This addition is shown in Section 5, Corrections and Revisions to the WFP Draft EIR, of the Final EIR as follows:

continued ...

Snider, B., R. Titus and B. Payne. 1998. Lower American River Emigration Survey: October 1995-September 1996. California Department of Fish and Game, Environmental Services Division, Stream Evaluation Program. September 1998.

This revision does not change the conclusions of the WFP Draft EIR.

E-8 Statements in the WFP Draft EIR regarding successful spawning of American shad are supported by published scientific information. CDFG (1979) suggested that attraction of American shad to tributaries of the Sacramento River is dependent upon relative differences in flow volume between the Sacramento River and its tributaries. To maintain American shad sport fisheries, the CDFG study recommended providing minimum flow volumes for the American, Feather and Yuba rivers based on percentages of composition of Sacramento River flows. One of the principle assumptions for this recommendation (CDFG 1979; pg. 9) was that the "*...watershed wide population level* [of American shad] *does not fluctuate much from year to year...*" Thus, American shad that are not attracted to the Lower American River will likely move somewhere else to spawn within the watershed. This reference is added to Section 9, References and Personal Communications, of the WFP Draft EIR. This addition is shown in Section 5, Corrections and Revisions to the WFP Draft EIR, of this Final EIR as follows:

CDFG 1979. Project AFS-17, American Shad Study. Final Report, Job Number 5: American Shad Management Plan for the Sacramento River Drainage. State of California Department of Fish and Game. Anadromous Fish Conservation Act.

This revision does not change the conclusions of the WFP Draft EIR.

E-9 The data discussed for American shad and striped bass on pages 4.5-60 and 61 are correct. For reference to modeling output see Appendix I. The flow discussion for American shad and striped bass are different because the analysis utilized different threshold values for each species. Flows for American shad are evaluated in terms of the frequency that flows would be above or below 3,000 cfs at the mouth during May and June. By contrast, flows for striped bass are evaluated in terms of the frequency that flows would be above or below 1,500 cfs during May and June. Because of these different flow threshold values, differences will occur in the number of years that flows are above or below the given flow levels for both species.

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LETTER
F

William L. Berry, Jr.
3420 Brookside Way
Carmichael, California 95608

March 12, 1999

Sacramento City-County Office of Metropolitan Water Planning
Attention: Ms. Susan Davidson
5770 Freeport Boulevard, Suite 200
Sacramento, California 95822

Re: Draft Environmental Impact Report for the Water Forum Proposal and Action Plan

Dear Ms. Davidson:

Before preparing these comments on the Water Forum DEIR, I reviewed the letter that I wrote in March 1997 to Mr. Mel Johnson, then Water Forum Director, commenting on the draft recommendations for the Water Forum Agreement released in January of that year. I find that a number of my concerns two years ago are alleviated in the current documents. I believe, though, that some significant problems remain, including the potential for land development incursions on surface and groundwater resources which, if not addressed, could undermine the Water Forum Proposal and Action Plan.

I have assumed, for purposes of discussion below, that the Water Forum Proposal and Action Plan are essentially one and the same, and that they are inclusive of the draft MOU for a Water Forum Agreement, the purveyor specific agreements, and other related agreements. F-1

INCREASED SURFACE WATER DIVERSIONS

With one major exception and a few lesser ones, plans and agreements for increased diversions from the American River appear to be better defined and ready for adoption. The major exception is, of course, East Bay Municipal Utility District's continuing refusal to commit to downstream diversion of its large contract entitlement from the Bureau of Reclamation; that district's preservation of its upstream diversion point at Nimbus in its recently released draft amendatory contract with the Bureau; and the Bureau's refusal in the draft contract to honor the Hodge protections for the Lower American River.

The Forum Action Plan designates EBMUD diversion at Nimbus a potential changed condition for consideration by the Water Forum Successor Effort. However, the EBMUD-Bureau draft contract, together with an apparent breakdown in negotiations between EBMUD and Sacramento interests on the downstream project effectively place that issue on the table now. The entire Forum allocation plan may have to be revisited and the diversion commitments of water purveyor stakeholders renegotiated. A problem of this magnitude should be addressed in the Final EIR and Action Plan, even at the expense of schedule delay, and not be "kicked down the road" to the Successor Effort. F-2

FISHERY FLOWS AND HABITAT MITIGATION

Plans for mitigating the impacts of increased diversions upon the Lower American River are better developed; local governments are apparently ready to commit to funding a share F-3

of these activities; and the concept of "adaptive management," if properly implemented, will enable the responsible parties to deal with special problems as they arise. However, the building blocks for a successful mitigation program -- a temperature control device for the urban water intake at Folsom Dam, optimal use of the cold water pool in Folsom Reservoir, an improved pattern of fishery flow releases from the reservoir, and an updated Lower American River flow standard -- are very dependent upon the participation and support of federal and state agencies; most notably, the Bureau of Reclamation and State Water Resources Control Board. Will these agencies step forward and perform as expected? The Bureau is said to be designing a temperature control device and to have adopted, on a voluntary basis, an improved pattern of fishery flow releases. However, these positive indicators of federal cooperation are now offset by the Bureau's departure from Forum objectives in its draft amendatory contract with EBMUD. F-3

I believe it is time for the responsible federal and state agencies to commit to the Water Forum Action Plan, as a base for final review and agreement by the stakeholders. Perhaps this will happen as part of the DEIR review process. Without such advance assurances -- and in light of the Bureau's recent behavior -- the stakeholders will be taking a leap of faith that federal and state authorities will do their part (or at least do no harm) in implementing the Plan. That, in turn, will qualify and weaken the stakeholders' commitments, and make the Forum Agreement more susceptible to override or abandonment in the future.

GROUNDWATER MANAGEMENT

My earlier comments about the makeup, powers, and funding of the Sacramento North Area Groundwater Management Authority have been largely addressed during the formation and startup of that agency. I remain seriously concerned, though, that the worthy goals of "groundwater stabilization" and "conjunctive use" will be used as a guise for increased diversions from the Lower American River to promote, not groundwater replenishment, but new development.

"Example A" is Northridge Water District's project to import up to 29,000 acre feet of American River water from Placer County Water Agency, via the San Juan/Northridge pipeline. Project documents indicate that Northridge's principal use of this water will be to supply new developments in Antelope and other portions of its expanding service area -- and Placer County's DEIR and EIR documents essentially admit that the project will be growth-inducing. Yet the project is named and sold as "groundwater stabilization," on the rationale (stated in the EIR) that "Regardless of whether local or regional groundwater pumping increases, relative to current conditions, the project will reduce the total amount of groundwater withdrawn from the depleted aquifer compared to what would occur if no offsetting surface water supply was made available." This rationale holds up, of course, only if it is established that growth would proceed in Northridge even without a new surface water supply. That proposition is flatly contradicted in the DEIR, which states that growth "could be curtailed without an alternative water supply source to groundwater pumping," and that under the "No-Project Alternative" growth would be "negligible." F-4

The Water Forum DEIR and Action Plan accept the Northridge/Placer County project and its groundwater stabilization nomenclature at face value. I recognize that there are limits to the Forum's ability to look behind individual stakeholder transactions, and that this DEIR cannot do what the Northridge/Placer County environmental documents should have done, which is to weigh the benefits of supplying water for new development against the environmental losses entailed. However, the Water Forum Agreement will not survive long if stakeholders do not hold each other accountable for compliance with the Forum's

"coequal objectives." In the Northridge/Placer County case, one of those objectives -- preservation of Lower American River values -- is shunted aside at the outset.

I recommend accordingly that the groundwater management portions of the Forum DEIR and Action Plan set out the conditions under which surface water may legitimately be diverted to stabilize groundwater supplies. In my view, such diversions are appropriate only when necessary to help remedy an existing overdraft problem and provide a net benefit to the aquifer. If a project will deplete river flows simply to enable expansion of water service and development into new areas where groundwater supplies are insufficient, it should be evaluated as such. The Northridge model should not be repeated in the future. F-4

This brings me to my final comment.

LAND USE VS. WATER FORUM PROGRAM INTEGRITY

The Water Forum DEIR, Action Plan, and proposed "non-contractual" Agreement are all built upon a foundation of voluntary cooperation and compromise among the stakeholders. They represent an admirable and remarkable achievement. Through more long and difficult negotiations than most of us on the outside can imagine, long-standing suspicions and animosities have given way to pragmatism and mutual trust -- albeit with some significant reservations concerning water rights and land use.

The question now is, given those reservations, will a purely voluntary program for allocation and management of precious, increasingly stressed water resources hold up for the 30-year life of the Plan, or even for five or ten years? I do not wish to sound like a legalistic Cassandra, but I have severe doubts that voluntary action and mutual trust will be a sufficient underpinning in the years ahead, especially as the stakeholder representatives who have labored together through the past several years retire from the scene. Initially, the positive thrust of the Water Forum Successor Effort, and the stigma and threat of retaliation that would attach to a breach of the Agreement may be enough to keep all parties in line. Without additional buttressing, though, it seems just a matter of time until the Action Plan and Agreement are unraveled by land development pressures in the Sacramento region, which are already building to Southern California and Santa Clara Valley intensity. F-5

The Urban Services Boundary Problem

My first recommendation is that the Forum documents not condone runaway development. The feasibility of the Forum solution is obviously predicated upon the water demand projections described in Section 4.10 of the DEIR and set out in Appendix B to the Action Plan. Those projections, as stated in Section 4.10, are based upon the "maximum long-term level of growth approved by city and county decision-makers," including, in the case of Sacramento County, the County's 1993 General Plan and the urban service areas designated in that plan. A small cushion is provided for revisions and updates of present plans. Clearly, however, major changes in the County Plan or other land use plans could expand water demands beyond the Forum's ability to accommodate. Yet, Section Four IV. 5. of the Action Plan provides that in Sacramento County, signatories retain the ability to support or oppose water facilities -- or the sizing of water distribution facilities -- that would serve new development "outside the Urban Services Boundary that was defined in the General Plan, December 1993." (Emphasis added.) F-6

I assume that this reservation was added to appease business stakeholders, but it strikes me as pure folly. It enables those stakeholders to enter into the Forum Agreement and

provide the underlying assurances with fingers crossed behind their backs. As noted in a January 17 *Sacramento Bee* article titled "Pressure Builds at Urban Boundary," the current Deer Creek Hills controversy is only one of many boundary tests to come:

> "...some powerful players in Sacramento are banking on the idea that the [Urban Services] line will eventually be moved. They have amassed huge land holdings outside the development zone in hopes it will eventually be rezoned from agricultural to residential."

The article goes on to quote Peter Detwiler, a legislative consultant:

> "A speculator looks at where an urban limit line is and figures out the market may undervalue land just outside that line. The speculator then buys undervalued land and uses his political connections to change the general plan. The same land that was worth $2,000 an acre yesterday as grazing land may now be worth $40,000 or $50,000 an acre as land that may be developed. When you're dealing with that kind of financial incentive, developers will work very hard to change the plan."

F-6

In my view, the Water Forum is paving the way for its own demise in giving development interests license to pursue the above strategy without violation of Forum commitments. Developers with the political strength to push through a development boundary will also be able to secure water for their new tracts (at least for the short term), and it must be remembered in this regard that under the Action Plan, water purveyor stakeholders retain water rights in excess of the diversion limits set in their Specific Agreements.

The General Land Use Problem

Even without the land use reservation discussed above, there is a large disconnect between the Forum program and the realities of development politics. One does not have to look far into California history to understand that development generally dictates management of water supplies, and that there are few examples of water management, much less voluntary water management, operating as a control on development -- SB 901 notwithstanding. If the Water Forum Action Plan is to provide a more balanced and equitable approach to apportionment of the region's water resources, then some major, politically difficult steps must be taken, of which I see no evidence in the Forum documents. To the contrary, those documents, in disclaimers set out in Section Four IV of the Action Plan and elsewhere, reinforce the traditional subservience of water planning and management to land use decision-making.

The Forum disclaimers as to land use put me in mind again of the Northridge/Placer County environmental documents, where similar disclaimers are used to justify the project sponsors' disregard of growth issues in evaluating the environmental consequences of a major diversion from the American River. In response to a comment of mine, the project EIR states:

F-7

> "Northridge is not a land use agency...The DEIR, while acknowledging that the proposed project deliveries of a new surface water supply to Northridge would certainly improve the district's water reliability, does not suggest that Northridge can, in any substantial or legal manner, influence or otherwise control growth in the proposed expanded place of use...The comment is correct in its suggestion that the proposed project is 'supporting' development."

If water purveyor stakeholders can so easily pass the buck when Forum objectives conflict with new development demands -- and those to whom it is passed are not accountable for compliance with Forum objectives -- the Action Plan is likely to have a limited life span, Successor Effort or not. Granted, water purveyors, pursuant to the SB 901 procedure, commit to inform a land use authority of groundwater sustainable yields and surface water diversion limits when a significant development project is up for land use approval. Stakeholders commit further to a "proactive" program to educate all regional land use authorities about the Water Forum Agreement. But if the past is a guide, water planning information, no matter how sound, will not be enough to defend against development-driven land use decisions. Boards of supervisors and city councils frequently set aside good planning information.

Somehow, land use authorities must be brought into the Forum process as committed participants, not just as informed bystanders. The time to do this, moreover, is now, when the stakeholders have maximum leverage to accomplish a "buy-in," by conditioning their own participation upon joinder by county boards and city councils, sitting as land use authorities. F-7

This suggestion, which I first made two years ago, is ambitious and may be seen as unrealistic at this late date. Nevertheless, I see no good alternative. The Water Forum Action Plan and Agreement must be elevated to general plan status in county supervisor and city council person consciousness. The mechanics for accomplishing this -- for incorporating Water Forum constraints into general plans -- may require the help of expert legal counsel, very strenuous negotiations, and considerable extra time, but these would certainly be worthwhile investments. The stakes are high. The fate of the Forum's coequal objectives will determine, to a large extent, the fate of the Sacramento region and its survival as a prosperous, healthy, and attractive place to live.

Sincerely,

William L. Berry, Jr.

cc: Muriel Johnson, Chairwoman, Sacramento County Board of Supervisors
Jonas Minton, Director, Sacramento Water Forum
Keith Devore, Chief, Water Resources, Sacramento County
James Sequeria, Director of Utilities, City of Sacramento
Ed Schnabel, General Manager, Sacramento Metropolitan Water Authority
Board of Directors, Carmichael Water District
Alan Wade, Save the American River Association
Ron Stork, Friends of the River
Clyde McDonald, Sierra Club
Earl Withycombe, ECOS
Kae Lewis, Sacramento County Alliance of Neighborhoods

Bee 3/22/99

Water and growth (cont.)

Should cities strapped for water still sprawl?

Three bills before the state Legislature this year, if they are not quickly killed by interests who wish to avoid such a discussion, promise to help frame a much-needed debate on water and growth. Under the laws that establish the planning processes of local government, it is now quite possible for communities to grow by tens of thousands of residents even if they have no adequate water supply. There must be a tighter link between water and growth so that California ends up growing where it is manageable rather than sprawling where it is unsustainable. The question is how.

A common scenario for California sprawl begins when a developer or speculator purchases land where it is cheap, on the outskirts or even miles from the nearest community. One proposed measure – AB 1277 by Assemblywoman Helen Thomson – would improve how the local decision is made about whether to provide water service to this land. Under the bill, any Local Agency Formation Commission would require that the local water district assess whether it can supply this new service area. Simple enough. As we said last year about a similar bill that ended up dying in the Legislature, what is shocking is that this isn't already the law in this sometimes arid land.

Sen. Jim Costa's SB 1130 addresses a step further along in the decision-making process, when cities or counties are conducting an environmental review of a proposed project. Costa's bill suggests that the state assess whether there is enough water for the project if the local water agency doesn't make such an assessment.

Neither of these bills would prevent local governments from pursuing projects even if there appears to be insufficient water. Yet at the final stage of the process, when that local government must approve a subdivision map, AB 1219 by Sheila Kuehl proposes a seismic shift in public policy. Her bill would require a city or county to reject a subdivision map if the public water system concludes that water supplies are insufficient.

Kuehl's bill raises any number of questions. Should a state that chronically underfunds its local governments turn around and restrict their decision-making powers? Precisely how are local governments to assess whether there is adequate water? Should political power in local governments shift from city councils to water districts, where – under Kuehl's legislation – projects would live or die?

Legislators afraid of this topic undoubtedly will be tempted to quickly kill these bills. That would be a shame. Few issues are as important as charting a course for growth that does not overtax our public facilities and natural resources. Both have limits that cannot be ignored.

Crossing the line

Developers have long had their eyes on the verdant hills of eastern Sacramento County. Environmentalists may not be able to keep them at bay much longer

Story by
MIKE MCCARTHY

A 30,000-acre stretch of oak woodlands in eastern Sacramento County has become a political battleground.

Developers want to build on it. "I think it will all be developed one day. There's no question about it," said Eric Gragg, a broker who owns land in the area. "It's not farmland. It's just grazing land. A jackrabbit has to bring his lunch when he goes there, because nothing grows there. Of course, I'm biased because I own property there."

Environmental groups are lined up against such views. "The oak woodlands are the best in Sacramento County and the grasslands are important habitat," said John Hopkins, head of the Davis-based Institute for Ecological Health. "Developers simply want to buy the land cheaply and make a lot of money developing it. They don't think in terms of what makes sense for the community."

The tract, sometimes called "the east county," runs from Highway 50 at Folsom to the Jackson Highway at Rancho Murieta. The section along the freeway at Folsom is considered perfect for commercial development, while the oak woodlands to the south are perfect for higher-end homes.

Gragg and Hopkins are two voices among dozens making themselves heard these days on the fate of the east county, because it is the last large, attractive and well-located piece of open land in the county that can be developed.

In January, the Sacramento County Board of Supervisors told county planners to analyze the cost and time involved in studying the east area, including the feasibility of developing it.

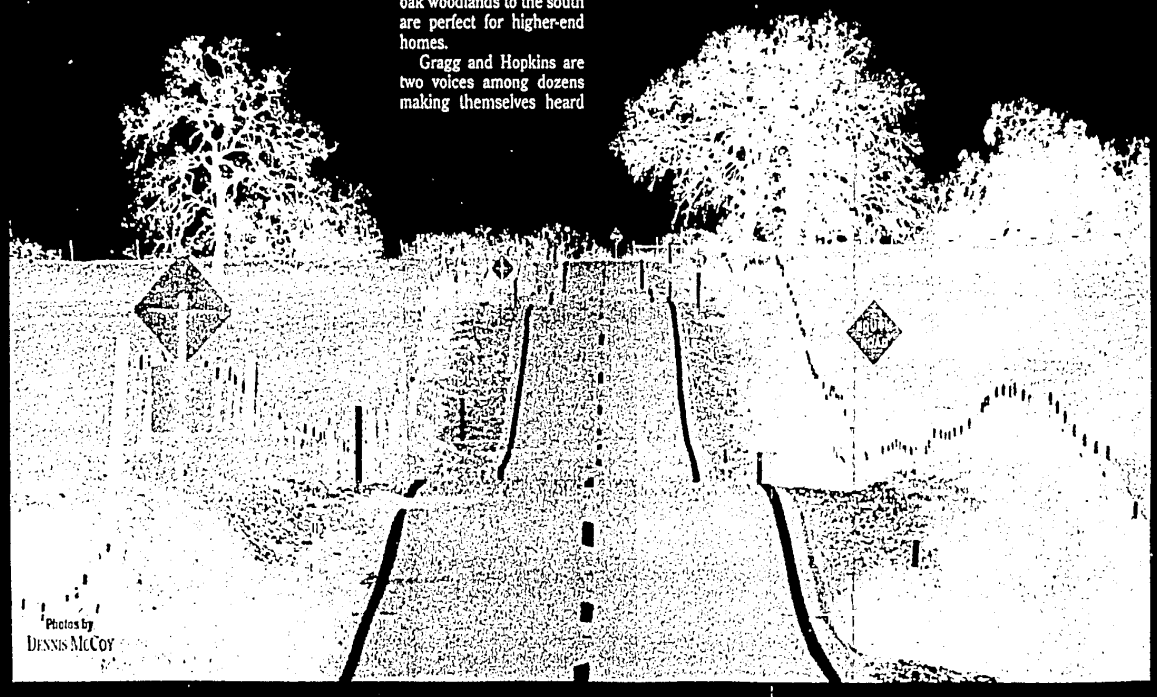
It's a victory of sorts for the developers and it stings the environmentalists.

"There is no rationale for even exploring it, and we're hoping the board doesn't ever open the east area for discussion," said David Mogavero, a spokesman for the Environmental Council of Sacramento, a coalition of conservation groups.

Development pressures on the area seem inevitable, given the constant demand for homes, offices and stores by the region's thriving economy.

The battle between development interests and environmentalists is especially intense in this case, partly because the county

See VERDANT HILLS, Page 24



Photos by
DENNIS MCCOY

DEL PASO BOULEVARD, PAGE 22 • WETLANDS MITIGATION, PAGE 26 • PENCIL VS. COMPUTER, PAGE 28 • PRESIDIO FOR SALE, PAGE 33

VERDANT HILLS: Planning Department likes boundary

From Page 21

supposedly made the area off-limits to builders.

That happened in 1993, when county planners, environmentalists and developers worked out an accord on the county's general plan — the policy guide for growth decisions. A key part of the accord was the establishment of an Urban Services Boundary — a line beyond which no growth was to be considered for at least four decades. The boundary was put into the general plan, and the eastern area was put outside the Urban Services Boundary.

Mogavero and some other environmentalists are angry by the board's apparent willingness to restudy the Urban Services Boundary in the east county.

County planners are another factor in the controversy. The Planning Department tends to favor keeping the boundary intact.

Tom Hutchings, the county's planning director, said the boundary gives the county control over urban sprawl.

It also assures farmers that they won't be hit by urbanization. New-home owners often come into conflict with agriculture, discouraging the industry.

The impact of urbanization on farms can begin long before the first house is built. If land speculators sense that an area can be developed, they buy up farmland. Farmers see this and may start scaling back their operations, resulting in a decline of agriculture.

Also, agencies that plan the delivery of water, electricity and other services have for years asked the county to tell them where development will be so they can plan efficiently, he said.

On top of that, setting aside large tracts of protected lands gives developers inside the boundary a better chance of setting up preserves to mitigate their projects.

As importantly, he added, the 1993 general plan designated more than 74,000 acres of buildable land within the Urban Services Boundary — enough dirt to keep the building industry active for up to 60 years.

Nonetheless, during the past few years, the supposedly off-limits east county has become a target for land developers, and they have been pressuring the county to open the tract for development.

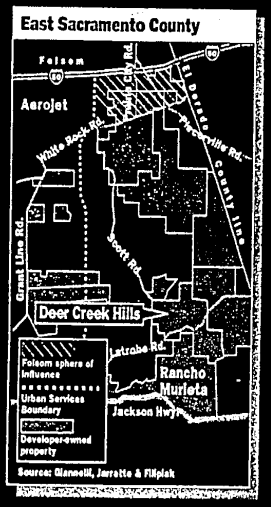
The players: Maybe, the biggest single push to develop the area is from the strongly pro-growth city of Folsom.

Folsom has been growing like wildfire. But it can continue to grow only if it expands south beyond its current city limit — Highway 50. The city is now trying to extend its sphere of influence — area of annexable land — over 3,585 acres bounded by Highway 50, White Rock Road, Prairie City Road and the El Dorado County line.

The expansion was approved by the City Council in February of last year and is being considered by the county's Local Agency Formation Commission.

The city plans to use much of the area for commercial business parks containing some 28 million square feet of space — three times the existing space on the Highway 50 corridor.

Hearings on the city's application are scheduled to resume in June. The LAFCO staff has recommended approval



of the expanded sphere if certain conditions are met, such as securing of a water supply for the area and the creation of an overall land-use plan, said Tom Truszkowski, LAFCO's staff analyst.

C.C., Linda, Angelo et al.: The next biggest push for development comes from developer C.C. Myers and his partner, Linda Clifford. The two proposed the 2,999-acre Deer Creek Hills project last year. Located just north of Rancho Murieta, it would be a 3,000-home seniors community, similar to Del Webb's Sun City. But it is outside the Urban Services Boundary.

Clifford has frequently argued that the county needs the project to keep its well-heeled retirees in the county instead of losing them to Sun City and similar projects.

Clifford also owns 2,054 acres adjacent to Deer Creek Hills that would become more developable if Deer Creek Hills gets the nod from the county.

Environmentalists believe the project would set a precedent for developing the whole east area, Mogavero said.

The county Board of Supervisors heard the project on Jan 20, but did not vote and continued the hearing until April 14. At the same hearing, the board directed Hutchings to lay the groundwork for studying whether the eastern portion of the county should be opened to some development. His initial report is due March 31.

Observers believe the board may hold off on the project until the study slated for the east county is done.

Myers isn't the only developer active in the east county.

Angelo Tsakopoulos is the Sacramento region's biggest land developer. Tsakopoulos, his brother, George, and their families and associates have quietly bought or optioned more than 5,000 acres in the east area, most of it since 1993.

Observers have no doubt the group is hoping for the area's development.

Beyond the biggies, there are smaller pieces of land held by developers. Gragg and his partners, for instance, hold 100 acres within Folsom's proposed sphere. The county has zoned the land for a golf

DENNIS McCOY / SACRAMENTO BUSINESS JOURNAL

Eastern Sacramento County today remains about as rural as you can get

course, but the partners see more profit in housing, and housing isn't possible without annexation to the city and its services, he said.

Other landowners watching the development pressures mount are the Finn family. Longtime ranchers in the area, the family once owned land on both sides of Highway 50. A portion of their holdings was sold to developers and is now the Broadstone community and the Intel Corp. plant.

The family owns 1,114 acres along the freeway. It's one-third of the area in Folsom's proposed sphere of influence, and it would be prime real estate if zoned for development.

Terry Finn, a member of the family, said he is neutral.

"But in the long run," he added, "it makes sense for Folsom to go south of the freeway. The city has had a lot of foresight in creating economic opportunity. It's done great with Intel and other companies."

At the same time, the family loves the land it's held for 130 years. "Some people want to level it and turn it into one big concrete pad. But it's a legacy we want to protect and we have every intention of seeing it developed appropriately."

"Appropriately" means development must include a lot of open space, he said.

Real estate analysts estimate that landowners like the Finns stand to gain humongously if the land gets approved for development.

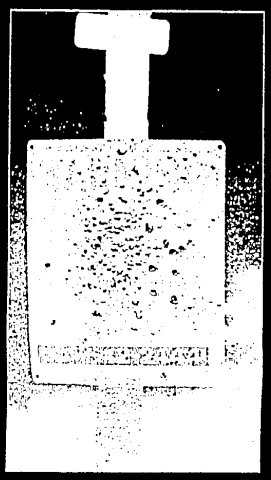
Currently, agricultural land values for the eastern area range from $2,000 an acre to about $10,000 an acre, with the higher amount for land along the freeway, said pundits.

With entitlements, the values skyrocket to $10,000 an acre or more for the more isolated land to as high as $30,000 an acre for the best located. That's a potential dividend of 400 percent or so.

Builders' ammo: The landowners have some strong ammunition to fire in the coming campaign, said Dave Jarrette, a partner in the Roseville appraisal firm of Giannelli, Jarrette & Filipiak.

Things that will help the builders include:

- Big sewer pipes. It may not seem like much, but the Regional Sanitation District designed the underground pipes for Folsom's planned sewer improvements big enough for the proposed sphere area. It means developers in the sphere area just need to hook up to Folsom's existing system. "That saves $20 million to $30 million and time," he said. "And that is the coffin for anybody who doesn't want that area developed."



- Three Highway 50 interchanges are being built or are already built. They also can serve the sphere area. That ready-made access is another big ace in the hole for development interests.
- The tract is not prime ag land but grazing land, and there is little in the way of federally protected wetlands there, allowing development to bypass a maze of red tape from the Clean Water Act.
- The area is not in a flood plain and won't flood even if Folsom Dam breaks. Remember, being in a flood plain is what made North Natomas so pricey and time-consuming to develop.
- It's not in a major wildlife area, sidestepping the maze of the Endangered Species Act.
- The tract is within the solid Folsom Cordova Unified School District.
- It is on a planned light-rail corridor.

Moreover, the relatively flat topography itself will put development pressure on the area. "Everybody loves El Dorado County, but a lot of builders are challenged by the prospect of building on those steep slopes, so this area with its slight roll is attractive," said land broker Doug Bayless.

Against such arguments, the environmentalists are prepared to argue the need for preserving open space and keeping development inside the boundary. "I see this huge chunk of land within the Urban Services Boundary providing an area for growth for decades," said environmentalist Hopkins. "It's not necessary to use the east county land. Sprawling growth across the landscape produces a lot of downsides for people."

William L. Berry, Jr.
3420 Brookside Way, Carmichael
March 12, 1999

F-1 The commentor's assumption is correct.

F-2 Please see response to comment C-5 and C-6.

F-3 Comment noted. The Temperature Control Device has been authorized by Congress, and USBR has already completed the design. The WFP is dependent on funding, construction, and operation of the TCD.

Regarding the updated Lower American River flow standard, the USBR and the U.S. Fish and Wildlife Service have already designated staff to work with the Water Forum as it develops a recommended new flow standard. This will incorporate an improved pattern of fishery flow releases based on implementation of the Anadromous Fishery Restoration Program.

In addition, the following federal and state agencies have committed to support/participate in the development of a River Corridor Management Plan for the Lower American River: USBR, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, California Department of Fish and Game, and California Reclamation Board.

F-4 The commentor is correct that one of the Water Forum's coequal objectives is to preserve the fishery, wildlife, recreational, and aesthetic values of the Lower American River. The WFP contains many actions that will contribute to that objective. However, it is also appropriate to note that the other coequal objective of the Water Forum is to provide a reliable and safe water supply for the region's economic health and planned development to the year 2030.

One of the elements of the WFP that contributes to both objectives is conjunctive use. Under this program water users will rely more on surface water than on groundwater in wetter periods, which will allow the groundwater to be naturally replenished through in lieu recharding. During drier periods water users will increase the use of the replenished groundwater, thereby putting less demand on surface water.

For example, the agreement which stakeholders reached, for additional surface water to meet the water demand for the planned growth of one particular purveyor, required that diversion of the PCWA water by the Northridge Water District be subject to restrictions set forth in the Hodge decision. For a description of these restrictions as set forth in that decision, see Appendix C of the Water Forum Action Plan. This conjunctive use

continued ...

principal generally results in lesser impacts on the environment than diverting surface water in all year types.

The Water Forum Action Plan includes purveyor specific agreements which establish surface water diversions allowed under different hydrologic conditions. For instance, after an initial 10-year period, Northridge will be able to divert PCWA water only in years when the projected March through November unimpaired inflow into Folsom Reservoir is greater than 1,600,000 AF.

F-5 The WFP includes numerous assurances that go beyond voluntary compliance with a Memorandum of Understanding. First, the signatories will support updating of the Lower American River flow standard including:

> Water Forum Agreement provisions on water diversions, including dry year diversions, and
>
> Implementation of the Improved Pattern of Fishery Flow Releases, which optimizes the release of water for fisheries.

Another assurance will be contracts between suppliers that divert from upstream of Nimbus Dam and the USBR. The WFA requires signatories to make every effort to ensure that such contracts are consistent with the diversion provisions in each supplier's purveyor specific agreement.

As part of the Water Forum Agreement, identified signatories will contractually agree to financially participate in the Lower American River Habitat Management Element and the Water Forum Successor Effort.

Assurances for groundwater management in the North area of the County of Sacramento have already been incorporated in a joint powers agreement. Signatories to the Water Forum Agreement will also agree to work through the Water Forum Successor Effort to negotiate arrangements for groundwater management for the Galt and South areas within the County of Sacramento.

In addition, suppliers will agree to include commitment to all elements of the Water Forum Agreement, including water conservation, in their project-specific environmental impact reports.

F-6 One of the coequal objectives of the Water Forum is to provide a reliable and safe water supply for the region's economic health and *planned* development through the year 2030 (emphasis added). As this commentor correctly notes, water demands were based on approved policies such as those contained in Sacramento County's 1993 General Plan. The Water Forum does not have the authority to make land use decisions. Such decisions rest with the appropriate units of local government.

continued ...

As discussed on page 4.10-15 of the WFP Draft EIR, a report entitled Estimate of Annual Water Demand Within the Sacramento County-wide Area prepared by Boyle Engineering was used by the Water Forum to project future water demand in Sacramento County. The report developed projected land use based water demands for two scenarios: Buildout of General Plans and Ultimate Buildout. With complete buildout of the Urban Policy Area (UPA) of the Sacramento County General Plan and the General Plans for the cities of Folsom, Galt, and Sacramento, the population equated to the Department of Finance (DOF) projection at year 2024. The Ultimate Buildout of the Urban Services Boundary (USB) equated to a DOF population considerably beyond the year 2030. Water demand projections for the year 2030 were determined by interpolating between the demand projections for the two scenarios. The six year difference between 2030 and 2024 amounted to a projected additional water demand of approximately 16,000 AF. This additional demand was for the area between the UPA and the USB; however, there was no assignment of that demand to a specific development. The WFP does not contemplate provision of water supplies outside the USB, and estimation of demand for future projects outside the USB would be speculative.

The WFP includes a provision in Section Four, IV.5, which allows signatories to the Water Forum Agreement to support or oppose water facilities or the siting of water facilities that would serve new development outside the USB as defined in the Sacramento County 1993 General Plan. This provision was included in recognition that Sacramento County is required to periodically update its General Plan. In addition, it explicitly states that signatories have not agreed to support construction of additional water facilities to serve new development outside the USB. Any such additional facilities would be beyond the scope of the WFP and would require CEQA compliance.

F-7 As described in the WFP Draft EIR, the Water Forum is not a land use agency and, therefore, does not propose to approve or adopt any particular level of growth or location of land use development. Sole responsibility for these issues lies with individual land use agencies. Under the WFP, water would be provided to purveyors that serve jurisdictions in the water service study area. With a safe and reliable supply of water, however, local decision-makers can determine how much and what type of development to approve, in accordance with planned land uses, recognizing that water supply is more certain. The Water Forum includes the City of Sacramento, County of Sacramento, City of Roseville, City of Citrus Heights, City of Folsom, and the City of Galt. These local governments, which have land use authority, are committed participants in the process of achieving the coequal objectives of the WFP.

The commentor states that Section Four, IV of the Action plan, "Relationship of Water Forum Agreement to Land-Use Decision-Making," is used by the Water Forum as a disclaimer. This agreement does contain a disclosure recognizing that land use decision making remains the responsibility of land use agencies and neither the Water Forum nor the Water Forum Successor Effort has any authority to make land use decisions.

However, Water Forum signatories also recognize the need for coordination between land use decision-making and water planning. Land use decisions should be based on reliable

continued ...

information on water supply availability. Furthermore, it is the intent of the WFP that land use decisions dependent on water supply from the American River or the three groundwater sub-basins in Sacramento County be consistent with limits on water supply from the American River and the estimated average annual sustainable yields for those three groundwater sub-basins as negotiated for the WFP. Part of the WFP, therefore, is a commitment that purveyors will notify land use decision makers of the limits on availability of water from these sources. This information will be used by cities, counties and local agency formation commissions in their land use decision making.

The commentor suggests that the Water Forum Action Plan and Agreement be elevated to general plan status. The comment is noted. However, the purpose and nature of the WFP, as a set of regional water planning and habitat management agreements between public agencies and non-governmental stakeholders, go beyond the scope of the goals, policies, and programs provided in a general plan. General plans provide long-term land use planning for cities and counties and are governed by specific provisions of state law. (See Gov't Code §§ 65000, *et seq*.) The Water Forum, as a group of public agencies and non governmental entities, does not have the legal authority to create a general plan document. In addition, most of the public agency members of Water Forum do not have land use authority, and, therefore, do not produce general plans.

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The Center for Sierra Nevada Conservation

6221 Shoo Fly Road
Kelsey, California 95667

LETTER
G

March 21, 1999

Sacramento City-County Office of Metropolitan Water Planning
5770 Freeport Boulevard Suite 200
Sacramento, CA 95822

RE: Comments on Water Forum Action Plan and Programmatic, Draft Environmental Impact Report.

The following are comments from the Center for Sierra Nevada Conservation (hereafter, CSNC), a grassroots conservation organization located in the central Sierra Nevada in El Dorado County, California:

1) We applaud your efforts to find resolution to the very complex and difficult issues surrounding the future allocation of Lower American River water and protection for the environment.

   We are concerned that the collective memory of the Water Forum designated participants remains cognizant of the high degree of variability in the "baseline conditions" and "future cumulative conditions" assessment.

   The re-configuration of the Sacramento and American River hydrographs related to reliable water supply appears to be unclear at this time. We have heard nothing to suggest that the reliable water supply won't decrease as a result of this re-analysis of the existing hydrograph. The Water Forum agreement mentions "adaptive management" and suggests an on-going commitment to resolve problems related to changing conditions that will occur. This re-evaluation process should include notification and comment from all stakeholders and interested parties. G-1

   We would like to request the Water Forum agreement include regular updates to the interested public regarding any significant changes that affect baseline assumptions and future cumulative conditions. This would include any changes in the amount of reliable water, any future listings under the CESA and the FESA, future project proposals and future water rights applications.

Phone: 530/622-8718 Fax: 530/622-8748 cthomas@innercite.com

2) We were very concerned, early on in the Water Forum process, about the inclusion of El Dorado Irrigation District, Georgetown Divide Public Utility District, and the El Dorado County Water Agency participation in the Water Forum absent other environmental, business, and government stakeholders from El Dorado county.

The concept of interest-based negotiation and realistic attempts to include all stakeholders in the resolution of land use issues has not come forward in El Dorado County. The disenfranchisement of the environmental community in El Dorado County has lead to massive litigation and a setting aside of the county general plan, various development proposals and water project proposals.

El Dorado County irrigation and county water officials attempted to negotiate an agreement with the Water Forum without full stakeholder participation. G-2

We have great respect for the Water Forum process and the Environmental Interests (coalition) for holding to their negotiating principles and not allowing El Dorado County water interests to sign the agreement until El Dorado County land use issues are resolved and there is full stakeholder involvement in the process.

We believe the county has hit rock bottom and will now begin a more socially mature process of addressing land use and water issues in the future.

Please keep the Center for Sierra Nevada Conservation informed of further developments in the Water Forum planning and environmental processes.

Thank you for this opportunity to comment on the Action Plan and Programmatic DEIR.

Sincerely,

Craig Thomas, Conservation Director
Center for Sierra Nevada Conservation

Craig Thomas, Conservation Director
Center for Sierra Nevada Conservation
March 21, 1999

G-1 As required by CEQA, the WFP Draft EIR compared the project condition to existing environmental conditions (i.e., the base condition). Additionally, the future cumulative condition was compared to the base condition and the project condition. The base condition, therefore, serves as the basis for comparison and will not change. With respect to the Sacramento and American River hydrographs, the WFP Draft EIR incorporated updates and corrections to theoretical storage and other PROSIM modeling assumptions through extensive collaboration with USBR, to model existing, project, and future conditions. Several comments were received regarding changed conditions in the future cumulative condition scenario since the release of the WFP Draft EIR in January 1999. Refer to response to comments C-5 and C-6 where the changed conditions are primarily discussed.

With regard to updates, as stated on pages 3-27 and 3-28 of the WFP Draft EIR, the Water Forum Successor Effort will be responsible to oversee, monitor and report on implementation of the Water Forum Agreement. This Water Forum Successor Effort will consist of and be funded by the organizations signatory to the Water Forum Agreement.

To the extent that changed conditions affect the implementation of the Agreement, the Water Forum Successor Effort will continue to keep all stakeholders informed of changed conditions as they occur. Other project proposals and water rights applications have public notice requirements under existing law.

Notice of future listings under ESA, future project proposals and future water right applications will occur as required by law.

Where changed conditions occur, CEQA compliance by individual project proponents will require consideration and disclosure of any resulting potential environmental effects in light of these changed conditions.

G-2 Water Forum staff have indicated that the Water Forum Successor Effort will keep interested parties informed of further developments in the Water Forum planning and environmental processes.

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LETTER
H

EL DORADO COUNTY
OFFICE OF
THE COUNTY COUNSEL

COUNTY COUNSEL
LOUIS B. GREEN

CHIEF ASS'T. COUNTY COUNSEL
EDWARD L. KNAPP

DEPUTY COUNTY COUNSEL
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Legal Assistants
RUDY LIMON
JOHN F. MARTIN

March 18, 1999

RECEIVED
MAR 22 1999
CCMWP

Susan Davidson
Sacramento City-County Office of
Metropolitan Water Planning
5770 Freeport Blvd., Suite 200
Sacramento, CA 95822

Re: Draft Environmental Impact Report for the Water Forum Proposal

Dear Ms. Davidson:

This office represents the El Dorado County Water Agency, a stakeholder in the Water Forum process. We appreciate this opportunity to comment on the above-named document.

It is our understanding from review of the document and discussions with Water Forum participants that the draft EIR's cumulative impacts analysis assumes and includes the following future consumptive uses from the American River system for the benefit of El Dorado County interests:

1. Diversion and/or rediversion of up to 17,000 acre-feet annually from Folsom Reservoir sought jointly by El Dorado County Water Agency and El Dorado Irrigation District, for the benefit of El Dorado Irrigation District, via Applications Nos. 29919A, 29920A, 29921A, and 29922A, and petition for partial assignment of state-filed Application 5645 before the State Water Resources Control Board. This diversion was approved by Decision 1635 of the SWRCB on October 2, 1996, although the SWRCB subsequently took Decision 1635 under reconsideration, where it remains pending at this time. H-1

2. Diversion and/or rediversion of up to 15,000 acre-feet annually of water from Folsom Reservoir or by exchange at points upstream, via a contract between the United States Bureau of Reclamation and El Dorado County Water Agency, for the benefit of El Dorado Irrigation District and Georgetown Divide Public Utility District, as authorized and directed by Public Law 101-514. As the draft EIR states, the environmental review prerequisite to this contract is presently underway. H-2

Given the bulk and complexity of the draft EIR, we would appreciate a succinct confirmation in response to this comment that each of these two future consumptive uses is, in fact, assumed and included in the hydrological modeling and impacts analysis in Section 6, "Cumulative Impacts," of the draft EIR. In our view, the inclusion of these projects in that modeling and analysis is appropriate to ensure compliance with the California Environmental Quality Act, given their clear foreseeability as illustrated by the above facts.

Thank you for providing clarification on this point.

Sincerely,

LOUIS B. GREEN
County Counsel

By: _____
Thomas D. Cumpston
Deputy County Counsel

TDC:sln
davidson.ltr
cc: Merv de Haas, Water Agency General Manager
Dave Witter, El Dorado Irrigation District
Marie Davis, Georgetown Divide Public Utility District
James Moose, Esq.

Louis B. Green, County Counsel
El Dorado County
March 18, 1999

H-1 The future cumulative impacts analysis in the WFP Draft EIR includes Baseline diversion amounts (1998) and projected year 2030 Water Demands for EID and GDPUD. Diversions/demands for EID and GDPUD were modeled based on projected water demands furnished to staff by El Dorado County representatives and without any reference to entitlement. Projected demands modeled Baseline and year 2030 amounts for EID and GUPUD were 20,000/48,400 AF and 10,000/18,700 AF respectively, and are indicated in Table 3-1b of the WFP Draft EIR on page 3-13 and Table 4.1-2 on page 4.1-8.

Included on page 3-14 of the WFP Draft EIR is specific reference in summary format for both El Dorado County water agencies. These summaries include a reference that these agencies have not as yet completed negotiations and their modeled diversions may be subject to agreed upon refinements when finalized.

Table 3-1b on page 3-13 in the WFP Draft EIR presents the diversion amounts used for modeling and notes that "assumptions included in these footnotes are for WFP Draft EIR modeling purposes only. Modeling these diversions does not imply there is agreement on these assumptions."

Although water entitlements were not specified in the analysis, the WFP Draft EIR did acknowledge "Other Water Resources Planning Efforts" (see Section 3.6). CVP Water Contracting, American River Diversion (Section 3.6.9) covers the Public Law 101-514 (Fazio) for Sacramento County Water Agency, San Juan Water District, and El Dorado County Water Agency.

The acquisition of 17,000 AF of water rights is also known as Project 184. An additional reference will be included on page 3-34 in Section 3.6 of the WFP Draft EIR to Project 184 and 17,000 AF of water rights associated with that project. This change is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR, of this Final EIR. This change does not affect the conclusions of the WFP Draft EIR.

The following text is added to page 3-34 of the WFP Draft EIR.

3.6.18 Project 184

continued ...

The El Dorado Irrigation District acquired 17,000 AF of water rights via Applications Nos. 29919A, 29920A, 29921A, and 2922A and petition for partial assignment of state-filed Application 5645 before the State Water Resources Control Board. This acquisition is also known as Project 184. Project 184, a hydroelectric facility and system, includes the Forebay Reservoir near Pollock Pines, four mountain lakes (Lake Aloha, Echo Lake, Silver Lake and Caples Lake), the 22-mile El Dorado Canal and the 21-megawatt El Dorado Power Plant in the American River Canyon.

H-2 Please see response to comment H-1.

HERUM, CRABTREE, DYER, ZOLEZZI & TERPSTRA, LLP

LETTER
I

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Stockton, California 95207
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(209) 525-8444 Modesto (209) 525-8484 Modesto Fax

JEANNE M. ZOLEZZI

RECEIVED
MAR 22 1999
ACMWP

March 19, 1999

Ms. Susan Davidson
Sacramento City-County Office of Metropolitan Water
5770 Freeport Boulevard, Suite 200
Sacramento, California 95822

Re: Stockton East Water District/American River Water
Our File No. 1026-025

Dear Ms. Davidson:

The following comments are submitted on behalf of the Stockton East Water District (SEWD) to the Draft Environmental Impact Report (DEIR) on the Water Forum Proposal (WFP). The Draft EIR stated that its purpose was to receive comments from interested parties on its completeness and adequacy in disclosing the environmental effects of the WFP. SEWD believes the DEIR is grossly incomplete and inadequate in evaluating potential impacts to and relationship of the WFP with water development projects in San Joaquin County.

San Joaquin County has looked to the American River as a source of water for its needs for over fifty years, and continues to do so. Yet, nowhere in the DEIR are the needs of San Joaquin County discussed. In order for the DEIR to be complete and adequate, San Joaquin County American River water use should be addressed, at a minimum, in the Water Supply and Cumulative Impacts Sections. I-1

Background

In significant part, reliance of San Joaquin County interests on American River water stems from numerous state and federal actions which have foreclosed other alternatives while always directing us to the American River. In this regard, it is important to note the following: I-2

1. Bulletin No. 11 of the State Water Rights Board entitled, "San Joaquin County Investigation," dated June 1955, includes a description of the Folsom South Canal extending southward to provide a water supply to San Joaquin County.

2. In Decision 858, issued on July 3, 1956, the State Engineer found that the North San Joaquin Water Conservation District could receive water from the American River through the Folsom South Canal and that this course would be cheaper and more dependable. As a result of these findings, the North San Joaquin District was granted only a temporary permit to use water from the Mokelumne River and denied a requested permanent right.

3. Four entities within San Joaquin County, consisting of the North San Joaquin Water Conservation District, Stockton and East San Joaquin Water Conservation District (now Stockton East Water District), City of Stockton, and the California Water Service Company, all filed to appropriate water from the American River. In Decision 893, adopted on March 18, 1958, the then State Water Rights Board at the request of the Bureau of Reclamation denied those permits. The Board, in granting the permits to the Bureau of Reclamation for the Folsom Project, conditioned the permit to allow time for parties desiring water within Placer, Sacramento, and San Joaquin Counties to negotiate a water supply contract. San Joaquin County interests did diligently negotiate for contracts and signed those contracts but they were not approved at the Washington level by the Bureau of Reclamation.

4. The Bureau of Reclamation report entitled "Folsom South Unit" dated January 1960, clearly identifies the needs for supplemental water within San Joaquin County and service to the County through the Folsom South Canal. Again, giving San Joaquin County reason to rely on a water supply from the American River. I-2

5. In 1967 and 1971, the Bureau of Reclamation furnished draft contracts to San Joaquin County and districts within the County. Negotiations regarding these contracts resulted in the Stockton East Water District, the Central San Joaquin Water Conservation District and the North San Joaquin Water Conservation District approving contracts for execution. The contracts were approved by the regional office of the Bureau of Reclamation. Although the contracts were sent to Washington for approval, none were executed by the United States.

6. Following Decision 1400 issued by the State Water Resources Control Board in April 1972, San Joaquin County's agencies have continued to work with the Bureau of Reclamation regarding the various studies concerning the Auburn-Folsom South Unit.

7. In Board hearings on Applications 14858, 14859, 19303 and 19304, which led to Decision 1422, the Bureau of Reclamation testified that the portion

of San Joaquin County north of the Calaveras River would be served by the Folsom South Canal. In fact, at the time of adopting the New Melones Basin Allocation, the Secretary of Interior noted that the provision of only a small amount of water to San Joaquin County from New Melones was acceptable since water would be provided to Eastern San Joaquin from the American River. I-2

Current Projects

San Joaquin County has an application pending before the State Water Resources Control Board for water from the American River. San Joaquin County is also in negotiations with East Bay Municipal Utilities District for a coordinated project utilizing American River Water. Finally, San Joaquin County entities are actively pursuing an extension of the Folsom-South Canal, and maintain their right to a water service contract from the Bureau of Reclamation. I-3

These issues must be addressed in the cumulative impacts section as "reasonably foreseeable probable future projects."

In addition, Section 4.3 of the DEIR includes extensive discussion regarding the rights granted to Sacramento County by the Watershed Protection Statutes. The State Water Resources Control Board has stated expressly that San Joaquin County is protected by Water Code Section 11460 with regard to the American River, and particularly the water rights of the United States Bureau of Reclamation. As such, the discussion of parties protected by the Water Protection Statutes in Section 4.3 of the DEIR must include San Joaquin County. I-4

Very Truly Yours,

Jeanne M. Zolezzi
Attorney-at-Law

JMZ:des

cc: Honorable Michael Machado
Honorable Patrick Johnston
Honorable Richard Pombo
Mr. Edward M. Steffani
Mr. John Lampe

Herum, Crabtree, Dyer, Zolezzi & Terpstra, LLP
(representing Stockton East Water District)
March 19, 1999

I-1 The Water Forum Proposal is a project to meet the needs within the American River watershed. Although San Joaquin County has looked to the American River as a source of water for its needs for over fifty years, it has no entitlement for such water. San Joaquin County water demand and the effects of that water demand were addressed in the cumulative impacts analysis. The modeling for the cumulative impacts analysis relied on the USBR's East Side Streams analysis to account for future San Joaquin County water demand. This methodology accounts for, or otherwise allocates, river flows from the Sierra Nevada from the American River to the Stanislaus River and is an integral component of PROSIM. The analysis represents the USBR's best estimate of the manner in which future San Joaquin County water demand will be met. The analysis was included in PROSIM modeling conducted for the Supplemental Programmatic EIS for the Central Valley Project Improvement Act.

I-2 The history of San Joaquin County's efforts to obtain American River water is noted. No rights to such water have been acquired nor have USBR contracts been obtained.

I-3 The commentor has listed several pending applications and on-going negotiations which should be included in the cumulative impact section as reasonably foreseeable. These are: 1) San Joaquin County's application to SWRCB for water from the American River, 2) San Joaquin County's negotiation with EBMUD for a coordinated project using American River water, and 3) San Joaquin County's pursuit of extension of the Folsom South Canal and a U.S. Bureau of Reclamation Contract.

With regard to the first project, San Joaquin County filed an application before the SWRCB on February 20, 1990. In the intervening years San Joaquin has prepared no CEQA analysis for the application and no hearings have been scheduled. The SWRCB has made a finding that the American River system is fully appropriated during the period July 1 to October 30. It would be entirely speculative to predict the outcome of hearings on San Joaquin's application if they are ever held.

The remaining two projects are also speculative. The USBR is prevented from entering into new CVP contracts until completion of the Programmatic EIS for the CVPIA. The USBR is also restricted by the U.S. District Court's order in NRDC vs. Stamm from entering into additional contracts for water delivery from the Folsom South Canal without prior notice to the court and the parties to that case and without environmental review. EBMUD is prevented from selling American River water to third parties by the "Hodge Decision."

I-4 The commentor suggests that the WFP Draft EIR discuss San Joaquin County's purported protection under the watershed-of-origin statutes. The comment is noted. However, whether San Joaquin County is protected does not relate to the assessment of the project's significant environmental impacts on water supply. The WFP Draft EIR discusses the watershed-of-origin protections for Sacramento, Placer, and El Dorado counties.

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LETTER
J

SUTTER COUNTY
COMMUNITY SERVICES DEPARTMENT

Animal Control
Building Inspection
Emergency Services
Environmental Health
Fire Services

Rich Hall, Director
Larry Bagley, Assistant Directo
Permitting Services

RECEIVED
MAR 2 2 1999

March 19, 1999

Sacramento City-County Office of Metropolitan Water Planning
Attn: Ms. Susan Davidson
5770 Freeport Boulevard, Suite 200
Sacramento, CA 95822

Dear Ms. Davidson:

Re: Water Forum Proposal - Draft EIR

Sutter County appreciates the opportunity to comment on the above referenced document. The scope of the project includes resources that are located within Sutter County, specifically groundwater. The document does not adequately address the groundwater issues as described below:

The report fails to address the issue of groundwater supply and the fact that the program will increase the rate and volume of groundwater extracted from the aquifer thereby causing a physical environmental impact that results in the additional impacts of groundwater quality degradation, movement of contaminants, land subsidence and stranding existing wells that would need to be deepened which would lead to increased costs for deepening and pumping. J-1

Page 4.2-15, first paragraph contains a statement that, "groundwater recharge from streams and subsurface boundary inflows increases in response to the lowered groundwater levels, ..." The report then makes conclusory statements regarding the north area aquifer as reaching "stabilization" after increased pumping. These statements are not adequately supported and therefore do not satisfy the requirements of CEQA. In fact the boundary areas may, and in some cases will, increase groundwater pumping for development projects planned in those locations or existing agricultural operations that lose some of their surface water allocations to urban areas so that the boundary recharge doesn't occur and the above listed impacts are even larger. These facts should be identified in the analysis so that proper disclosure of future conditions is accurate. The modeling does not appear to include the additional factors of increased diversions and impervious surfaces from the extensive urbanization of the region and planned future transfer sales that will occur resulting in less recharge. The assumptions appear to be based upon an unlimited source supply when in fact there is no "new" water. The document should be revised to address the issue of how this program fits into the broader concept of adequacy of overall basin supply. J-2

1160 Civic Center Blvd. • Yuba City, California 95993 • (530) 822-7400 • FAX: (530) 822-7109

Page 4.2-13 (and others) contains multiple references to "(SCWA, 1997)" regarding projected groundwater demands. This very important information reference is not contained anywhere within Section 9 - References and Personal Communications. The source of this information and verification of the data is critical to Sutter County's review of this document. Until such time as the source is clearly identified, all assumptions based upon this information should be considered invalid. Additionally, there are multiple references to an Appendix E which similarly is not included in the document. It would be appropriate to recirculate the DEIR to provide reviewers the opportunity to review and consider the referenced data. J-3

Pages 6-4 and 6-5 identify the cumulative groundwater impacts as being less-than-significant without discussing the most obvious impact of the physical lowering of the groundwater levels. This physical environmental impact does require mitigation as it would be significant. J-4

Impact 6.2-1 Groundwater Quality impacts associated with large scale pumping can occur by drawing up poor quality, contaminated water from the lower aquifer which may have been previously undisturbed. Once this occurs there is little that can be done to remedy the problem. The document fails to identify this potential in the North Area. The existence of chemicals at concentrations exceeding US-EPA and State DHS Maximum Contaminant Levels (MCL) including arsenic, chloride and manganese in this area is documented in the Sutter County General Plan. The existence of these chemicals should be disclosed and discussed. J-5

Impact 6.2-3 Land Subsidence impacts are disposed of with a simple statement that the subsidence is expected to be small. Such projections are inadequate for the purposes of CEQA since the potential impacts could be significant. Even very small changes in ground surface elevation could have very significant impacts in areas such as South Sutter County where drainage and reclamation canals could quite easily be adversely affected to the point of requiring regrading or installation of pumps where none existed. This area is habitat for several listed species including the Giant Garter Snake and Swainson's Hawk which could also be impacted if such drainage problems necessitated other physical improvements. Subsidence of one-half foot could completely reverse the gravity flow of many of these facilities, clearly a significant impact. Other drainage impacts could occur to resources, structures and facilities that were previously protected from flood waters and subsequently experience inundation due to drainage changes that were the result of subsidence. J-6

The segregated Efficiency of Wells Impact 6.2-4 is an impact related to the physical impact of lowering of groundwater levels and therefore requires mitigation also. While there is an economic component to this impact, it is a direct result of the physical impact of lowering the groundwater levels. The costs associated with pumping from a deeper groundwater level are a direct result of this proposal and therefore mitigation should be identified which could include subsidization of those energy cost increases incurred by the affected well owners. J-7

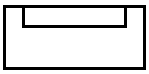
The assumptions in the document that the lowering of the groundwater levels will occur regardless of the results of this proposal are not entirely valid. Growth management and strong conservation programs are not discussed and yet they provide the best opportunity to achieve conservation of this resource in the most efficient manner possible. J-8

In conclusion, Sutter County appreciates the opportunity to identify these areas of concern regarding the potential impacts that could result from this proposal. Since this Program EIR will be used for subsequent decision making there may be an inclination to rely on many of the conclusions contained in this document without conducting additional study. It is this concern that provides the impetus for a more comprehensive analysis and detailed disclosure of actual project impacts. Conclusions unsupported by factual documentation do not satisfy CEQA's requirements of full disclosure and incorporation of all feasible mitigation measures. It is recommended that the document be revised to respond to the above listed concerns. If significant new information is discovered, recirculation of the document may be required. J-9

Sincerely,

John Farhar
Senior Planner

A:\WFPEIR.WPD



John Farhar, Sr. Planner,
Sutter County Community Services Department
March 19, 1999

J-1 The WFP Draft EIR specifically analyzed whether implementation of the WFP would result in groundwater quality degradation, movement of contaminants, land subsidence, and a decrease in well efficiency. (See WFP Draft EIR at 4.2-8 through 4.2-21). The WFP Draft EIR concluded that impacts to groundwater resources would be less than significant in all of the categories identified by the commentor. The commentor does not identify any information to indicate that those conclusions are inaccurate. For further discussion of these particular groundwater impacts, see responses to comments J-5 (water quality degradation), J-6 (land subsidence), and J-7 (well efficiency).

It should be noted that Sutter County shares the same groundwater basin with north Sacramento County. In particular, Sutter County shares the Sacramento North Area sub-basin, which generally corresponds to the hydrologic boundaries of one of the three primary cones of depression in the groundwater basin. These cones of depression are areas of lowered groundwater levels that developed due to localized intensive groundwater pumping adjacent to McClellan Air Force Base, in the Elk Grove area, and in the Galt area. Because Sacramento County and Sutter County share the same groundwater sub-basin and the WFP Draft EIR concluded that groundwater impacts to Sacramento County and the rest of the WFP service area would be less-than-significant, the WFP's effect on groundwater resources in Sutter County would also be less-than-significant.

In fact, the effect on Sutter County should be *less* than the impact on Sacramento County for two reasons. First, impacts to groundwater resources are worse at the center of the cone of depression because the groundwater level is lower. The center of the cone of depression in the Sacramento North area sub-basin is in Sacramento County (see WFP Draft EIR at Exhibit 4.2-1, page 4.2-3); therefore, Sacramento County groundwater resources have the greatest potential to be affected. Second, Sutter County has developed a stable surface water supply through the South Sutter Water District's diversions from the Bear River.

See Sacramento City-County Office of Metropolitan Water Planning, Northern American River Service Area Groundwater Model, Model Develop-ment and Basin Groundwater Management Final Report (December 1995).

Groundwater management is an important element of the WFP. South Sutter Water District participated on a limited basis with the Water Forum's Groundwater Negotiation Team during negotiations over the WFP. The Groundwater Negotiation Team reviewed information drawn from a comprehensive study of the groundwater resources of Sacramento County and recommended sustainable yield pumping amounts for each of the three Sacramento area groundwater sub-basins (Appendix L). With respect to the

continued ...

Sacramento North Area sub-basin, the Groundwater Negotiation Team recommended an estimated annual average sustainable yield of 131,000 AF. This represents the year 1990 pumping amount. To help meet 2030 demands, a program would be implemented to use the groundwater basin conjunctively with surface water supplies. The WFP adopted these recommendations.

In addition, the WFP provides for the creation of a groundwater management authority for the North Area sub-basin. Sutter County was invited to join the Preparatory Committee for the Sacramento North Area Groundwater Management Authority, but declined the invitation on June 25, 1997. See SSWD letter on the following page.

It is important to note that as described in the WFP Draft EIR groundwater declines will occur in the future with or without the Water Forum Agreement. In fact, given that the establishment of groundwater management authorities and establishment of sustainable yields for each sub-basin are part of the WFP, the WFP could have fewer impacts on groundwater resources which are likely to occur in the future in the absence of the WFP.

J-2 The baseline and WFP analysis have been made using a comprehensive Integrated Ground and Surface Water Model (IGSM) (see Appendix E, *Baseline Conditions for Groundwater Yield Analysis, Final Report, May 1997*), that covers the Sacramento County area. This comprehensive model simulates the boundary conditions for Sacramento County based on activities occurring in the areas outside the County lines. Therefore, the developments in the northern American River area have been accounted for in the model simulations. The statement in paragraph 1, page 4.2.15 is correct based on the analysis performed.

The commentor refers to "¼ additional factors of increased diversions and impervious surfaces from the extensive urbanization of the region ¼" that, among other factors, allegedly will result in less recharge of the groundwater aquifer. While the impervious surfaces will result in less recharge of the

SOUTH SUTTER WATER DISTRICT

2464 Pacific Avenue • Trowbridge, CA 95659 • Office (916) 656-2242 • FAX (916) 656-2416

Bradley J. Arnold
General Manager / Secretary

A California Water District

June 25, 1997

Mr. Ron Bachman,
Water Forum
5770 Freeport Blvd., Suite 200
Sacramento, Ca 95822

Dear Mr. Bachman:

Thank you for the invitation to participate as a member of the North Area Groundwater Management Council Preparatory Committee. However, at this time the district will decline the invitation to participate.

Very truly yours,

Brad Arnold

Bradley J. Arnold
General Manager/Secretary

BJA/er

continued ...

groundwater aquifer, more significant, is the net gain to the aquifer level with replacement of current groundwater pumping with surface water. The IGSM simulations include a key assumption regarding replacing current groundwater pumping with the availability of PCWA's existing surface water entitlements as a means of offsetting this groundwater pumping by 25,000 AF annually (AFA) in the southwestern Placer County area. This assumption is supported by Placer County's policy requiring new development be served with surface water. Water Forum Agreement signatories also commit to support PCWA's proposed transfer of 35,000 AF from the American River to the Sacramento River in order to serve new future growth in southwestern Placer County. Surface water deliveries can, to the extent available, offset or reduce groundwater pumping, and thereby attenuate groundwater decline.

The IGSM analysis identifies all key assumptions used in the modeling North simulations. Please see Appendix E of the WFP Draft EIR for a detailed description of these assumptions. Moreover, the WFP Draft EIR acknowledges that the boundary conditions were set based on the assumption that groundwater pumping amounts in adjacent counties would remain constant (with the exception of southwestern Placer County, see above) and that additional surface water supplies in these areas would be made available to reduce the reliance on groundwater. Finally, the WFP Draft EIR acknowledges that it relies upon certain assumptions regarding water supply and consumption, and notes that any significant increase in groundwater pumping above existing amounts would likely result in lower groundwater levels in these adjacent areas. While no specific planning studies were conducted to address an optimum water supply option for this area, the WFP Draft EIR properly discloses all key assumptions in its method of analysis and the possible implications if those assumptions are compromised (see pages 4.2-12 to 4.2-13 of the WFP Draft EIR).

J-3 The commentor states that Appendix E and the document referred to as "(SCWA, 1997)" are not included in the WFP Draft EIR. Appendix E is included in the WFP Draft EIR in CD-ROM format as indicated in page vi of the WFP Draft EIR's Table of Contents.

In addition, Appendix E is available as part of the full WFP Draft EIR on the Water Forum website, www.waterforum.org. Please note that Montgomery Watson prepared the groundwater report for the Sacramento County Water Agency and that the "(SCWA, 1997)" is the short form citation for Appendix E, which is first cited on page 4.2-1 of the WFP Draft EIR as Appendix E, *Baseline Conditions for Groundwater Yield Analysis, Final Report* (May 1997). Therefore, reviewers have had ample opportunity to evaluate and consider the referenced data.

J-4 The WFP Draft EIR acknowledges that groundwater levels throughout the groundwater basin are expected to continue to decline into the future (see Table 4.2.2 on page 4.2-14 of the WFP Draft EIR) with or without the project. In other words, the project is not responsible for the decline. Furthermore, such reductions in groundwater levels are, by themselves, not considered an environmental impact. Groundwater levels would not be

continued ...

reduced to levels that would damage the aquifer or its capacity, cause substantial migration of contaminants, or result in substantial land subsidence. The WFP Draft EIR acknowledges that groundwater pumping in accordance with the sustainable yield recommendations would require deepening of some wells to maintain productivity. However, this is considered a fiscal or economic rather than environmental impact.

J-5 Appendix E contains an extensive discussion of groundwater quality. The groundwater supplied by water purveyors in the Sacramento County area is from both the shallow and deep aquifer systems. The report acknowledges that the water quality in the deep aquifer is generally not as good as that of the shallow aquifer zone and has higher concentrations of TDS, iron and manganese.

For the portion of the groundwater basin within Sacramento County and north of the American River, referred to as the Sacramento North Area, the report notes the average concentrations of iron, manganese, and arsenic remain below the maximum contaminant level (MCL) for all levels of groundwater decline. This indicates that, although there may be wells in the Sacramento North Area with concentrations exceeding the MCLs, the occurrence of these concentrations is not directly related to historic groundwater level decline in this area. In addition, for the reasons noted in response to comment J-1, groundwater resources can reasonably expected to be in a better condition in Sutter County than in northern Sacramento County. Because implementation of the WFP would not change these groundwater conditions, further analysis of groundwater quality in Sutter County is not warranted.

J-6 Land subsidence impacts were studied as part of the groundwater yield study used for the groundwater impact analysis of the WFP Draft EIR (Montgomery Watson, May 1997). The study used results of modeling analysis on the groundwater level simulations along with the historical and observed land subsidence records. Although there are no formal studies or published reports of extensive regional land subsidence in Sacramento County, there are long-term records of water level changes and recorded ground surface elevations available in the area for interpretation. The May 1997 investigation on historical land subsidence was conducted using historical water level measurements obtained from the California Department of Water Resources and historical bench mark elevation data obtained from the National Geodetic Survey (NGS). In addition, the potential for future land subsidence was investigated based on the modeling studies. The NGS records include repeated first order measurements at different times between 1912 and 1969. These are the most consistent and reliable set of leveling data available for the Sacramento County area. Indications of minor land subsidence were generally observed between 1912 and the late 1960s for the North, South, and Galt areas of Sacramento County. With few exceptions, land subsidence did not exceed 0.4 feet over this period. The majority of this subsidence occurred from the 1940s, to the late 1960s corresponding to downward trends in groundwater levels.

The investigation concluded that the historical maximum land subsidence in the Sacramento North area has been approximately 0.32 feet. In the South Sacramento area,

continued ...

between the American River and the Cosumnes River, land subsidence was observed to range between 0.20 feet and 0.40 feet, with increased land subsidence occurring in the vicinity of Elk Grove. The Sacramento County area south of Cosumnes River near Galt exhibited land subsidence of 0.35 feet.

In order to evaluate the potential for additional land subsidence, the investigators used a "land subsidence-head decline" ratio based on the historical and observed groundwater level records. The investigation concluded that the ratios for the Sacramento North, South Sacramento, and Galt areas are 0.01, 0.007, and 0.007 feet of subsidence, respectively, per foot of drawdown. Based on these ratios, the level of groundwater pumping contemplated in the WFP Draft EIR would result in 0.40, 0.70, and 0.32 feet of subsidence in the Sacramento North, South Sacramento, and Galt areas, respectively. As noted in Section 5.5 on page 66 of Appendix E to the WFP Draft EIR, such land subsidence is minor and it is unlikely that it would cause infrastructure damage. As discussed in response to comment J-1 and noted in Section 5.3 page 63 of Appendix E to the WFP Draft EIR, the maximum land subsidence of 0.32 feet was measured approximately 2 miles northeast of McClellan AFB, corresponding to the lowest point of the cone of depression in the Sacramento North Area. Thus, land subsidence in Sutter County, which is even further north of the cone of depression, will likely be *less* severe than in the Sacramento North Area. Therefore, it is unlikely that Sutter County will experience significant impacts to drainage canals and other facilities.

It should be noted, however, that these groundwater declines would occur with or without the project. The effect of the WFP is to establish sustainable yields for each of the groundwater sub-basins, and thereby limit future pumping. As such, the WFP would not result in any adverse groundwater impacts.

J-7 The commentor states that Impact 4.2-4, Efficiency of Wells, is a significant environmental impact that requires mitigation. However, the threshold of significance for this impact, set forth on page 4.2-8 of the WFP Draft EIR, is a decrease of both the yield and efficiency of a *substantial percentage* of municipal, agricultural, or rural domestic wells. The WFP Draft EIR did not find that a substantial percentage of such wells would experience a decrease of both yield and efficiency as a result of the project. As noted on page 4.2-21, none of the agricultural and rural domestic wells and only 9 municipal wells (approximately 3% of all such wells) in the Sacramento North Area are expected to be impacted by declining water levels until the groundwater table stabilizes under the sustainable-yield recommendation included in the WFP. No mitigation measures are necessary for this less-than-significant impact. For public information and disclosure purposes, the Water Forum has provided an economic analysis of increased costs due to lowered groundwater elevations in Appendix E. The WFP Draft EIR properly acknowledges that a reduction in well efficiency represents an economic, rather than an environmental impact. CEQA provides that "[E]conomic or social effects of a project shall not be treated as significant effects on the environment." (State CEQA Guidelines §15131 (a)).

continued ...

J-8 One of the seven elements of the WFP explained in Chapter 3, Section 3.4.5, at page 3-24 is the Water Conservation Element. The Water Conservation Element is essential to meeting both the two coequal objectives of the Water Forum. Providing a reliable water supply for the region's economic health and planned development to the year 2030 is one of the two coequal objectives endorsed by Water Forum stakeholders. The WFP includes all statewide BMPs in effect at the time the WFP BMP Implementation Criteria were adopted. Two additional statewide BMPs have been adopted since that time. The EIR recommends that Water Forum purveyors adopt these additional BMPs to further mitigate impacts associated with increased water diversions. It is anticipated that a savings of approximately 25% will be achieved basin-wide through these aggressive programs.

The commentor's viewpoint that growth restriction should be used as a means to control groundwater pumping is noted. The WFP Draft EIR includes assessment of an alternative that would restrict water supplies. See Alternative 6, No Project Alternative - Constrained Surface Water and Groundwater, on pages 5-7, and 5-32 through 5-36.

Included in the Water Forum Action Plan in Section Four, IV is an agreement, "Relationship of Water Forum Agreement to Land-Use Decision-Making". This agreement recognizes that land use decision making remains the responsibility of land use agencies and neither the Water Forum or the Water Forum Successor Effort has any authority to make land use decisions.

Water Forum signatories also recognize the need for coordination between land use decision making and water planning. Land use decisions should be based on reliable information on water supply availability. Furthermore, it is the intent of the WFP that land use decisions dependent on water supply from the American River or the three groundwater sub-basins in Sacramento County be consistent with limits on water supply from the American River and the estimated average annual sustainable yields for those three groundwater sub-basins as negotiated for the WFP (Water Forum Action Plan, Section Four, IV).

For the Sacramento County groundwater basin, natural groundwater recharge has been unable to maintain equilibrium with pumping; therefore the basin has not stabilized. With the sustainable yield recommendation included in the WFP, the Sacramento North Area will stabilize at approximately 20 feet lower (at the lowest point of the cone of depression) than 1990 groundwater levels.

In addition to the water conservation savings projected for the Sacramento North Area, wet-year surface water diversions (approximately 60% of the time, when they will have the least environmental consequences) will be needed to achieve the sustainable yield recommended for the Sacramento North Area. If we have an abundance of wetter years or if conservation savings are higher than anticipated, groundwater pumping would be reduced and most likely, stabilization would occur at higher levels.

J-9 The WFP Draft EIR contains a thorough analysis of impacts and provides full disclosure in accordance with State CEQA Guidelines. Conclusions contained in the WFP Draft EIR are supported by factual evidence. It is expected that, as a programmatic EIR, the document will be used for subsequent project-level analysis by various agencies. If conditions change or if new information becomes available, it will be the responsibility of these agencies to assess any new impacts in light of the new information in accordance with CEQA. In addition, as described on page 3-27 of the WFP Draft EIR, the Water Forum Successor Effort will consist of member agencies signatory to the Water Forum Agreement, who will be responsible for its implementation and respond to changed conditions as necessary.

LETTER
K

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL

To Susan Davidson	From June DeWeese
Dept./Agency Metro WD	Phone #
Fax #	Fax #

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRA

United States Departm

FISH AND WILDL
Sacramento Fish and
3310 El Camino Ave
Sacramento, California 95821-6340

IN REPLY REFER TO:
Water Forum EIR

March 22, 1999

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Ms. Susan Davidson
Sacramento City-County
Office of Metropolitan Water Planning
5770 Freeport Boulevard, Suite 200
Sacramento, California 95822

Subject: Draft Environmental Impact Report for the Water Forum Proposal, Lower American River, Sacramento, Sacramento County, California

Dear Ms. Davidson:

This letter transmits the U.S. Fish and Wildlife Service's (Service) comments on the Draft Environmental Impact Report (DEIR) for the Water Forum Proposal (Proposal), dated January 1999. These comments are general in nature and should not be construed as inclusive of all issues of our concern regarding this proposal. Thank you for the opportunity to review this document as a precursor to, and potentially related to, a National Environmental Policy Act (NEPA) document that we expect to be forthcoming from the Bureau of Reclamation (Reclamation), that would cover any related federal actions that may support implementing actions of the Water Forum proposal. The Water Forum participants are to be commended on their substantial efforts to research and develop a strategic water management plan they envision would secure delivery of quality water to meet their stakeholders' future water needs, while providing assurances for the protection of the American River watershed.

GENERAL COMMENTS

The Water Forum's objective of preserving the fishery and wildlife values of the Lower American River needs to be expanded to include the interdependent effects in water service areas. The DEIR states that service area effects are not covered, in part, because some areas are already covered in General Plan EIRs. However, it is doubtful that the General Plan EIRs considered environmental effects at the source of the water supply, or that these effects were considered when city and county growth plans were approved. Splitting environmental review

K-1

into two parts, the Water Forum Proposal DEIR and General Plan EIRs, results in water demand amounts being established for planned growth without respect to environmental limitations of the water source. If the Proposal's DEIR assessments assume fixed water demands that did not consider effects at the water source, then the aquatic environment at the water source will be adversely affected if water supplies are inadequate. The Proposal's DEIR should also assess environmental effects using smaller diversions. For example, under such a scenario, planned growth could adjust to limits of water supplies that are available without damaging fisheries in the Lower American River. Also, American River water users need to commit to providing good quality water for the environment and in-basin water users first, and then see how much is left. Consequently, exports need to be critically examined and scrutinized. K-1

Water supplies and environmental preservation are stated to be coequal objectives in the DEIR; however, water diverted from the river to supply water users would be permanent and more than double as a result of the proposal. When water is scarce and instream flows are reduced, estimated effects to fish and wildlife are clearly defined in the DEIR as potentially significant. However, it is not clear from the analysis how much water users would be adversely affected if diversions were reduced to levels that would have negligible effects on the Lower American River fisheries. Perhaps diversions during dry years can be reduced even further than what is analyzed in the DEIR, if additional water conservation measures are incorporated. To satisfactorily evaluate the level of protection that the proposed actions and associated mitigation measures would provide to fish and wildlife resources, the Service needs to know how much water: 1) is available in the watershed; 2) is provided by Central Valley Project (CVP) contracts under Reclamation's control; 3) is owned by American River water rights holders and is not under Reclamation's control; 4) Reclamation could transfer from other basins to provide adequate flows to the American River when needed to protect fish and wildlife resources; and 5) may or may not be subject to the collaborative actions in the Water Forum's proposed Memorandum of Understanding. K-2

We also need to know what federal actions would be implemented/committed to by the federal agencies involved in this project proposal. In the DEIR, the Water Forum's position is that Reclamation has the responsibility to keep all American River water users (as well as fish and wildlife) needs whole but does not list those federal actions that will be implemented to provide this guarantee. The Service cannot support a water management plan for the Lower American River without Reclamation's cooperation and commitment to implement actions to not only protect, but to enhance fish and wildlife resources within the region. Without Reclamation's support and commitment to implement related federal actions that would provide adequate levels of high quality water to meet the Bay/Delta standards and Anadromous Fish Restoration Program K-3

(AFRP) flows in the Lower American River, we cannot be assured that the fish and wildlife resources and habitats would be protected and enhanced. K-3

Mitigation

Several conceivably beneficial mitigative measures are suggested, but the DEIR states that mitigation benefits are uncertain due to the programmatic nature of the proposal. However, if adverse effects of the proposal can be evaluated in detail, we believe that effectiveness of mitigative measures can likewise be evaluated. Additional analyses regarding potential benefits of mitigative measures would help put in better perspective the significance of adverse effects and the probability of a successful mitigation program. For example, it is estimated that diversions above H Street would increase from about 216,500 acre-feet annually to about 481,000 acre-feet. However, there are no estimates of: the amount of water that could be acquired from Placer County to augment flows during dry and critically dry years; the amount of wetland/slough acres that could be developed along the river; or the potential for creating Shaded Riverine Aquatic habitat. Benefits from mitigative measures could range from none to significant, but there is no indication of what can be expected. K-4

The DEIR suggests that actual implementation of mitigative measures should be done under a multi-agency program. The DEIR suggests that as mitigation for reduced water deliveries to State Water Project (SWP) and CVP customers resulting from implementation of the proposal, additional water supplies could be developed by the SWP and CVP. However, these actions would create additional environmental impacts of their own, and these are not addressed in this DEIR; i.e., mitigative measures for one type of impact would create impacts of other types. K-5

Special Status Species

The Service is working with Reclamation to develop an analysis of the cumulative effects on delta conditions of numerous proposed new American River diversions, including the Water Forum actions and East Bay Municipal Utility District's (EBMUD) amended water service contract. The Service will evaluate effects based on comparison of delta conditions under new contracting actions with delta conditions as analyzed in our 1995 biological opinion on Central Valley Projects Operations Criteria and Plan. This analysis, when complete, will determine how the Service will recommend the federal agencies proceed with regard to Endangered Species Act consultation relative to the Water Forum actions, and EBMUD's proposed amended contract. In the meantime, the Service is meeting with individual Water Forum members, such as Placer County Water Agency and the City of Roseville, to discuss how local jurisdictions can address regional scale service area effects of urban and commercial development made possible by K-6

regional scale service area effects of urban and commercial development made possible by proposed water deliveries. The Service believes that the most efficient way to do this is for local governments to develop regional conservation plans that ensure that resource conservation is incorporated into urban planning upfront, and is implemented concurrently with the local entitlement process. K-6

Local jurisdictions and Water Forum members can greatly facilitate the Endangered Species Act compliance process for Water Forum actions by demonstrating commitment to and subsequent progress toward addressing regional effects of urban growth on federally listed species such as within their respective water service areas, and urban limits. The Service understands that local jurisdictions are implementing numerous infrastructure improvements needed to support both existing and future urban growth that will in turn be supported by proposed new water deliveries. We view the number and variety of these projects as further suggestion that there is immediate need for Water Forum members to find a way to address terrestrial resource conservation needs concurrently with other local planning agendas, before conservation opportunities are further reduced, or eliminated altogether. K-7

Adverse effects to fisheries have received detailed analysis with respect to monthly flows and temperatures. However, impacts to salmon and splittail are shown to be only "potentially" significant because effectiveness of mitigative measures are uncertain. Significance of impacts without successful mitigation is not estimated, but it can probably be assumed that they would be significant. It is doubtful that any combination of other habitat enhancing measures would be beneficial for fisheries if the limiting factors are ultimately inadequate flows and temperatures. K-8

SPECIFIC COMMENTS

Page 2-9. The EIR refers to habitat improvement programs in the Central Valley and states that these programs are expected to improve fishery benefits over the next several decades, with the implication that the expected benefits of these programs can indirectly compensate for some of the Proposal's adverse effects on fisheries. It should be noted, however, that increased human growth and demands on water will also occur, and that net benefits to fisheries are uncertain. K-9

The potential benefits of these other programs cannot be relied upon to compensate for adverse effects identified in the Proposal's DEIR.

Page 4.1-6. The Water Forum modeling assumptions exclude the proposed Folsom Dam temperature control device (TCD) from baseline conditions but include it in all future modeling, K-10

including the future with existing facilities. A modeling run that includes the TCD in the baseline needs to be completed, in order to appropriately assess impacts that would result from implementing the Water Forum proposal. K-10

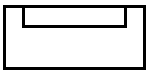
Page 4.8-17. The DEIR's section on American River riparian habitat errantly states that the Service "has indicated that a Lower American River mean monthly flow of 1,765 cfs represents the minimum flow required to maintain mature cottonwoods and 3,000 cfs is the minimum flow to ensure 'optimal' growth (Caicco, 1996)", to occur during the March-October growing season. Table 4.8-1 additionally cites the Service's report as indicating that 3,000 cfs is needed for "healthy" growth. The Service's report actually stated that 1,765 cfs is the level below which little or no radial growth would occur, and that prolonged periods of such severely reduced growth rates have been shown to precede tree death. The report did not suggest that 1,765 would be sufficient for maintenance and growth of cottonwoods as stated in the DEIR (page 4.8-18), and as assumed in the DEIR's riparian vegetation analyses. The Service's report identified 2,000 cfs as a minimum flow for the river, a level which should assure some growth and prevent tree death. In addition, the Service's report did not indicate that 3,000 cfs would ensure "optimal" or "healthy" growth, as asserted in the DEIR, but "reasonable" growth. The maximum radial growth rate of cottonwoods on the Lower American River occurs at 4,000 to 4,500 cfs, and is 50% higher than growth rates occurring at 3,000 to 3,500 cfs (Stromberg 1995). Therefore, we do not believe that 3,000 cfs can be considered optimal flows. For these reasons, the Service recommends that DEIR analyses use 2,000 cfs as the minimum flow standard to evaluate changes in hydrology on riparian vegetation, and not refer to 3,000 cfs as part of an "optimal" range. K-11

If you have any further questions regarding these comments, please contact June DeWeese (Federal Projects) at (916) 979-2710 or Jan Knight (Endangered Species) at (916) 979-2120.

Sincerely,

for Wayne S. White
Field Supervisor

cc: AES, Portland, OR
BOR, Folsom, CA (Attn: Rod Hall)
EPA, San Francisco, CA



Wayne S. White, Field Supervisor,
U.S. Fish & Wildlife Service
March 22, 1999

K-1 The Water Forum's coequal objectives of meeting water needs to accommodate planned development while preserving aquatic habitat and recreational values are intended to avoid the severe effects to these resources that could occur if water providers act independently. Because cities and counties are responsible for assessing the environmental effects of planned development provided in their respective general plans and the WFP is explicitly designed to accommodate such planned development, the WFP Draft EIR appropriately referred readers to the general plan EIRs of jurisdictions within the service area for analysis of such effects. Given the general plan EIRs' specific attention to planned growth as set forth in those general plans, it would be inappropriate and infeasible for the WFP Draft EIR to engage in further analysis. CEQA explicitly encourages such reliance on broader EIRs in its tiering provisions. (See Pub. Res. Code § 21094; State CEQA Guidelines §15152.) Accordingly, the WFP Draft EIR appropriately refers the reader to such general plan EIRs for analysis of service area effects. (See WFP Draft EIR at 4.1-4, 7-1.) If any changes in planned development occur in the future, they will be evaluated in additional environmental review.

The commentor expresses a concern that reliance on general plan EIRs results in water demand amounts being established for planned growth without regard to the environmental limitations of the water source. However, the modeling of WFP impacts incorporates other components, such as water conservation, dry-year reductions, and system-wide hydrologic conditions, which account for such water source limitations. In addition, the PROSIM simulations utilized for WFP modeling incorporate releases from various water sources or flows within particular river reaches which accommodate such limitations. This approach reasonably balances the expected water needs of planned development and the limitations of available water supplies.

The commentor also requests that the WFP Draft EIR assess environmental effects using smaller diversions. In fact, the WFP Draft EIR examined three alternatives that reduced surface water diversions: Alternative 4 - More Frequent Reductions in Surface Water Diversion (see WFP Draft EIR at 5-24), Alternative 6 - Constrained Surface Water and Groundwater (see WFP Draft EIR at 5-32), and Alternative 7 - Constrained Surface Water, Unconstrained Groundwater (see WFP Draft EIR at 5-36). Each alternative was assessed for its effects on each of the same resource categories analyzed for the WFP.

K-2 The comment addresses several issues. The WFP Draft EIR acknowledges that the WFP, as defined, calls for the joint implementation of a regional water agreement that would result in increased diversions by the year 2030. The WFP Draft EIR also indicates that without the WFP, total future diversions could be even higher than those proposed in the agreement. Without the WFP, it could reasonably be assumed that all purveyors would attempt to perfect their existing entitlements in order to meet projected growth and

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demands. Larger quantities of water would be delivered to American River purveyors since the negotiated reductions (i.e., as part of the WFP) in diversions during dry years would not apply. Moreover, water rights holders would only be constrained by the conditions of their water rights, and thus in some cases, take delivery of water in excess of that agreed to under the WFP.

The detailed analysis contained in the WFP Draft EIR assumed implementation of the diversion quantities and habitat protection measures defined by the WFP. As noted in response to comment K-1, the alternatives evaluated included three options for reduced surface and/or groundwater diversions and more frequent reductions in surface water diversions (see 5-24 through 5-39 of the WFP Draft EIR). Table 4.1-2 of the WFP Draft EIR illustrates the magnitude of these additional cutbacks to the Water Forum purveyors based on a water-year type.

It should be noted that the WFP includes significant reductions in dry-year diversions (see WFP Draft EIR page 4.1-8). Thus, it is incorrect to state that diversions would double in any year. While individual purveyors, depending on their specific situations, would have differing time schedules and conservation targets, the intended regional goal of the Water Conservation Element of the WFP has been established at 25.6% (see pages 5-8 to 5-9). Additional water conservation measures beyond the BMPs identified in each of the purveyor-specific agreements under the WFP and this EIR are not presently feasible or available to further reduce diversions. In addition, in the driest years, the WFP also commits purveyors to additional conservation and rationing. It is also acknowledged that nothing would prohibit individual purveyors from adopting and implementing more aggressive conservation measures as they become feasible and available in the future.

With respect to the specific information requested, information for items 1, 2 and 3 is disclosed in complete detail in Appendix G of the WFP Draft EIR. In response to item 4, there are an infinite number of operational possibilities that could be employed by USBR associated with implementation of the WFP. Based on consultation with staff from USBR and USFWS, the EIR characterizes an operation of the CVP by the USBR that represents a most reasonable and prudent operational scenario that could be employed with the WFP. With respect to item 5, see the Purveyor Specific Agreements.

K-3 Several federal actions are required to be implemented as part of, or reliant on, the successful implementation of the WFP. For USBR's part, these include the commitment to install and operate a TCD at the urban water supply intake at Folsom Dam. Additionally, USBR will be called upon to participate in, or otherwise approve several water supply projects that will receive support from stakeholders upon signing the Water Forum Agreement. These projects are listed on page 58 of the Water Forum Action Plan. The USBR's ability to participate in or otherwise approve these projects, will be subject to their ability to comply with the Anadromous Fish Restoration goals of the Central Valley Project Improvement Act, the Endangered Species Act, and all other relevant federal statutes. Meeting Bay-Delta Water Quality Standards was included in the

analysis of baseline conditions, WFP, cumulative impacts, and in the supplemental cumulative impacts analysis.

K-4 The comment requests additional information regarding potential mitigation measures. With respect to availability of Placer County water during dry years, the Water Forum Action Plan (pg. 174) specifies the volume of water that will be released by Placer County Water Agency for dry-year flow augmentation.

Physical habitat projects will be part of the Habitat Management Element. Because of jurisdictional, land ownership, funding and implementation issues surrounding other physical habitat improvement measures, quantitative estimation of the amount of future physical habitat restoration would be unduly speculative at this time. The nature and extent of the physical habitat improvement, including shaded riverine aquatic habitat and wetland slough complex, will be determined in consultation with resource agencies including the U.S. Fish and Wildlife Service.

Scientific uncertainty exists regarding the effectiveness of physical habitat restoration on fisheries resources of the Lower American River. The benefits of how specific levels of habitat restoration will affect fisheries populations cannot be quantitatively evaluated through mass balance hydrologic models. The suite of habitat improvement actions that will be implemented as part of the Lower American River Habitat Management Element may in fact reduce fisheries impacts to levels that are less than significant. These actions will be monitored and adaptively managed to achieve habitat improvement objectives to the degree possible. Due to scientific uncertainty, and uncertainty with regard to the ultimate form of the HMP, however, the WFP Draft EIR concluded that any identification of specific benefits associated with the HMP would be unduly speculative and, therefore, appropriately identified the impacts as potentially significant.

Appendix B of the WFP Draft EIR, as well as the Water Forum Action Plan, includes discussion of cost-sharing for Lower American River habitat improvement projects. Moreover, physical habitat restoration, monitoring, and adaptive management proposed in the WFP Draft EIR are consistent with the similar efforts of CALFED and the AFRP of the CVPIA.

K-5 The development of additional water supplies by SWP or CVP customers as a result of implementing the WFP would not necessarily result in new water diversions. Reallocation of existing resources (e.g., water purchases or transfers from willing sellers) may represent a viable and reasonable means of acquiring an additional water supply. This form of mitigation would not, in and of itself, constitute an environmental impact, nor would it necessarily result in new environmental impacts.

The uncertainty of the manner, location, and timing of the development of new water supplies precludes realistic analysis of any potential environmental impacts that may occur. Some of the key variables involved in developing new water supplies include water availability, environmental considerations, seller willingness, economics, and

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sociopolitical considerations, all of which would differ depending on the individual purveyor. Thus, any analysis of the impacts of such water development would be highly speculative and infeasible at this time.

K-6 The Water Forum acknowledges and appreciates the ongoing efforts of the U.S. Fish & Wildlife Service and USBR in developing an analysis of cumulative effects on Delta conditions resulting from proposed American River diversions, including the Water Forum actions and the East Bay Municipal Utility District amendatory contract. The Water Forum recognizes the benefit of service area efforts to document and assess the cumulative effects of future anticipated urban and commercial development.

K-7 Compliance with the Endangered Species Act will be required for water projects and other projects that may result in a take of federally listed or proposed threatened or endangered species.

K-8 In the case of fall-run chinook salmon, modeling performed for the WFP revealed that flow reductions resulting from the WFP would occur during the October through December chinook salmon spawning period. Conversely, Lower American River temperatures under the WFP would generally be improved during the fall spawning period, thus creating additional spawning habitat both spatially and temporally. Improved river temperatures also resulted in improved modeled chinook salmon early-life-stage survival (page 4.5-51 of the WFP Draft EIR). However, it is uncertain whether these improvements in river temperature conditions would offset spawning habitat reductions, and potential increased redd superimposition, associated with flow reductions. Because of this uncertainty, an impact call of potentially significant was reached for fall-run chinook salmon prior to consideration of any mitigative measures. Mitigation measures were then recommended. However, the impact call remained potentially significant following recommendation of extensive mitigative measures due to the scientific uncertainty regarding the effectiveness of the mitigative measures to offset the potential adverse effect and/or the uncertainty associated with their implementation (WFP Draft EIR page 4.5-82).

Similarly, it is uncertain if, and how the reductions in available riparian vegetation that would occur in the Lower American River during the February through May period, as a result of reduced flows under the WFP, would affect splittail spawning success. With few exceptions, substantial amounts of inundated riparian habitat would remain under the WFP in years when such habitat exists under the Base Condition. However, given the uncertainty surrounding the extent to which splittail spawn in the Lower American River, and the amount of potential spawning habitat present at specific flow-rates, an impact call of potentially significant was reached. This impact call for splittail also was made prior to consideration of any mitigative measures. Mitigation measures were then recommended. However, the impact determination also remained potentially significant following recommendation of extensive mitigative measures due to the scientific uncertainty regarding the effectiveness of the mitigative measures to offset the potential

continued ...

adverse effect and/or the uncertainty associated with their implementation (WFP Draft EIR page 4.5-82).

Discussion of the effectiveness of each mitigative measure is provided for each individual impact (see Section 4.5.4). However, as previously discussed, because of the uncertainties associated with the mitigative measures for both chinook salmon and splittail, the impact determination for both species remains potentially significant. The commentor's opinion that habitat enhancement measures would not be beneficial to fisheries is noted. In the opinion of the EIR authors, physical habitat restoration/enhancement measures would be beneficial. This opinion is shared by authors of CALFED and AFRP. It is acknowledged, however, that it is uncertain whether the mitigation measures identified would be sufficient to offset any significant impacts in the event that such impacts occur.

K-9 Discussion on page 2-9 of the WFP Draft EIR includes a disclosure of the fact that several fisheries-related improvement programs (e.g., AFRP of the CVPIA, and ERPP of the CALFED Bay Delta Program) are underway or planned to improve fishery resources of the Sacramento River Valley. The reason for implementation of these programs is to improve fishery conditions over the next several decades. However, as stated on page 2-9 "¼ **the quantitative analyses and impact determinations in the Water Forum Proposal EIR do not reflect anticipated benefits of those programs**." (emphasis in original) Furthermore, the discussion on page 2-9 does not suggest "¼ that the expected benefits of these programs can indirectly compensate for some of the [Water Forum Proposal's] adverse effects on fisheries."

Where the WFP Draft EIR identifies potentially significant environmental effects, mitigation measures to avoid or reduce those effects are identified and discussed, which are additional to the various Central Valley habitat improvement programs. The WFP is not relying on these programs to compensate for adverse effects identified in the WFP Draft EIR.

Increased population growth and accompanying increased water demand are included in modeling for the future cumulative condition.

K-10 See response to comment C-8.

K-11 Comment noted. The USFWS report states:

> The results showed that cottonwoods along the Lower American River had little or no radial growth when average growing season (March-October) flows dropped below 1,765 cfs (Stromberg 1995). Prolonged periods of such severely reduced growth rates have been shown to precede tree death (Stromberg and Patten 1992). In order to assure some growth we recommend that an average minimum stream flow equivalent to 2,000 cfs occur during the March through October growing season.

continued ...

Because the USFWS document stated that no cottonwood radial growth occurred when average flows dropped below 1,765 cfs, but that some growth occurred above this level, 1,765 cfs represents a reasonable threshold for maintenance of riparian vegetation.

At the commentor's request, however, the effects of the WFP on riparian vegetation using a threshold of 2,000 cfs to ensure "some" radial growth of cottonwoods were analyzed. Table K-1 (flows from Nimbus Dam) and Table K-2 (flows at the H Street Bridge) follow this response and present a summary of the number of years within the 70-year hydrologic record in which mean monthly flows would be projected to remain within the flow range for "reasonable" to "maximum" cottonwood radial growth (3,000 to 4,500) and the number of years when mean monthly flows are above the minimum flow requirement for "some" radial growth of cottonwoods (2,000 cfs) under 1998 baseline and WFP conditions.

Information contained in the tables demonstrates that implementation of the WFP would result in mean monthly flows below the minimum for "some" radial growth and outside of the "reasonable" to "maximum" radial growth flow ranges more often than under the base conditions. The effects of the WFP conditions are most evident during the later months of the growing season (June through October) resulting in 1 to 12 fewer years of the 70-year period of record in which flows would be above the minimum requirement necessary for "some" growth. However, based on the 70-year hydrologic record, mean monthly flows have historically been above the minimum flow requirement only a portion of time, i.e., between 46% and 86% of the time. Under WFP conditions mean monthly flows would be above the minimum flow requirement for growth between 44% and 84 % of the time, throughout the growing season, and between 44% and 77% during the critical months (April through July). While this does not negate the effect of the lower flows caused by the WFP diversions, it does indicate that the Lower American River flows would not vary substantially from existing conditions and, as a result, would remain sufficient for maintenance (1,765 cfs) and "some" growth (2,000 cfs) of cottonwoods (a key indicator species). Impacts to riparian vegetation would be less than significant.

The footnotes of WFP Draft EIR Tables 4.8-3 and 4.8-4 contain incorrect references to the characterization of various flow levels and their effect on riparian vegetation. These are typographical errors and do not affect the impact analysis. The Final EIR hereby incorporates the following changes, which are also reflected in Section 5, Corrections and Revisions to the WFP Draft EIR:

Page 4.8-19, Table 4.8-3: Revised footnote 3 and 4

continued ...

[3] Number of years during the 70-year record when the mean monthly river flows below Nimbus Dam are between 3,000 and 4,500 cubic feet per second (cfs), which is considered the range for "reasonable" ~~and "healthy"~~ to "maximum" growth of cottonwoods.

[4] Number of years during the 70-year record when the mean monthly river flows below Nimbus Dam are above 1,765 cfs, which is the minimum flow range for ~~"healthy" growth~~ maintenance of cottonwoods.

Page 4.8-20, Table 4.8-4: Revised footnote 3 and 4..

[3] Number of years during the 70-year record when the mean monthly river flows below the H Street bridge are between 3,000 and 4,500 cubic feet per second (cfs), which is considered the range for "reasonable" ~~and "healthy"~~ to "maximum" growth of cottonwoods.

[4] Number of years during the 70-year record when the mean monthly river flows below the H Street bridge are above 1,765 cfs, which is the minimum flow range for "healthy" growth "maintenance" of cottonwoods.

Table K-1
WFP Impact on Riparian Vegetation in the Lower American River Below Nimbus Dam

Month [1]	Modeled Scenario	Number of Years of 70-year Record Within Specified Ranges [2]		% of Years Above Minimum Flow Range [5]
		# Years in Reasonable to Max Flow Range [3] (3,000-4,500 cfs)	# Years Above Minimum Flow Range [4] (2,000 cfs)	
March	Base	18	57	81%
	WFP	19	54	77%
April	Base	16	60	86%
	WFP	15	57	81%
May	Base	24	60	86%
	WFP	26	59	84%
June	Base	21	57	81%
	WFP	23	54	77%
July	Base	25	50	71%
	WFP	17	44	63%
August	Base	27	49	70%
	WFP	28	43	61%
September	Base	21	39	56%
	WFP	19	31	44%
October	Base	2	46	66%
	WFP	1	43	61%

1 The period from March through October is considered the cottonwood growing season.

2 Number of years during the 70-year record when the mean monthly river flows are within the specified ranges for cottonwoods.

3 Number of years during the 70-year record when the mean monthly river flows below Nimbus Dam are between 3,000 and 4,500 cubic feet per second (cfs), which is considered the range for "reasonable" to "maximum" radial growth of cottonwoods.

4 Number of years during the 70-year record when the mean monthly flows below Nimbus Dam are above 2,000 cfs, which is the minimum flow required to assure some cottonwood growth.

5 Percentage of years during the 70-year record when river flows are above the minimum flow range to assure some cottonwood growth (2,000 cfs).

Base Modeled predictions of 70-year record based on 1998 diversions and operating rules.
WFP Modeled predictions of 70-year record based on WFP conditions.

Source: EDAW, 1999.

Table K-2
WFP Impact on Riparian Vegetation in the Lower American River at H Street Bridge

Month [1]	Modeled Scenario	Number of Years of 70-year Record Within Specified Ranges [2]		% of Years Above Minimum Flow Range [5]
		# Years in Optimal Flow Range [3] (3,000-4,500 cfs)	# Years Above Minimum Flow Range [4] (1,765 cfs)	
March	Base	20	50	71%
	WFP	19	47	67%
April	Base	19	51	72%
	WFP	17	47	67%
May	Base	25	59	84%
	WFP	27	58	83%
June	Base	21	55	79%
	WFP	21	49	70%
July	Base	21	50	71%
	WFP	10	38	54%
August	Base	30	46	66%
	WFP	18	39	56%
September	Base	21	32	46%
	WFP	19	26	37%
October	Base	2	42	60%
	WFP	1	36	51%

[1] The period from March through October is considered the cottonwood growing season.

[2] Number of years during the 70-year record when the mean monthly river flows are within the specified ranges for cottonwoods.

[3] Number of years during the 70-year record when the mean monthly river flows below the H Street bridge are between 3,000 and 4,500 cubic feet per second (cfs), which is considered the range for "reasonable" to maximum" radial growth of cottonwoods.

[4] Number of years during the 70-year record when the mean monthly river flows below the H Street bridge are above 2,000 cfs, which is the minimum flow required to assume some cottonwood growth.

[5] Percentage of years during the 70-year record when river flows are above the minimum flow range to assure some cottonwood growth (2,000 cfs).

Base Modeled predictions of 70-year record based on 1998 diversions and operating rules.
WFP Modeled predictions of 70-year record based on WFP conditions.
n/c No change between Base and WFP conditions.

Source: EDAW, 1999.

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LETTER
L

Golden Gate Audubon Society

2530 San Pablo Avenue, Suite G • Berkeley, CA 94702 • Phone: (510) 843-2222 • Fax: (510) 843-5351

Americans Committed to Conservation • A Chapter of the National Audubon Society

March 17, 1999

RECEIVED
MAR 2 2 1999
CCOMWP

Ms. Susan Davidson
Sacramento City-County Office of
Metropolitan Water Planning
5770 Freeport Boulevard, Ste. 200
Sacramento, CA 95822

Re: Draft EIR for the Water Forum Proposal

Dear Ms. Davidson:

The Golden Gate Audubon Society offers the following comments on the above Draft EIR:

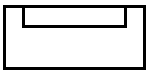
The Draft EIR for the Water Forum defines its goals and mission through the co-equal objectives of providing a reliable and safe water supply for the region's economic growth, and preserving the multiple values of the Lower American River. Since the first prong of the goals and mission is growth inducing, mitigation alternatives are critical. In light of this fact, designating responsibility for these mitigation efforts to local county governments, who traditionally welcome development, is unacceptable. L-1

Potentially significant impacts on areas outside of the American River system are identified in Section 2.4.2. One such impact, not cited, must be considered. This is the need for analysis of the salinity of the Suisun Bay. As water for the project is diverted, the salinity of the Suisun Bay will increase as evidenced by the X-2 line. As a result, the bay's ability to provide habitat for a wide variety of wildlife will be significantly compromised. L-2

Sincerely,

Arthur Feinstein,
Executive Director

AF:jas



Arthur Feinstein, Executive Director
Golden Gate Audubon
March 17, 1999

L-1 One of the coequal objectives of the WFP is to accommodate growth that is already planned by the relevant land use authorities in the region. Because the WFP is consistent with the growth parameters described in each city and county general plan, it will not create any additional growth-inducing impacts that have not yet been analyzed in the EIRs for those general plans. (See WFP Draft EIR at 4.1-4, 7-1) See also response to comment K-1.

The WFP itself includes numerous features intended to reduce the potential impacts of providing water to accommodate planned growth. These include water conservation, dry-year diversion restrictions, and conjunctive use of groundwater and surface water. While many Water Forum stakeholders are representatives of local government, the Water Forum itself does not have the authority to limit growth. Land use decisions including approval and mitigation for growth related impacts are the responsibility of city and county decision-makers.

L-2 The WFP Draft EIR analysis simulates CVP and SWP operations in a manner that meets all Delta requirements, including salinity requirements, as presently implemented. Impact assessments for Fisheries Resources and Aquatic Habitats for the WFP (Section 4.5.3) and future cumulative conditions (Section 6.5) considered impacts to the Sacramento-San Joaquin Delta, which includes Suisun Bay. Potential effects to salinity were evaluated in terms of the frequency and magnitude of changes in the position of X2 (i.e., the position in kilometers eastward from the Golden Gate Bridge of the 2 parts per thousand (ppt) near-bottom isohaline). The WFP Draft EIR acknowledges that under future cumulative conditions, changes in the position of X2 would represent a potentially significant impact to Delta fisheries resources (WFP Draft EIR page 6-28).

LETTER
M

SMUD

SACRAMENTO MUNICIPAL UTILITY DISTRICT ☐ P. O. Box 15830, Sacramento CA 95852-1830, (916) 452-3211
AN ELECTRIC SYSTEM SERVING THE HEART OF CALIFORNIA

April 5, 1999
F&C 99-051

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handwritten note
rec'd 4/1/99

Ms. Susan Davidson
Sacramento City-County Office of Metropolitan Water Planning
5770 Freeport Boulevard, Suite 200
Sacramento, CA 95822

Draft Environmental Impact Report for the Water Forum Proposal

Dear Susan:

The Sacramento Municipal Utility District (District) has received and reviewed the Draft Environmental Impact Report for the Water Forum Proposal (WFP). The District supports the goal of the Sacramento Area Water Forum to formulate and adopt an area-wide plan that will provide a safe and reliable water supply to meet the area needs with due consideration for all related environmental impacts. The focus of the District's comments address Section 4.7 - Power Supply. We have the following concerns, which we want addressed in the Final EIR.

Hydropower Impacts, Impact 4.7-1 Reduced CVP Hydropower Capacity and Generation

The document states that the impact to CVP Hydropower capacity and generation is less than significant. The analysis does not take into account the value of energy to CVP power customers and the subsequent economic impact. On page 4.7-9, the increased costs to diverters who pump from Folsom Reservoir is represented as an economically significant impact, whereas, the economical impact to CVP power customers of the lost generation as a result of this proposal is not given the same consideration. M-1

Financially the impact of the proposed WFP to CVP Power Customers will be approximately $900,000 per normal hydro year (30GWh = 30,000MWH; 30,000MWH x $30/MWH = $900,000). This is a conservative estimate and would be higher depending on what time of year the shortage occurs. The time the year when the shortage occurs is not addressed and should be addressed in the document. We consider this a significant economic impact and should be treated so in the document. To the extend that the WFP causes this adverse impact to power, in kind dollar for dollar compensation should be provided to Western Area Power Administration as is done by SAFCA. Please revise the Final EIR to include this mitigation. M-2

There seems to be a disconnect in the analysis discussion in Changes in Surplus Capacity (page 4.7-7). The statement is made that the same surplus capacity is available under the WFP that is currently available under the base condition. However, it is also stated that if the WFP were implemented there would be a reduction in the average annual CVP energy production. At first M-3

this appears to be confusing and contradictory. The relationship between those water users who pump water out from Folsom reservoir and the resultant impact to the head and loss of generation should be elaborated and discussed in the Final EIR. It would be informative to understand the relationship between how many kilowatt-hours are associated with each acre-foot of water from Folsom Reservoir. M-3

Section 4.7.4 Reduction in Annual Average CVP Energy Production

This section states that there is a definable economic cost, which is not addressed in the document but an "unidentifiable environmental impact". This impact should be determined if the replacement energy is to be produced by "dirty sources" as stated in the document. The impact can be defined and could be determined. This should be addressed in the Final EIR. We would be willing to assist you in the development of this data, if necessary M-4

The following are editorial comments that we desire to be incorporated into the document.

Section 4.7.1 CVP Hydropower System

Page 4.7-1, last paragraph. Suggest using the word "repurchased" instead of "repaid". M-5

Page 4.7-3, Folsom Dam and Reservoir. Remove phrase "By design," in second sentence. M-6

Section 4.7.2 Hydropower

Page 4.7-3, fourth paragraph, last sentence. A question: Why would the Water Forum require Western to increase its capacity purchases? Is this really intended to mean energy purchases? Please clarify. M-7

Pumping Power

Page 4.7-4, first paragraph. Suggest the following rewrite: "Impacts to the amount of pumping power required could result from changes in the elevation and timing of available water supplies in Folsom Reservoir under the Waster Forum Proposal." M-8

Section 4.7.3 Hydropower Impacts Framework

Page 4.7-4, third paragraph, first sentence. Suggest the following rewrite: "Potential hydropower impacts are associated with the level of electrical capacity and electrical energy as well as timing of release of, or any bypassing of the electrical generation." M-9

Page 4.7-4, third paragraph, second sentence. Suggest the following rewrite: "...but would have economic consequences for CVP power users in the form of a reduction in the amount of surplus capacity/energy sales available." M-10

Page 4.7-4, third paragraph, third sentence. Suggest the following rewrite: "...is beyond the scope of this report to predict, given the complexity of the interconnection..." M-11

Page 4.7-4, fourth paragraph, third sentence. Suggest the following rewrite: "Hydropower consumption by Western Customers is dependent on the level of CVP project use power requirements (primarily pumping)." M-12

Page 4.7-4, fifth paragraph, first sentence. Suggest the following rewrite: " Hydropower impacts for this analysis were assessed by comparing changes in monthly values of CVP capacity and energy (CVP production minus losses minus project use loads) under the WFP..." More detail is needed in the FEIR on the why the impact identified occur and how they can be mitigated. M-13

Pumping Power Impacts Framework

Page 4.7-4, sixth paragraph, first sentence. Suggest the following rewrite: "The impacts due to the level of pumping power required can be measured as a change in the need for electrical capacity and electrical energy." M-14

Page 4.7-4, footnote. Remove the word "only". Sixty-nine years of modeling data is a lot of data. M-15

Page 4.7-5, first paragraph. The Folsom Pumping Plant is mentioned in this sentence. What about the Roseville Pumping Plant? Should this be included in the discussion and impact analysis? M-16

Page 4.7-5, first paragraph, last sentence. Rewrite: "...but would have economic consequences to the commercial power users and increase the demand..." M-17

Page 4.7-5 second paragraph. There are three questions posed in this paragraph. These should possibly be restated as points of concern rather than questions. The reader certainly may not know the answers to these questions. M-18

Section 4.7.4 Water Forum Proposal Impacts

Page 4.7-5, The first paragraph of this section states that "No other potential effects of power generation or demand are anticipated from the implementation of the Water Forum Proposal..." What about the timing of releases and the bypassing of electrical generation issues? These should be addressed in this section. M-19

Section 4.7.4 Changes in Surplus Capacity for Preference Customer Use

Page 4.7-6. Please add the word "requirements" as the last word in the sentence "Net CVP capacity is defined...minus project use." M-20

Page 4.7-7 Changes in Surplus Capacity. The discussion states, "A market exists during the months of May through August in which WAPA may sell its excess capacity". These sales are currently made first to the preference power customers. M-21

Page 4.7-8 second paragraph. Reduction in Annual CVP Energy Production, fourth line. Change the word "unidentifiable" to "undetermined." State why it can't be determined and provide estimates. M-22

Please revise the Final EIR to address our input. If you have any questions, please feel free to contact me at 916-732-5716.

Sincerely,

Paul Olmstead
Water and Power Resources Specialist

cc: Tom Ingwers
Colin Taylor
Ralph Carmona
Project Files
Leslie Dunsworth
Brian Jobson
Elaine Kleckner

Marked-up editorial comments were also submitted by SMUD, and are reflected in the written comments in Letter M.

JWAS- Here are comments from Paul Olmstead. When I get time I will put these into an official letter. Paul

4.7 ~~POWER SUPPLY~~

4.7.1 EXISTING CONDITIONS

This section considers power generation and consumption in the CVP. The Water Forum Proposal has the potential to affect CVP electrical energy production because changed reservoir operations could affect the generation characteristics of the powerplant, diminish water releases resulting in reduced energy, or increase pumping energy use by specific projects. In addition, the Water Forum Proposal has the potential to affect requirements for additional power related to the pumping of water (e.g., groundwater and pump-back of surface supplies from diversion points lower in the watershed). The following discussion regarding power generation and consumption is consistent with the analysis in the Reclamation and Sacramento County Water Agency Draft EIS/EIR for P.L. 101-514 Contract Water (1997) and the City of Sacramento Administrative Draft EIR for Water Supply Expansion (1995).

CVP HYDROPOWER SYSTEM

The CVP hydropower system consists of eight powerplants and two pump-generating plants (Table 4.7-1). This system is fully integrated into the Northern California Power System and provides a significant portion of the hydropower available for use in northern and central California. The installed power capacity of the system is 2,044,350 kilowatts (kW). By comparison, the combined capacity of the 368 operational hydropower plants in California is 12,866,000 kW and the Pacific Gas and Electric Company (PG&E) is the area's major power supplier with a generating capacity from all sources of over 20,000,000 kW.

Once a strong influence on CVP operations, power operations are now secondary to other considerations. In part, this subordination is caused by the elevation of environmental needs to a higher standing, but changes in contractual relationships have also reduced the priority of power.

Power produced by the CVP hydropower system is used first for meeting project water pumping loads, which is deemed "project use power," at CVP pumping facilities (Table 4.7-2). Power surplus to project use is "commercial power" and is marketed by the Western Area Power Administration (WAPA) under long-term firm contracts to municipal and government entities (preference customers) at cost-based rates pursuant to Reclamation Law. In an average year, 4,600 gigawatthours (GWh) of energy and 1,700,000 kW of capacity are marketed to preference customers at rates that recover full cost of production and repayment obligations of project investment with interest. Energy surplus to CVP project use and preference customer power needs is "banked" under WAPA-PG&E Contract 2948A, to be repaid when needed by WAPA and its customers. The contractual agreements between WAPA and its customers terminate in 2004, and it is unlikely that the contract will be renewed. WAPA is currently in the process of determining how it will market the CVP hydropower resources surplus to project use power needs once the contract has expired.

repurchased

Recd from Paul Olmstead, SMUD at 4/1 Water Forum Working Group Mtg

Table 4.7-1 Power Resources of the Central Valley Project		
Unit	Maximum Generating Capacity (kW)	Average Plant Factor (%)
Sacramento River Service Area		
Carr	184,000	34
Lewiston	350	100
Keswick	105,000	62
Shasta	584,000	50
Spring Creek	200,000	42
Trinity	140,000	51
Subtotal	1,213,350	
American River Service Area		
Folsom	215,000	45
Nimbus	17,000	61
Subtotal	232,000	
Delta Export and San Joaquin Valley		
New Melones	383,000	26
O'Neill [1]	14,000	1
San Luis [1,2]	202,000	10
Subtotal	599,000	
TOTAL	2,044,350	—

[1] Pump-Generating Plant.
[2] Jointly-owned, pumping and generating facility, federal share only.

Source: Western Area Power Administration, 1994.

Table 4.7-2 Major Pumping Plants in the CVP		
Unit	Capacity (cfs)	Average Annual Energy Use (kWh)
American River Service Area		
Folsom Pumping Plant	350	1,041,000
Delta Export and San Joaquin Valley		
Contra Costa Canal	410	18,908,000
Dos Amigos [1]	13,200	180,146,000 [2]
O'Neill	4,200	87,185,000
San Luis [1]	11,000	306,225,000 [2]
Tracy	4,600	620,712,000

[1] Joint State-Federal facility.
[2] Federal energy use.

Source: U.S. Army Corps of Engineers, 1992.

Why would Water Forum require WAPA to increase its capacity purchases? — do we mean energy?

Folsom Dam and Reservoir

The Folsom Powerplant has three generating units, with a total release capacity of approximately 8,600 cfs. ~~By design,~~ the facility is operated as a peaking facility. Peaking plants schedule the daily water release volume during the peak electrical demand hours to maximize generation at the time of greatest need. At other hours during the day there may be no release (and no generation) from the plant.

To avoid water surface elevation fluctuations in the Lower American River, the downstream Nimbus Dam and Reservoir (Lake Natoma) is operated as a regulating facility. Although the water surface elevation in the reservoir behind Nimbus Dam fluctuates during the day, releases to the Lower American River are kept constant. The Nimbus Powerplant consists of two generating units with a release capacity of approximately 5,100 cfs. Electric generation from this facility is continuous throughout the day.

4.7.2 THRESHOLDS OF SIGNIFICANCE

The State CEQA Guidelines do not provide guidance related to changes in hydropower capacity or pumping power costs. Significance criteria have been tailored specifically to address these issues.

HYDROPOWER

The first of several hydropower-associated significance criterion is related to the availability of capacity for use by WAPA's preference customers. Preference customers are those users to whom WAPA provides capacity and energy under terms of power sales contracts. To the extent that the commitment to provide capacity to these entities cannot be met from net CVP capacity, WAPA must purchase power from other sources to satisfy these demands. If these purchases were increased as a result of the WFP, then a cost impact would be incurred. This ~~analysis~~ assumed that significant impacts to hydropower available capacity would occur if capacity purchases by WAPA were substantially increased by the implementation of the WFP. —?

A second capacity criterion is related to the availability of surplus capacity. During the months ~~of May through August,~~ any CVP capacity surplus to project use and preference customer needs ~~may be marketed by WAPA~~. Impacts to surplus capacity would be considered significant if the average annual surplus available for WAPA's sale was substantially decreased by the implementation of the WFP.

Energy that has value throughout the year is a third significance criterion. Substantial reduction in available CVP energy is a cost impact either in the sense that the CVP is precluded from selling any excess energy, or, is required to purchase additional energy for its contractors.

Need to discuss — WAPA may have surplus capacity during early spring run off months or winter months but not peak load months of June, July, August + September

PUMPING POWER

Impacts to pumping power could result from changes ~~in pumping requirements due to changes~~ in the elevation and timing of available water supplies in Folsom Reservoir under the Water Forum Proposal. Such impacts would be considered significant if average annual pumping energy requirements for purveyors at Folsom Reservoir were to increase over the Base Condition.

4.7.3 IMPACTS ASSESSMENT METHODOLOGY

Using PROSIM, the net CVP capacity and energy for each month under the 1998 with WFP was calculated and compared to the Base Condition (i.e., current level of demand). Differences between the Base Condition and the WFP were then evaluated for impacts. These impacts represent the WFP impacts at the current level of development.

HYDROPOWER IMPACTS FRAMEWORK

Potential hydropower impacts are associated with ~~two quantities,~~ electrical capacity and electrical energy. Reductions in one or both could result from the implementation of the Water Forum Agreement. These impacts would not be expected to cause direct environmental effects, but would have economic consequences for CVP power users in the form of increased capacity/energy purchases to support preference customer loads, or ~~reduced~~ surplus capacity/energy sales. It is quite possible that thermal generation resources, which do emit air pollutants, would supply some portion of the replacement energy. Estimating when, where, and how "dirty" the replacement energy might be, would be speculative and is beyond the ~~ability to~~ predict, given the interconnection of electric utility generation in the western United States.

CVP powerplants such as Folsom are part of an integrated generation/pumping system for distribution of water supplies to CVP customers. Hydropower production is a function of reservoir storage and water releases through powerplants. Hydropower consumption is dependent on CVP project use (primarily pumping). The remaining quantity of CVP hydropower production ~~minus CVP project use~~ provides a measure of capacity and energy by which the alternatives can be compared to a base condition.

Hydropower impacts for this analysis were assessed by comparing changes in monthly values of net (CVP production minus losses minus project use) CVP capacity and energy under the WFP, relative to the Base Condition. These changes in values were obtained from the power subroutine of PROSIM for each month of the modeled 69-year hydrologic period of record.[1]

PUMPING POWER IMPACTS FRAMEWORK

Pumping power ~~impacts are also~~ associated ~~with~~ electrical capacity and electrical energy. Reductions in Folsom Reservoir levels caused by the Water Forum Proposal may increase

[1] PROSIM simulates the water years 1922-1991, however, power is normally evaluated on a calendar year basis. Thus, only 69 years of data (1922-1991) are available for assessment.

Table 4.7-3 Folsom Reservoir Water Surface Elevation Pumping Relationship		
Surface Elevations (ft msl)	Storage[1] (AF)	Pumping Relationship
433	640,800	Pumping to City of Roseville and SJWD during irrigation season (Apr - Oct)
425	569,900	Pumping required to City of Roseville and SJWD during non-irrigation season
414	480,200	Pumping begins to City of Folsom and Folsom Prison.
356	158,900	EID pumps begin to develop vortex problems.
340	111,900	Potential vortex at dam intake, depending on volume of pumping.
335	100,000	Folsom Pumping Plant limited to 70 cfs.
325	79,200	Lower limit of EID pumps and Folsom Pumping Plant; pumps on barges required to pump water to existing intakes
315	62,100	Elevation of Folsom Dam water intake; tap penstocks.
307	50,400	Elevation of power penstocks; portable pumps placed on a barge to supply pipeline intake.

[1] USBR Folsom Reservoir 1993 Area Capacity Tables.

Source: *U.S. Army Corps of Engineers. 1992. Folsom Dam and Reservoir Re-operation, California, Operation Plan and Environmental Impact Statement, Draft Report. Sacramento, California.*

Hydropower Impacts

Impact 4.7-1

Reduced CVP Hydropower Capacity and Generation. *Implementation of the WFP would not result in reduced capacity for use by WAPA's preference customers or reduce average annual surplus capacity available for WAPA's sale. Although under the WFP, WAPA's capacity peak maximum of 1,152 megawatts would not be met in 41 of the 828 months studied, the Base Condition would also fall short of the maximum in 42 of the 828 months. Implementation of the WFP would reduce average annual CVP energy production, however. With the WFP, an average annual reduction of 30 Gwh would occur, as compared to the Base Condition. This reduction when compared to the annual average CVP energy production of 3,650 Gwh is considered a less-than-significant impact.*

GWH CAPS

Requirements

Changes in Capacity for Preference Customer Use - Net CVP capacity values for each month of the 69-year hydrologic period of record were obtained from the PROSIM simulations of the Base Condition and the WFP. Net CVP capacity is defined as the capacity available at load center and is calculated as the total CVP generated capacity minus transmission losses minus project use. The minimum monthly net CVP capacity that was observed in the Base Condition was 926 megawatts (Mw), occurring during the month of September. Minimum monthly capacity values and selected statistics for the Base Condition simulation are shown in Table 4.7-4.

MW CAPS

What about Kosevekes pumping Plant?

capacity and energy requirements to pump water at the Folsom Pumping Plant and the EID pumping plant at Folsom Reservoir. These impacts, like those for hydropower, would not be expected to cause direct environmental effects, but would have economic consequences and increase the demand for other sources of power.

spell out

Using PROSIM, the Folsom Reservoir elevation for each month under the WFP was calculated and compared to the Base Condition. Pumping power impacts include several considerations. First, do the Folsom Reservoir elevation differences affect the ability to "gravity flow" water to the North Fork and Natomas pipelines? Second, do the Folsom Reservoir elevation differences affect the ability to serve water at the flow rates required? Third, what additional capacity and energy needs are there for increased pumping caused by increased lift?

to the Comme Power Co

Table 4.7-3 presents Folsom Reservoir elevations related to water supply (pumping plant) capabilities. Because Folsom Reservoir elevations affect gravity flow to the North Fork and Natomas pipelines, the first step of the analysis was to eliminate those occasions when elevation differences would not inhibit gravity flow. If gravity flow is uninhibited, then there would be no impact.

The second step involved identifying those elevation conditions when additional pumps would have to be installed to make up for the elevation difference (non-gravity flow conditions). Based on the analysis, if the WFP was shown to contribute to differences sufficient to require installation of additional pumping facilities, there would be a significant impact.

The third step involved identifying those elevation conditions when there would be a need for additional electrical energy to compensate for increased lifts. Energy requirements for EID were computed as a variable (elevation dependent) kilowatthour (kWh) per AF pumping rate times the water pumped for the month. At the Folsom Pumping Plant, energy requirements were applied to the product of a single (70 kWh per AF) pumping rate times the water pumped for the month for those months when gravity flow would be inhibited.

4.7.4 WATER FORUM PROPOSAL IMPACTS

Potential power supply impacts include changes in CVP hydroelectric power generation, project use, and electrical requirements for water supply pumping for diverters at Folsom Reservoir. No other potential effects on power generation or demand are anticipated from the implementation of the Water Forum Proposal with the exception of potential increases in the use of energy resources for conveyance and treatment of the new water supplies.

This paragraph should be a recreation. These questions maybe should be restated as concerns and not questions.

The average year statistic (average of 69 values for each month) indicates that approximately the same surplus capacity is available under the WFP than is currently available under the Base Condition. A summation of the monthly surplus capacity available in the May through August for the 69-year hydrologic period of record found that in the Base Condition there would be 94,595 Mw-months of surplus capacity. Under the WFP, 95,024 Mw-months of surplus capacity would occur. The simulations show that the Base Condition produces surplus capacity values less than under the WFP. Because surplus CVP capacity was not reduced by the WFP (95,024 Mw-months minus 94,595 Mw-months = 429 Mw-months), WAPA would not experience a significant impact.

Reduction in Annual Average CVP Energy Production - CVP powerplants produce energy for project use and commercial sales. Energy production could be reduced by the WFP, causing WAPA to either reduce surplus energy sales or increase energy purchases to meet its commitments. In either case, there is definable economic cost but an unidentifiable environmental impact. The environmental impact is associated with the replacement energy produced by dirty sources. These dirty sources are generally identified as thermal powerplants burning some form of hydrocarbon fuel. A comparison of annual net CVP energy available at load center was performed using data from the Base Condition and the WFP. The analysis included the development of graphs, Exhibits 4.7-1 and 4.7-2, at the end of the section, showing the annual net CVP energy for each simulation.

undetermined

Shown on each exhibit is the average net CVP energy for the 69-year period of record. From these averages, it is apparent that the net CVP energy at load center for the WFP is less than that under the Base Condition. Exhibit 4.7-3, at the end of the section, illustrates the annual changes in net CVP energy resulting under the WFP. The average annual reduction is shown to be 30 GWh (3,620 GWh minus 3,650 GWh = -30 GWh). Although, with respect to average annual CVP energy, the percentage (30/3650 = 0.8%) is small, the overall effect of the 30 GWh reduction in annual average net CVP energy at load center is considered to be a less-than-significant impact to WAPA.

Pumping Power Impacts

Impact 4.7-2

Increased Energy Requirements for Diverters Pumping From Folsom Reservoir. *Implementation of the WFP would result in changes in pumping requirements for those who pump water from Folsom Reservoir. Under the WFP, it is anticipated that an increase in average annual pumping energy would be required. While this impact would be environmentally less-than-significant, it represents an economically significant impact.*

Reductions in Folsom Reservoir water surface levels resulting from the implementation of the WFP could contribute to increased pumping requirements at the Folsom Pumping Plant and the EID Pumping Plant. Exhibits 4.7-4 and 4.7-5, at the end of the section, show the frequency of Folsom Reservoir water surface elevations during the non-irrigation (November-March) and irrigation (April-October) periods. Using Table 4.7-3 as a reference, a comparison of data from the Base Condition and the WFP, illustrates differences for a number of conditions.

Table 4.7-4
Net CVP Capacity (Mw)

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Base Condition	Minimum	1036	1131	1143	1257	1303	1269	1173	960	926	965	891	970
	Average	1385	1426	1476	1568	1579	1515	1471	1391	1297	1312	1324	1362
	Maximum	1580	1597	1620	1699	1676	1609	1580	1582	1542	1529	1562	1606
	Adverse Year	1228	1294	1375	1454	1446	1407	1363	1266	1136	1174	1154	1196
	Months < 1152 Mw	6	3	1	–	–	–	–	3	8	7	7	7
WFP	Minimum	1043	1134	1124	1239	1308	1278	1184	974	943	983	907	971
	Average	1383	1427	1475	1569	1578	1517	1475	1392	1296	1311	1323	1361
	Maximum	1581	1613	1620	1689	1676	1606	1583	1580	1539	1524	1562	1606
	Adverse Year	1234	1286	1376	1442	1450	1416	1368	1263	1144	1171	1150	1206
	Months < 1152 Mw	6	2	1	–	–	–	–	2	8	7	8	7

Source: SWRI, 1998.

The same statistics for the WFP simulation are also shown in Table 4.7-4. The minimum monthly net capacity for the WFP simulation was 907 Mw, occurring in November.

Contract 2948A requires PG&E to provide capacity support up to 1,152 Mw for CVP preference customer loads. If CVP production and purchases are insufficient to meet preference customer demands, WAPA purchases capacity from PG&E to cover the difference. Monthly loads for projecting power purchases by CVP preference customers vary from year to year and a 69-year hydrologic period of record for the modeled period is not available. In recent years, CVP system simultaneous capacity peaks have approached the 1,152 Mw maximum.

The WFP would not increase preference customer electrical loads. However, the availability of less than 1,152 Mw from CVP hydropower production could necessitate an incremental increase in capacity purchases by WAPA from PG&E. To assess the potential for additional purchases, the monthly net CVP capacity at load center was compared to the 1,152 Mw support level.

For the Base Condition, 42 months in the study period exhibited a net CVP capacity less than 1,152 Mw. Under the WFP, 41 months of the 828 contained in the study period exhibited a net CVP capacity less than 1,152 Mw. Because there are fewer infringements on the 1,152 Mw criteria under the WFP than there are under the Base Condition, no significant impact to the net capacity available to CVP preference customers would occur.

Changes in Surplus Capacity - Surplus CVP capacity is that which remains after project use and preference customer needs are met. A market exists during the months of May through August in which WAPA may sell excess capacity. Several statistical representations (Table 4.7-4) based on simulations of the Base Condition and the WFP were initially used to identify impacts.

but those sales are currently to Preference Power Customers ?

may want to define msl.

Examination of the monthly data shows the Base Condition falling below the 356 feet msl elevation five months out of the 70-year hydrologic period of record. Under the WFP, there are 12 months when the water surface falls below this critical elevation for EID. Four of these 12 months under the WFP, fall below elevation 335 feet msl, the level where severe restrictions on pumping at the Folsom Pumping Plant would occur.

Below elevation 414 feet msl, pumping is required to serve the City of Folsom and Folsom Prison. During the November-March period, pumping would be required 50% of the time under the Base Condition and nearly 54% of the time under the WFP. For the April-October period pumping would be required 31% of the time under the Base Condition and 34% of the time under the WFP.

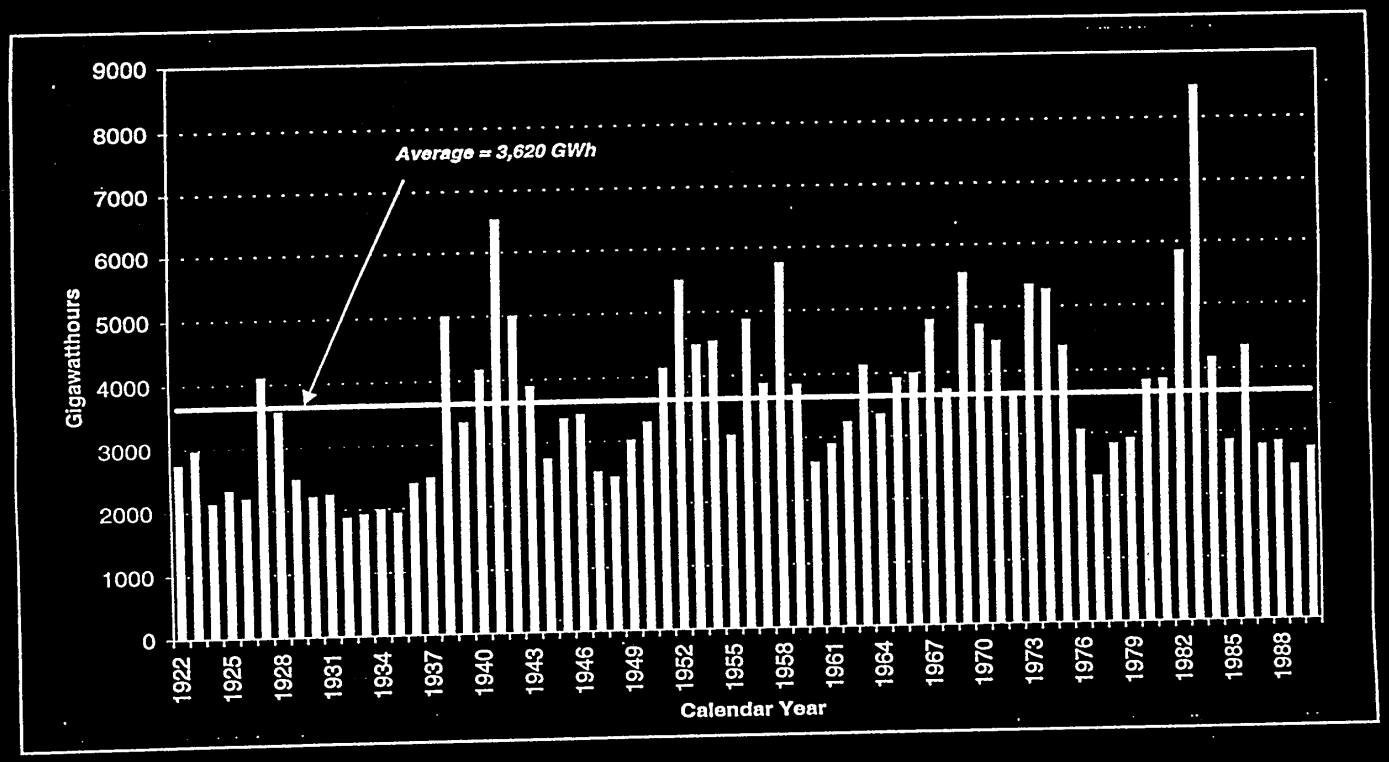
Below elevation 425 feet msl, pumping is required to serve the City of Roseville and the San Juan Water District during the November-March period. Under the Base Condition, pumping would be required about 79% of the time while under the WFP, pumping would be necessary nearly 80% of the time.

When the reservoir surface elevation falls below 433 feet msl during the April-October period, pumping is required to serve both the City of Roseville and the San Juan Water District. Under the Base Condition, elevations are below 433 feet msl about 54% of the time. During the same period, under the WFP, elevations would fall below 433 feet msl about 56% of the time.

The increased pumping requirements at the Folsom Pumping Plant and the EID Pumping Plant occur regularly during the November-March period and, though less frequently, also during the April-October period. Table 4.7-5 illustrates the combined average monthly energy requirements for pumping at the EID and Folsom pumping plants. On average, over the 70 years simulated, there was an increase in the annual pumping energy requirement of approximately 5,800,000 kWh under the WFP, relative to the Base Condition. While this is not an environmentally significant effect, it represents an economically significant impact.

EXHIBIT 4.7-1

1922-1988 Annual Net CVP Energy at Load Center



1998 With WFP Annual Net CVP Energy at Load Center

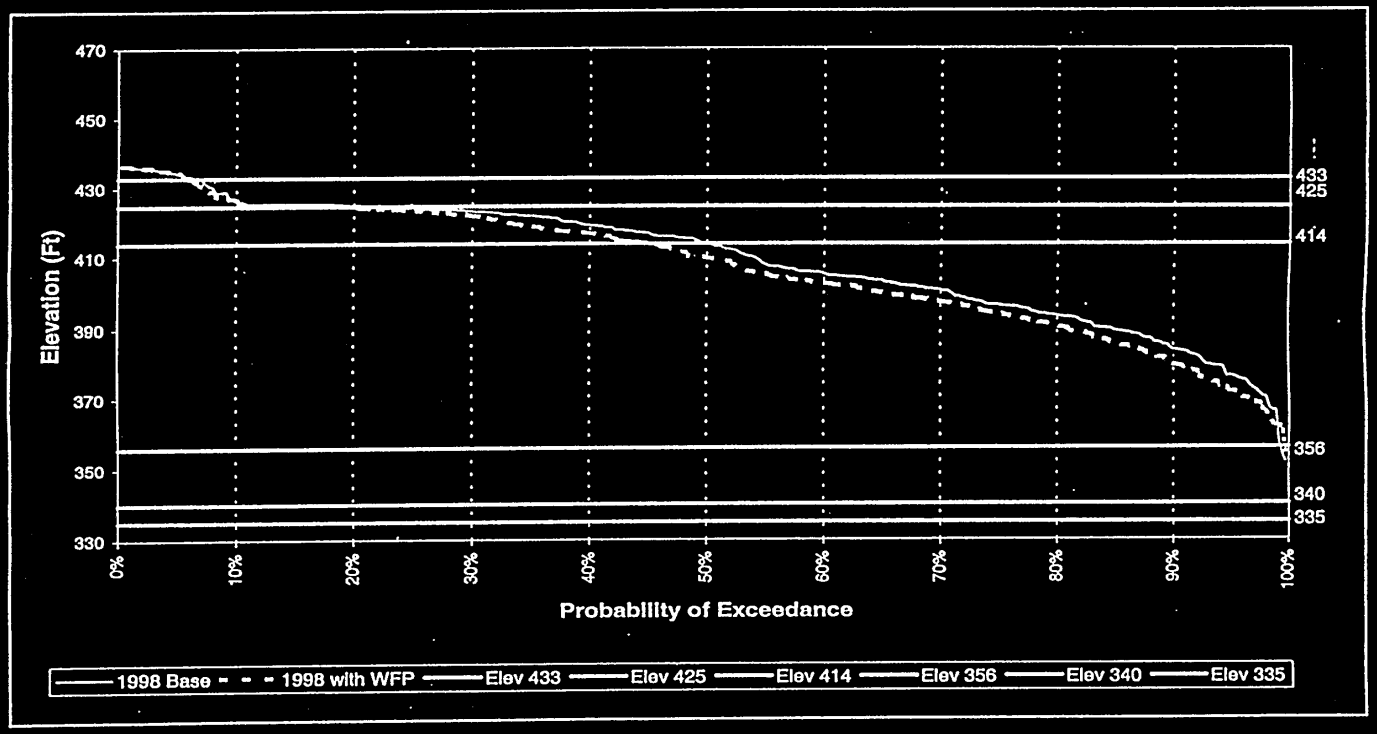
EXHIBIT 4.7-2

WATER FORUM PROPOSAL EIR

SWRI

Change in Annual Net CVP Energy at Load Center
1998 With WFP Minus 1998 Base

EXHIBIT 4.7-3



Folsom Reservoir Elevation November - March

EXHIBIT 4.7-4

WATER FORUM PROPOSAL EIR

SWRI SURFACE WATER RESOURCES, INC.

PCWA-070

Folsom Reservoir Elevation April - October
EXHIBIT 4.7-5
Elevation (Ft)
470
450
430
410
390
370
350
330
Probability of Exceedance
%0
%10
%20
%30
%40
%50
%60
%70
%80
%90
%100
433
425
414
356
340
335
1998 Base
1998 with WFP
Elev 433
Elev 425
Elev 414
Elev 356
Elev 340
Elev 335

Paul Olmstead, Water & Power Resources
SMUD
April 5, 1999

M-1 The WFP does identify energy losses to the Western Area Power Administration (Western) in impact 4.7-1. The finding of a less-than-significant impact was based, in part, on the magnitude of reduction (30/3650 = 0.82%) in CVP hydropower generation. Under the EIR's thresholds for significance, this does not represent an economically significant impact. (See WFP Draft EIR at 4.7-3 through 4.7-5)

M-2 As explained in the previous response, the impacts to power supply are purely economic. Such impacts do not constitute significant environmental impacts; thus no mitigation is required to alleviate them. (See State CEQA Guidelines §15131(a).) In addition, because some of the change in CVP hydropower generation is caused by the use of CVP water by CVP customers in the Water Forum, no CVP water customer is required to reimburse (outside of its contract rates) for hydropower costs associated with the conveyance of its contracted CVP water supply. Power generation at Folsom Reservoir is variable depending on reservoir head. The relationship between generation (kWh) and releases (AF) is best illustrated in a generalized release efficiency curve (see attached) based on reservoir storage.

The attached graphic (Exhibit M-2) identifies, by month, average "Net CVP Energy at Load Center" for the Base 1998 and the 1998 with WFP conditions. Because PROSIM uses the water year time series (1922-1991), data are not available for October through December 1991. Hydropower generation is typically expressed on a calendar year basis, therefore, the averages shown are for the 69 calendar years (1922-1990) simulated by PROSIM.

M-3 As shown in Table 4.7-4, the number of months when surplus capacity would be available would be essentially the same between the base and WFP conditions. However, as shown in Table 4.7-4, the total capacity would be reduced. Power generation at Folsom Reservoir is variable dependent on reservoir head. The relationship between generation (kWh) and releases (AF) is best illustrated in a generalized release efficiency curve (Exhibit M-3) based on reservoir storage.

continued ...

EXHIBIT M-2

m-3

continued ...

M-4 The determination of environmental impacts associated with purchase of energy from variable and constantly changing sources is not reasonably feasible. Users obtain energy from a wide variety of sources ranging from solar and wind to coal-burning plants. It should also be noted that with the State of California's new Integrated System Operation, decisions on what combination of energy sources will be called upon are on-going. The reference to environmental impact in this WFP Draft EIR is meant to point out that potential replacement energy sources are likely to have greater environmental costs than the displaced hydropower.

M-5 Comment noted. This change is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR. This change does not affect the conclusions of the WFP Draft EIR.

The fourth paragraph on page 4.7-1 is revised as follows:

Power produced by the CVP hydropower system is used first for meeting project water pumping loads, which is deemed "project use power," at CVP pumping facilities (Table 4.7-2). Power surplus to project use is "commercial power" and is marketed by the Western Area Power Administration (WAPA) under long-term firm contracts to municipal and government entities (preference customers) at cost-based rates pursuant to Reclamation Law. In an average year, 4,600 gigawatt hours (GWh) of energy and 1,700,000 kW of capacity are marketed to preference customers at rates that recover full cost of production and repayment obligations of project investment with interest. Energy surplus to CVP project use and preference customer power needs is "banked" under WAPA-PG&E Contract 2948A, to be ~~repaid~~ repurchased by WAPA and its customers. The contractual agreements between WAPA and its customers terminate in 2004, and it is unlikely that the contract will be renewed. WAPA is currently in the process of determining how it will market the CVP hydropower resources surplus to project use power needs once the contract has expired.

M-6 Comment noted. This change is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR This change does not affect the conclusions of the WFP Draft EIR.

continued ...

The first paragraph on page 4.7-3 is revised as follows:

The Folsom power plant has three generating units, with a total release capacity of approximately 8,600 cfs. ~~By design, t~~The facility is operated as a peaking facility. Peaking plants schedule the daily water release volume during the peak electrical demand hours to maximize generation at the time of greatest need. At other hours during the day there may be no release (and no generation) from the plant.

M-7 Capacity purchases are an issue if the implementation of the WFP causes the CVP system capacity to fall below that required by its contractual commitments to preference customers. This condition would occur only in extremely dry years, but nevertheless is a concern to be addressed.

As clarification, the discussion is not intended to suggest that the Water Forum, per se, would require Western to increase its capacity purchases. Rather, it is intended to note that capacity purchases would become an issue if the implementation of the Water Forum Proposal resulted in CVP system capacity falling below that required in its contractual commitments to its preference customers. In response to the second part of the comment, where the commitment to provide capacity to these entities (i.e., preference customers) cannot be met from net CVP capacity, Western must purchase power (i.e., either energy or capacity) from other sources or entities (e.g., PG&E) to satisfy these commitments.

M-8 Comment noted. This change is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR. This change does not affect the conclusions of the WFP Draft EIR.

PUMPING POWER

~~Impacts to pumping power could result from changes in pumping requirements due to changes in the elevation and timing of available water supplies in Folsom Reservoir under the Water Forum Proposal.~~ Impacts to the amount of pumping power required could result from changes in the elevation and timing of available water supplies in Folsom Reservoir under the Water Forum Proposal. Such impacts would be considered significant if average annual pumping energy requirements for purveyors at Folsom Reservoir were to increase over the Base Condition.

The first paragraph on page 4.7-4 of the WFP Draft EIR is revised as follows:

M-9 Comment noted. See response to comment M-11. This change is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR. This change does not affect the conclusions of the WFP Draft EIR. See response to comment M-11.

continued ...

M-10 Comment noted. See response to comment M-11. This change is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR. This change does not affect the conclusions of the WFP Draft EIR. See response to comment M-11.

M-11 Comment noted. This change is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR. This change does not affect the conclusions of the WFP Draft EIR.

The third paragraph on page 4.7-4 of the WFP Draft EIR is revised as follows:

Potential hydropower impacts are associated with ~~two quantities,~~ the level of electrical capacity and electrical energy as well as the timing of release of, or any bypassing of the electrical generation. Reductions in one or both could result from the implementation of the Water Forum Agreement but would have economic consequences for CVP power users in the form of a reduction in the amount of surplus capacity/energy sales available. These impacts would not be expected to cause direct environmental effects but would have economic consequences for CVP power users in the form of increased capacity/energy purchases to support preference customer loads, or reduced surplus capacity/energy sales. It is quite possible that thermal generation resources, which do emit air pollutants would supply some portion of the replacement energy. Estimating when, where, and how "dirty" the replacement energy might be, would be speculative and is beyond the scope of this report ~~ability~~ to predict, given the complexity of the interconnection of the electric utility generation in the western United States.

M-12 Comment noted. This change is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR. This change does not affect the conclusions of the WFP Draft EIR.

CVP powerplant such as Folsom are part of an integrated generation/pumping system for distribution of water supplies to CVP customers. Hydropower prooduction is a function of reservoir storage and water releases through powerplants. Hydropower consumption by Western Customers is dependent on the level of CVP project use power requirements (primarily pumping). The remaining quantity of CVP hydropower production minus CVP project use provides a measure of capacity and energy by which the alternatives can be compared to a base condition.

M-13 Comment noted. The suggested change is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR. Section 4.7-4 of the WFP Draft EIR explains why increased diversions reduce CVP capacity and energy. As no significant environmental impacts were identified, no mitigation measures are required. See responses to comments M-1 and M-2.

The fifth paragraph on page 4.7-4 of the WFP Draft EIR is revised as follows.

continued ...

Hydropower impacts for this analysis were assessed by comparing changes in monthly values of CVP capacity and energy (CVP production minus losses minus project use) ~~CVP capacity and energy~~ under the WFP, relative to the Base Condition. These changes in values were obtained from the power subroutine of PROSIM for each moth of the modeled 69-year hydrologic period of record.

M-14 Comment noted. This change is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR. This change does not affect the conclusions of the WFP Draft EIR.

The first paragraph under **PUMPING POWER IMPACTS FRAMEWORK** on page 4.7-4 is revised as follows:

~~Pumping power impacts are also associated with electrical capacity and electrical energy.~~ The impacts due to the level of pumping power required can be measured as a change in the need for electrical capacity and electrical energy. Reductions in Folsom Reservoir levels caused by the Water Forum Proposal may increase capacity and energy requirements to pump water at the Folsom Pumping Plant and the EID pumping plant at Folsom Reservoir. These impacts, like those for hydropower, would not be expected to cause direct environmental effects, but would have economic consequences and increase the demand for other sources of power.

M-15 The footnote reference to "only" 69 years refers to the fact that while 70 water years (1922-1991) are available for some analyses, only calendar years 1922-1990 are available for hydropower analysis.

M-16 There is only one pumping plant at Folsom Dam and not separate pumping plants for the cities of Roseville and Folsom. The Folsom Pumping Plant supplies water to a number of entities on both sides of the American River, including the City of Roseville.

M-17 The reference to impacts is meant only to apply to the water purveyors diverting water through the pumping plant. Impacts to commercial power users are discussed in Section 4.7-1 of the WFP Draft EIR.

M-18 The three questions posed in this paragraph are meant to identify the questions that must be considered in an analysis of pumping power impacts.

M-19 As discussed in Section 4.7.4 of the WFP Draft EIR, implementation of the WFP does not significantly alter the timing of releases from Folsom Dam. To the extent that there are differences in CVP operations resulting from the WFP the analysis of hydropower operations reflects these differences. The WFP does not cause any water releases to bypass CVP power plants.

M-20 Comment noted. This change is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR. This change does not affect the conclusions of the WFP Draft EIR.

continued ...

The last paragraph on page 4.7-6 is revised as follows:

Changes in Capacity for Preference Customer Use - Net CVP capacity values for each month of the 69-year hydrologic period of record were obtained from the PROSIM simulations of the Base Condition and the WFP. Net CVP capacity is defined as the capacity available at load center and is calculated as the total CVP generated capacity minus transmission losses minus project use requirements. The minimum monthly net CVP capacity that was observed in the Base Condition was 926 megawatts (Mw), occurring during the month of September. Minimum monthly capacity values and selected statistics for the Base Condition simulation are shown in Table 4.7-4.

M-21 Comment noted.

M-22 Comment noted. The suggested wording revision is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR. This change does not affect the conclusions of the WFP Draft EIR. Please refer to response to comment M-4.

The second paragraph on page 4.7-8 is revised as follows:

Reduction in Annual Average CVP Energy Production - CVP powerplants produce energy for project use and commercial sales. Energy production could be reduced by the WFP, causing WAPA to either reduce surplus energy sales or increase energy purchases to meet its commitments. In either case, there is definable economic cost but and ~~unidentifiable~~ undetermined environmental impact. The environmental impact is associated with the replacement energy produced by dirty sources. These dirty sources are generally identified as thermal powerplants burning some form of hydrocarbon fuel. A comparison of annual net CVP energy available at load center was performed using data from the Base Condition and the WFP. The analysis included the development of graphs, Exhibits 4.7-1 and 4.7-2, at the end of the section, showing the annual net CVP energy for each simulation.

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LETTER
N

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April 2, 1999

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APR 02 1999
comwp

VIA HAND DELIVERY

Ms. Susan Davidson
Sacramento City-County
Office of Metropolitan Water Planning
5770 Freeport Boulevard, Suite 200
Sacramento, CA 95822

Re: Comments on the Draft Environmental Impact Report for the Water Forum Proposal.

Dear Ms. Davidson:

Westlands Water District ("Westlands" or "District") hereby submits its comments to the Draft Environmental Impact Report for the Water Forum Proposal prepared for the Sacramento City-County Office of Metropolitan Water Planning ("DEIR"). Westlands is a California water district with a contractual right to receive up to 1,150,000 acre-feet of Central Valley Project ("CVP") water from the Bureau of Reclamation ("Reclamation" or "Bureau"). Westlands provides water for municipal and industrial uses and for the irrigation of approximately 600,000 acres on the west side of the San Joaquin Valley in Fresno and Kings Counties. Water provided by Reclamation to Westlands is appropriated from the Sacramento-San Joaquin Rivers Delta pursuant to Water Right Decisions 893, 990, and 1020. These decisions provide that the right to the beneficial use of water for irrigation purposes shall be appurtenant to the land on which that water is applied and the right to the beneficial use of water for irrigation purposes shall, consistent with the terms of the decisions, continue in perpetuity. Indeed, Decision 893, which grants to reclamation permits to appropriate water on the American River, provides that the United States holds the permits "as Trustee" for the benefit of public agencies and landowners within public agencies that are supplied water by Reclamation. Implementation of the Water Forum Proposal will affect water entering and exported from the Delta. Therefore, Westlands has a vital interest in the "proposal" analyzed by the DEIR. N-1

We conclude that the DEIR is legally inadequate and does not comply with the California Environmental Quality Act ("CEQA"), Pub. Res. Code Section 21000 *et seq.* Based N-2

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on the analysis presented below, we urge the Water Forum to withdraw the DEIR, correct the deficiencies and recirculate the document prior to further consideration of the project. N-2

I. INTRODUCTION AND BACKGROUND

CEQA mandates that an environmental impact report ("EIR") be prepared and certified before approval by a local agency of any project that may have a significant effect on the environment. (Pub. Res. Code § 21151(a).) It is well established that the purpose of an EIR is to provide public agencies and the public in general with detailed information about the effects, which a proposed project is likely to have on the environment. (Pub. Res. Code §§ 21060.5 and 21061; *Environmental Planning and Information Council of Western El Dorado County, Inc. v. El Dorado County* (1982) 131 Cal.App.3d 350, 354.)

The California Supreme Court summarized both the purpose and importance of an adequate EIR when it decided *Laurel Heights Imp. Ass'n of San Francisco, Inc. v. Regents of University of California* (1988) 47 Cal.3d 376, 392. The Supreme Court said:

> The EIR is the primary means of achieving the Legislature's considered declaration that it is the policy of this state to "take all action necessary to protect, rehabilitate, and enhance the environmental quality of the state." [Citation] The EIR is therefore "the heart of CEQA." [Citations] An EIR is an "environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return." [Citations] The EIR is also intended "to demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action." [Citations] Because the EIR must be certified or rejected by public officials, it is a document of accountability. If CEQA is scrupulously followed, the public will know the basis on which its responsible officials either approve or reject environmentally significant action, and the public, being duly informed, can respond accordingly to action with which it disagrees. [Citations] The EIR process protects not only the environment but also informed self-government. [emphasis added]

N-3

Laurel Heights Imp. Ass'n, supra, 47 Cal.3d at 392.

Moreover, CEQA requires that local agencies deny approval of a project with significant adverse effects when feasible mitigation measures can substantially lessen such effects. (*Sierra Club v. Gilroy City Council* (1990) 222 Cal.App.3d 30, 41; *Citizens for Quality*

Growth v. City of Mount Shasta (1988) 198 Cal.App.3d 433, 440-41.) To effectuate this requirement, an environmental impact report must include a detailed analysis of mitigation measures that will minimize the significant effects of the proposed project on the environment. (Pub. Res. Code § 21100(b)(3).) N-3

As explained below, the DEIR falls significantly short of providing the Water Forum agencies, other responsible agencies and the public with a document that meets these standards. Therefore, in its present form, the document cannot be certified. N-4

II. A PROGRAM LEVEL EIR MUST IDENTIFY AND DISCUSS ALL SIGNIFICANT IMPACTS OF THE PROJECT.

The DEIR authors employ a pattern and practice of hiding behind the term "Program EIR" throughout the document to avoid discussion of significant environmental impacts. While use of a program EIR may be appropriate under certain circumstances, it may not be used as a device to avoid the identification and discussion of significant environmental impacts of the project. In *Stanislaus Natural Heritage Project v. County of Stanislaus* (1996) 48 Cal.App.4th 182, the court considered whether an EIR was inadequate because it failed to discuss the environmental impacts of a water supply for 5,000 proposed residences. The court discussed the concept of tiering, a concept analogous to the program EIR process, and stated that:

> '[T]iering' is not a device for deferring the identification of significant environmental impacts that the adoption of a specific plan can be expected to cause. The County in this case could not make an informed decision on whether to adopt the Diablo Grande Specific Plan without being informed, to some reasonable degree, of the environmental consequences of supplying water to a 5,000 residential unit development which has no on-site water source. Indeed, the environmental consequences of supplying water to this project would appear to be one of the most fundamental and general "general matters" to be addressed in a first-tier EIR.

N-5

(*Id.* at 199.)

As will be seen throughout this letter, the DEIR fails to meet the basic requirements of a program EIR, as it fails to discuss and disclose many environmental impacts of the project. Calling a document program level does not abdicate CEQA's fundamental requirement that the document inform the agencies and the public what the environmental impacts of a proposal may be.

III. THE DEIR WRONGFULLY LIMITS THE SCOPE OF THE DEIR STUDY AREA THEREBY IGNORING IMPACTS THAT WOULD RESULT FROM IMPLEMENTATION OF THE WATER FORUM PROPOSAL.

An EIR must contain a description of the "true scope of the project for intelligent weighing of the environmental consequences of the project." (*City of Santee v. County of San Diego* (1989) 214 Cal.App.3d 1438, 1455.) However, the DEIR, as a result of an inadequate description of the proposal, fails to evaluate substantial impacts resulting from implementation of the Water Forum proposal. N-6

The DEIR includes within the direct effect study area, "those areas that would be directly affected by additional surface water diversions from the American River," (DEIR at 2-2.) However, the scope of analysis within the DEIR is limited to areas within or north of the Delta. Giving the DEIR conclusion that the American River surface diversions will affect exports from the Delta, the limited study area is whole inadequate. The true scope of the proposal must include all areas that are served by the CVP and the State Water Project ("SWP"). The inaccurate description of the study area results in an inadequate evaluation of the direct, indirect and cumulative impacts of the proposal. Examples of environmental effects impacting Westlands is presented later in this letter. Similar effects would also occur in other geographical areas that have been ignored in the document.

IV. THE DEIR DOES NOT PROVIDE A LEGALLY ADEQUATE DESCRIPTION OF THE WATER FORUM PROPOSAL OR THE DEMONSTRATED NEED FOR THE PROJECT.

The proposal description in the DEIR is wholly inadequate. An accurate description of a proposed action is needed to determine the scope of the environmental review. (*See County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 199.) In the *Inyo* case, the court recognized: N-7

> Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal's benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal (i.e., the 'no project' alternative) and weigh other alternatives in the balance. An accurate, stable and finite project description is the sine qua non of an informative and legally sufficient EIR.

(*County of Inyo v. City of Los Angeles, supra,* 71 Cal.App.3d at 192-93.) The description of the Water Forum proposal is so grossly inadequate that it fails to provide an accurate view of the project. One of the major flaws of the DEIR is that the project description does not adequately

discuss how the proposed surface water diversions will occur. In particular, there is no detailed discussion on the pattern of surface water diversions. This deficiency in the project description makes it difficult, if not impossible, for the reviewer to determine exactly how the project will be carried out, or the resulting environmental effects of the diversion patterns. This is particularly critical when evaluating the water supply impacts to the CVP and SWP. As will be discussed later in this letter, the lack of detail on the diversion pattern also calls into serious question the ability of the Water Forum Proposal to rely on county and area of origin statutes. N-7

While the DEIR does discuss monthly impacts to aquatic resources, such as fisheries, temperature, recreational activities and, to some extent water quality, a similar analysis is lacking for water supply impacts. The reader is forced to review technical Appendix I to try to ascertain water supply and other environmental impacts based on the monthly PROSIM model. This is a difficult task for even the skilled to undertake. The DEIR should present the Project's diversion patterns and resulting impacts in detail within the main body of the DEIR. N-8

The proposal is based, in part, on the need to meet future water demands. However, the water demands presented in the DEIR are not based on any empirical data. According to the DEIR, the "'2030 Diversion reflects the stakeholder representatives' recommendation for the amount of surface water that each purveyor will divert in most years (average and wetter years) to meet its needs through the year 2030." (DEIR at 3-9 (emphasis added).) This inadequacy in proposal description has severe impacts on the adequacy of the DEIR's analysis of the proposal's environmental effects. Without an adequate disclosure and discussion of what the population will be in the future, it is not possible to "balance the proposal's benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal . . . and weigh other alternatives." (*County of Inyo v. City of Los Angeles, supra,* 71 Cal.App.3d at 192-93.) N-9

While Appendix B of the Water Forum Action Plan does contain some discussion of projected population growth and its relationship to water demand, none of this information is presented or analyzed within the DEIR. The fact is that without the water, the population will not increase to the projected levels. Thus, disclosure and analysis of the projected population increases and the environmental effects of those increases are a reasonably foreseeable effect of the project and must be analyzed. N-10

Accordingly, the Water Forum must withdraw the DEIS, correct this deficiency by providing data on population growth and corresponding water needs and then recirculate the document to provide the public with an another opportunity to comment.

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V. THE DEIR IS FATALLY FLAWED BECAUSE IT SUPPORTS FLOW OBJECTIVES FOR THE IMPROVED PATTERN OF FISHERY FLOW RELEASES THAT WERE FOUND TO BE CONTRARY TO THE CENTRAL VALLEY PROJECT IMPROVEMENT ACT AND IT RELIES ON INACCURATE COMPUTOR SIMULATION MODELS TO ANALYZE THE PROPOSAL'S IMPACTS.

The Water Forum Proposal inappropriately supports the Improved Patter of Fishery Flow Releases ("IPFFR") and incorporates unlawful flow requirements into the DEIR impacts analysis. The IPFFR is listed as one of the main elements of the Water Forum Proposal. (*See* DEIR at 2-4.) The DEIR defines the IPFFR in the same manner as the Anadromous Fish Restoration Program (AFRP) flow objectives as set forth in the November 20, 1997 "Department of the Interior Final Administrative Proposal on the Management of Section 3406(b)(2) Water." (*See* DEIR at 2-4.) However, support of such flow objectives is improper. N-11

In the recent United States District Court decision of *San Luis & Delta Mendota Water Authority v. United States of America* (March 19, 1999) CV-F-97-6140, CV-F-98-5261, the Court enjoined implementation of the "Department of the Interior Final Administrative Proposal on the Management of Section 3406(b)(2) Water." (Id. at 51.) The Court specifically found that the Administrative Proposal was "manifestly contrary to [the Central Valley Project Improvement Act, Section 3406(b)(2) requirement] that Interior calculate and dedicate 800,000 [acre-feet] of CVP yield for (b)(2) purposes and exceeds Interior's statuary authority." (Id. at 28.) Clearly, it is inappropriate to support flow objective found to be in excess of Interior's statutory authority.

More importantly, the DEIR evaluates the impacts of the Water Forum Proposal based on computer simulation models that assume implementation of the environmental flow requirements specified in the Department of the Interior Final Administrative Proposal on the Management of Section 3406(b)(2) Water. (*See* Appendix G at 21-22.) However, as discussed above, the *San Luis & Delta Mendota Water Authority* decision renders this assumption improper. Consequently, the impact analysis performed in the DEIR is fundamentally flawed. The DEIR must be withdrawn so that the Water Forum's position concerning the IPFFR and the Proposal's impacts can be reevaluated. N-12

VI. THE ALTERNATIVES ANALYSIS PRESENTED IN THE DEIR IS FLAWED, AND RENDERS THE ENTIRE DOCUMENT LEGALLY INSUFFICENT.

The DEIR also violates the requirements of CEQA by not analyzing an adequate range of alternatives. CEQA requires an EIR to "consider a reasonable range of alternatives to the project or the location of the project which (1) offers substantial environmental advantages N-13

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over the project proposal . . . ; and (2) may be feasibly accomplished in a successful manner considering the economic, environmental, social and technological factors involved." (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 566.) CEQA Guidelines require that a draft EIR must "describe a range of reasonable alternatives to the proposed project, or to the location of the project, that could feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects on the project, and evaluate the comparative merits of the alternatives." (CEQA Guidelines § 15126(d).)[1] Moreover, CEQA Guidelines require "the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly." (CEQA Guidelines § 15126(d)(1) (emphasis added).)

The DEIR fails to contain an adequate range of alternatives. The most obvious shortcoming is the DEIR's failure to consider an alternative limiting growth. A lower-growth alternative would lower the projected water demands, and lessen many environmental impacts beyond those discussed for the other alternatives considered. The DEIR states that the Water Forum Proposal's

N-13

> coequal objectives are to 1) provide a reliable and safe water supply for the region's economic health and planned development through the year 2030; and 2) preserve the fishery, wildlife, recreational and aesthetic values of the Lower American River, alternatives to the project, like the WFP itself, need to be capable of providing alternative water supplies in an environmentally sensitive manner.

(DEIR at 5-1.)

The project objective of a water supply to sustain planned development does not preclude the analysis of a lower-growth alternative. In fact, under *Goleta, supra*, 52 Cal.3d 553, and the Guidelines, CEQA requires a lower growth alternative because that alternative would offer substantial environmental advantages over the project proposal and could be feasibly accomplished in a successful manner considering the economic, environmental, social and technological factors involved.

The water conservation element of the DEIR is wholly inadequate. In fact, the Sacramento metropolitan area has one of the highest per capita uses of water in the state. Thus, a reduction of use of approximately 25% is too low. The goal should be to reduce use to levels

N-14

[1] The Guidelines for California Environmental Quality Act are codified at Title 14, Chapter 3, of the California Code of Regulations, §§ 15000-15387 (hereinafter referred to as "CEQA Guidelines").

comparable to other similarly situated areas of the state. For example, the DEIR reflects the fact that the City of Sacramento for the most part does not have, nor will it force the use of water meters. Nonetheless, use of water meters coupled with tired pricing would likely significantly increase water conservation in the region and could lessen environmental impacts. The EIR should analyze a separate conservation alternative so that the true benefits of conservation are realized. N-14

The DEIR is also inadequate because it does not evaluate an alternative that would meet the 2030 water needs through water transfers. Such an alternative would likely satisfy the objectives of the Water Forum with less impact to society and the environment. This failure to analyzing an adequate range of alternatives is in direct violation of CEQA and prohibits certification of the DEIR until such error is remedied. N-15

VII. THE DEIR IMPROPERLY RELIES UPON COUNTY AND WATERSHED OF ORIGIN PROTECTIONS TO MITIGATE THE SIGNIFICANT IMPACTS THAT THE WATER FORUM PROPOSAL WILL HAVE ON CVP AND SWP DELIVERIES.

The DEIR misstates the law relating to the county and watershed of origin protections. Correction of these serious errors and a re-evaluation of the impacts that the Water Forum proposal will have on CVP and SWP deliveries must occur prior to certification.

A. The DEIR Discussion Relating To The County Of Origin Provision Grossly Overstates The Protection Provided Therein.

The DEIR states:

> . . . the WFP contemplates the diversion and use of American River water to primarily benefit interests in Sacramento, El Dorado and Placer counties. The American River flows through these counties. As a consequence, these counties are . . . guaranteed a priority of right to water senior to the water rights held by CVP and SWP . . .

N-16

(DEIR at 4.3-9.)

This provision of the DEIR, however, grossly overstates the applicability of the county of origin protection. The "county of origin" provision, Water Code Section 10505, protects only the county or counties in which the appropriated water "falls in the form of precipitation," not those counties in which the water flows. (*See* Water Code § 10505; 25 Ops.Atty.Gen. 8, 17 (1955).) Furthermore, "the extent of the preference is limited to the

aggregate amount of water which falls in the form of precipitation upon the county in question." (25 Ops.Atty.Gen. at 18.) The DEIR must be corrected and recirculated so that the DEIR properly reflect the extent of the protection, and adequately evaluate the effect that the proposal will have on senior water right holders. N-16

B. **The DEIR Mischaracterizes The Protection Afforded By The Watershed Of Origin Provisions.**

The DEIR also improperly states that Water Code Sections 11460-63 "do not depend on prior state filings, but operate as a limitation on the state or federal agency operating the Central Valley Project." (DEIR at 4.3-10.) However, Water Code Sections 11461 and 11462 do not apply the Central Valley Project. (*See* Water Code § 11128.) Although the Attorney General acknowledged that Section 8 of the Federal Reclamation Act of 1902 provides "an affirmative election by Congress to comply with certain aspects of State law," (25 Ops.Atty.Gen. at 28 (emphasis added)), it was the opinion of the Attorney General that only "sections 11460 and 11463 are so inseparably concerned with irrigation in their application to the Central Valley Project as to fall within the purview of section 8." (25 Ops.Atty.Gen. at 28.)

Further, while Sections 10505, 11460 and 11463 are applicable to the federal government's operation of the CVP, the Bureau is not obligated to give priority to water users within an area of origin. Sections 10505, 11460 and 11463 do not limit the CVP unless and until the water users who seeks a priority based on the area of origin provisions obtain such a right from the State Water Resource Control Board. As recognized by the California Court of Appeals: N-17

> The established priority [under the area of origin protections] does not create an individual 'water right' but rather a grant which is wholly inchoate. As the needs of a watershed inhabitant develop, he must make and perfect a regular application to appropriate water . . . .

(*United States v. State Water Resources Control Bd.* (1986) 182 Cal.App.3d 82, 139 (internal citations omitted).)

The United States Supreme Court, in *City of Fresno v. California* 372 U.S. 627 (1963), issued an earlier opinion consistent with this position. In that case, the Supreme Court concurred with the decision of the Court of Appeals to refuse to decide a claim of priority raised by an area of origin water user until "'such rights have been established in accordance with state law. . . .'" (*Id.* at 629 (*quoting State of California v. Rank*, 293 F.2d 340, 360 (9th Cir. 1961).) As the Supreme Court made plain: "[t]he effect of [the Reclamation Act of 1902] in such a case

is to leave to state law the definition of the property interests, if any, for which compensation must be made." (*City of Fresno v. California, supra,* 372 U.S. at 630.) N-17

C. **Even If The Area Of Origin Protection Is Recognized By The State Water Resource Control Board, The Water User Within An Area Of Origin Must Provide Adequate Compensation For The Benefits Received Before The Water User Obtains The Right To Such Water.**

The DEIR fails to recognize that even when a user of water within an area of origin obtains a water right, such user shall provide adequate compensation for the benefits received from the project works. (*See United States v. State Water Resources Control Bd., supra,* 182 Cal.App.3d at 139.) The California Court of Appeal, in *United States v. State Water Resources Control Bd.,* noted: "if [the needs of water users in the area of origin] can only be met by augmentation of the natural flow, then the watershed inhabitant must pay compensation to the projects." (*Id.* (citing 25 Ops.Cal.Atty.Gen. 8, 23-24 (1955) (emphasis added).) The diversion amounts contemplated by the Water Forum cannot occur without storage and augmentation of the natural flow. Thus, compensation is required before CVP storage can be used. The DEIR must be revised to clarify the law. N-18

D. **The DEIR Inaccurately References The Language Of The Acts Authorizing Auburn Dam and Folsom Dam To Support The Position That The State Area Of Origin Protections Apply To The Federal Government.**

Although the DEIR correctly notes that both authorizing acts for Auburn and Folsom dams require the Secretary of the Interior to conduct studies of ways to make full use of the American River water, taking into account the water laws of the State of California, including laws giving priority to users of water in the areas of origin, (*see* American River Act, 63 Stat. 852, § 2; Pub. Law 89-161, 79 Stat. 615, § 5), this requirement applies only to the studies of use. (*See* American River Act, 63 Stat. 852, § 2; Pub. Law 89-161, 79 Stat. 615, § 5.)

Congress made plain that, pursuant to the American River Act of Oct. 14, 1949, 63 Stat. 852, the Folsom Dam and Reservoir and "other features of the American River development" shall be operated and maintained "all in accordance with the Federal reclamation laws (Act of June 17, 1902, 32 Stat. 388, and Acts amendatory thereof or supplementary thereto)." (American River Act of Oct. 14, 1949, 63 Stat. 852, § 2.) The act authorizing the Auburn-Folsom South unit uses identical language. (*See* Pub. Law 89-161, 79 Stat. 615, § 1) (declaring that the Secretary of the Interior has the authority to construct, operate and maintain the Auburn-Folsom South unit "pursuant to the Federal reclamation laws (Act of June 17, 1902, 32 Stat. 388, and Acts amendatory thereof or supplementary thereto").) As discussed above, actions taken in accordance with the Federal reclamation laws are not subject to those protections N-19

unless and until the State Water Resource Control Board grants water users within the county of origin or watershed of origin a permit to appropriate water. N-19

E. **Because Of The Errors Made In The Discussion Of Area Of Origin Protections, The Final Conclusion Of The Section Is Legally Inadequate And Unsupported.**

The DEIR relies, improperly, upon the county of origin and watershed of origin protections to conclude: "The net result of the application of these statutory and policy protections is to ensure that even if the WFP has a significant adverse effect upon CVP and SWP customers, the WFP may proceed." (DEIR at 4.3-11.) As discussion above, those water users within the area of origin cannot obtain a priority over CVP customers unless and until the State Water Resource Control Board grants such a right, and if such a right is obtained, until adequate compensation is provided for the benefit received. Given the DEIR finding that the impacts to CVP and SWP deliveries will be significant and the grave errors in the application of the County and Watershed of Origin protections, the DEIR is legally inadequate. N-20

VIII. **THE DEIR FAILS TO ADEQUATELY EVALUATE THE IMPACTS THAT THE PROPOSAL WOULD HAVE ON THE ABILITY TO MEET WATER QUALITY OBJECTIVES.**

The DEIR analysis of the impacts of the proposal on water quality is legally inadequate. As used in the Water Forum proposal, PROSIM simulates monthly operations of the CVP and SWP in most years only after instream diversions have been met. In other words, in most years PROSIM is operated to first meet the water demands of the Water Forum participants before the CVP and SWP are used to meet water quality objectives. Thus, operation of PROSIM in this manner circumvents consideration and quantification of the impacts of Water Forum diversions on water quality requirements. This mischaracterization of impacts results in a DEIR that is legally inadequate. N-21

The DEIR ignores the effects of the proposal on the ability to meet the water quality standards for the Sacramento-San Joaquin Delta and other areas. The section of the DEIR discussing impacts on water quality must model and analysis the affects that the diversions contemplated in the Water Forum proposal will have on the ability to meet salinity standards in the Delta, American River flow requirements and other relevant regulations. Until such modeling occurs and the specific impacts of the water diversions are understood, the DEIR cannot comply with the requirements of CEQA. The impacts caused by the proposal on water quality must be included in the DEIR and the document recirculated for additional public review.

IX. THE DEIR IS FLAWED AND MUST BE RECIRCULATED BECAUSE IT RELIES ON OUTDATED AND INACURATE HYDROLOGIC MODELING.

The DEIR uses Reclamation's PROSIM 6.0(a) to model the impacts of the Water Forum Proposal. However, it is well known that the latest and most accurate PROSIM model is Reclamation's PROSIM 99. PROSIM 99 has been available for some time and was certainly available several months prior to the release of the Water Forum DEIR. Previous versions of PROSIM used by Reclamation contain significant errors and overestimated available water supply to the CVP. One of the primary nodes revised in PROSIM 99 is Node 13, which encompasses much of the American River Basin. The inaccuracies present in Node 13 are significant. While it may be true that the DEIR's use of PROSIM 6.0(a) already accounts for the errors in previous PROSIM versions, this is not apparent when reading the DEIR, and it is less than clear when reviewing Appendix G (Modeling Technical Appendix).

If the DEIR relied on an inaccurate PROSIM model, there is little question the document should be withdrawn, new modeling completed and the document recirculated. If, on the other hand, PROSIM modeling is equivalent to PROSIM 99, this should be discussed in greater detail so that the public can examine those details and make an independent determination on the accuracy of the modeling. N-22

There are other concerns with the PROSIM modeling effort. As previously discussed, the assumption that the Water Forum Proposal diversions can rely on county and area of origin water rights is flawed. It is clear that county and area of origin water rights would not allow the Water Forum participants to simply divert water whenever and however they please, subject only to the Hodge Decision. Diversions are subject to the normal State Water Resources Control Board water rights process and, if a permit were issued at all, the diversions would be subject to conditions. Moreover, as previously explained, the diversions cannot take advantage of storage facilities such as Folsom Reservoir, built and paid for by others, without compensation. Thus, the modeling is flawed in that the monthly diversions do not take these all-important factors into account. Since the heart of the DEIR is the PROSIM modeling, and the Water Forum Proposal diversion patterns are fatally flawed, it follows that the modeling is also flawed. Because the PROSIM modeling is the lynch pin of the DEIR's impact analysis, the entire document is defective and cannot be certified.

X. THE DEIR FAILS TO ADEQUATELY ANALYZE PROJECT IMPACTS SOUTH OF THE DELTA.

CEQA require a DEIR to identify and focus on the possible significant impacts of the Water Forum proposal. (CEQA Guidelines § 15126(a); Cal. Pub. Res. Code § 21002.1(a).) The DEIR must clearly identify and discuss direct and indirect impacts expected to occur both in N-23

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the short term and the long term. The DEIR fails to accomplish this necessary element of CEQA, because it ignores substantial evidence that the proposal will cause shortages in the CVP water supply to Westlands. The DEIR is woefully lacking of any analysis of the water shortages, which will develop as a result of the project. The following are impacts which Westlands will suffer because of a reduction in CVP/SWP exports:

A. Fallowed Land Impacts

The average quantity of water needed to produce a crop on land within the District is approximately 2.5 acre-feet/acre. Therefore, for every 1,000 acre-feet of water supply reduction, 400 acres of land is removed from production. The average annual gross crop value is $1,400 per acre of land within the District. Thus, the lost revenue resulting from the fallow 400 acres is approximately $560,000. In addition, it is estimated that one full time farm worker is required for every 80 acres of land in production. Therefore, for that same 400 acres removed from production, five people will probably become or remain unemployed. (Aside from these consequences, the increase in fallow acreage will also result in increased dust emissions.) If the reduced water supply from the implementation of the Water Forum proposal cannot be made up by groundwater pumping or from transfers, the likely impact of the proposed operations is the fallowing of land within Westlands.

N-23

B. Operations and Maintenance Cost Impacts

Reduced water supplies also affect Westlands' landowners in other ways. Westlands operations and maintenance costs ("O&M") are paid primarily through the water rate set each year by the District. When water supplies are reduced, two things result. First, to cover the O&M costs, a higher water rate must be set for water delivered by the District. Second, if the reduction in water supply is too severe to pay for normal O&M costs, the costs must be reduced by deferring planned maintenance and or replacement of the District's facilities. Deferral of O&M increases the risk of equipment breakdown and service interruption to District landowners.

C. Subsidence Damage

The reduced allocation of water will also impact the groundwater basin underlying the District particularly in the long run. The reduced allocation will necessitate increased reliance on the pumping of groundwater. Such increased pumping can lead to an overdraft of the basin, which in turn could lead to land subsidence. During hundreds of thousands of years, the ground surface elevation of the west side of the San Joaquin Valley was established by the deposition of sedimentary soils. Much of the space between the soil particles in the sediments is naturally filled with water. When water is removed from the spaces between the soil particles, particularly the silt and clay materials where "water of compaction" can be squeezed out, the silt and clay soils compact into a smaller volume than they previously

occupied. This results in subsidence of the ground surface in the area where the water is extracted. This subsidence can have many severe impacts, such as:

1. Groundwater wells may be destroyed. Subsidence occurs unevenly and creates enormous stresses on well casings, which often extend 1,000 to 2,000 feet below the ground surface. These uneven stresses will sometimes collapse the casing or shear forces will break the casing. Once such a collapse or break occurs, the well must be totally abandoned and a new hole drilled and outfitted; and

2. There will be an additional irreversible impact on the water resources on the west side of the San Joaquin Valley in that the water holding capacity of the underground materials will be permanently reduced as a result of compaction of the materials.

D. Groundwater Impacts

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In addition to the subsidence damage, an increase in the rate of groundwater extraction, particularly in the western area of the District, may make it necessary to substantially modify many wells in that area. In many cases, it will be necessary to lower the bowl units on some of the deep well pumps by extending the column so that adequate submergence is maintained. This will be necessary so that even reduced production from the well can continue. In some instances, the bowl units will have to be replaced and larger motors installed so that production from the well can be maintained.

E. Water Quality

Increased pumping will also decrease the quality of the water applied to the soil. Application of poor quality water increases soil salinity and decreases crop yields (Increased pumping will also result in an increase in demand for and usage of energy.)

XI. THE DEIR DOES NOT ADEQUATELY MITIGATE THE IMPACTS THAT THE PROPOSAL WILL CAUSE AND IMPERMISSIBLY DEFERS THE OBLIGATION TO IMPLEMENT MITIGATION MEASURES TO OTHER CVP/SWP WATER USERS.

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Contrary to CEQA requirements, the DEIR fails to mitigate the impacts of the proposal and improperly defers this obligation to other CVP/SWP water users. CEQA requires agencies to adopt feasible mitigation measures to substantially lessen or avoid otherwise significant impacts that are caused by the specific project or proposal evaluated in the DEIS. (*See* Cal. Pub. Res. Code §§ 21100, 21081 (a); CEQA Guidelines §§ 15002 (a)(3), 150021(a)(2),

15091(a)(1), 15126.4.) To meet this requirement, the DEIR must set forth in sufficient detail mitigation measures for the Water Forum proposal that the lead agencies can adopt at the findings stage of the CEQA process. (Cal. Pub. Res. Code § 21100(b)(3); CEQA Guidelines § 15126.4.) The DEIR fails this requirement.

> The DEIR takes the incredible and legally indefensible position that
>
> USBR may be required to operate its dams and reservoirs differently under future conditions, including when purveyors in the Water Forum exercise their water entitlements (i.e., senior water rights and CVP water rights). USBR's changed operation could affect their ability to meet their environmental and water delivery obligations including portions of the Sacramento River and Delta resources.

(DEIR at 4.1-9-10.) In other words, the DEIR opines that Water Forum participants can simply take water away from the CVP and the CVP is responsible for mitigating those effects.

> This position is further illustrated in the DEIR as follows:
>
> When purveyors in the American River watershed exercise area of origin water rights, it will reduce the amount of water available from Folsom Reservoir for use by USBR in meeting Sacramento River and Bay-Delta environmental and water delivery obligations. The USBR will have to operate its entire system, including Shasta and Folsom Reservoirs, differently in order to meet those obligations. Unless additional supplies are developed or diversions are reduced, this would result in impacts on the Sacramento River, above and below the American River, and the Bay-Delta.
>
> The USBR will be involved in almost all of the diversion projects included in the [Water Forum Project]. In some cases, the USBR needs to issue a contract for a new water supply. In other cases, it has to sign a Warren Act agreement or grant a right-of-way.
>
> In order to take any of these actions, the USBR is required to consult with the resources agencies under Section 7 of the Endangered Species Act (ESA). In addition to Water Forum actions, the consultation will also cover the USBR's entire Operational Criteria and Plan (OCAP) for the Central Valley Project.

N-24

> Under the ESA, the USBR is prohibited from taking any actions that will jeopardize the continued existence of threatened or endangered species. Resource agencies participate in the ESA process by developing biologic objectives for species listed or proposed for listing. Biological objectives serve as specific performance criteria which are included in the biological opinions under the ESA. The USBR is required by the ESA to operate the Central Valley Project in a way that meets the biologic objectives set for each species listed or proposed for listing.
>
> Because resource agencies are in the process of developing these biological objectives, it is impossible to specify performance criteria at this time. That uncertainty is combined with uncertainty over the extent and effectiveness of several future actions to protect Sacramento River and Bay-Delta resources. Therefore, it is impossible at this time to formulate specific mitigation measures for Sacramento River or Bay-Delta aquatic impacts or to assign responsibility for the mitigation.

N-24

(DEIR at 4.1-12-13.)

This position is incredulous. It is implementation of the Water Forum project that impacts the Sacramento River and Bay Delta environment and not operation of the CVP. Thus, any mitigation for environmental impacts is the responsibility of the Water Forum participants and not the CVP. The DEIR's position is absolutely contrary to CEQA, nor can it be reconciled with the National Environmental Policy Act ("NEPA"), or the Endangered Species Act. This major flaw of logic renders the DEIR deficient.

This dilemma is precisely why CEQA requires that project impacts for the "whole project" (including mitigation measures) be identified and discussed before project approval. Again, to be legally sufficient, the DEIR must analyze at the project level all features of the proposed project and propose and analyze mitigation measures for the accompanying impacts.

XII. THE DEIR FAILS TO INCLUDE A DETAILED ANALYSIS OF MITIGATION MEASURES THAT WILL MINIMIZE A SIGNIFICANT EFFECT OF THE PROPOSAL ON CVP WATER SUPPLIES.

N-25

As discussed above, the DEIR fails to adequately consider the substantial evidence that the proposed project will have a significant impact on the CVP water supplies, particularly as it relates to the District. This flaw is carried forward by failing to include a detailed analysis of mitigation measures that will avoid or minimize the significant affects of the

proposed project on the District and other water users. (Pub. Res. Code § 21100(b)(3).) This letter contains a list of potentially significant impacts for which mitigation measures must be proposed. If the proposed project contained adequate conditions such that no water would be delivered under the project unless landowners in Westlands receive their full water supply, many of the potential impacts contained in this letter would be avoided. However, the DEIR does not contain such a measure and in fact, incorrectly states that no mitigation is needed to avoid or minimize the significant affects to the CVP water supply. This incorrect statement must be rectified. N-25

XIII. THE DEIR DOES NOT ADEQUATELY ADDRESS GROWTH-RELATED IMPACTS.

CEQA requires that an EIR:

> Discuss ways in which the proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment.

(CEQA Guidelines § 15126(g).) The land use and growth-inducing impacts cannot be properly evaluated without an accurate prediction of population growth. Section 4.10 of the DEIR discusses growth in uncertain terms. No data is presented to justify the "stakeholder representatives' recommendation for the amount of surface water that each purveyor will divert in most years." (DEIR at 3-9.) Until such data are incorporated into the DEIR, it is impossible to evaluate the impacts of growth, and any such discussion will be inadequate, per se. N-26

XIV. THE DEIR DOES NOT ADEQUATELY DISCUSS CUMULATIVE IMPACTS.

Although the DEIR does an admirable job of identifying and discussing many cumulative impacts, it still falls short in many areas. In particular, since the overall study area was inadequate, As it does not extend to areas south of the Delta, many cumulative effects for those areas are ignored. Many of the impacts to Westlands previously identified will also affect Westlands and other areas in a cumulative manner. Failure of the DEIR to discuss those impacts results in an inadequate cumulative impacts analysis. For example, DEIR section 6.13 discusses cumulative soils and geology impacts. The forced fallowing of land will result in cumulative impacts to Westlands and other areas due to increased soil erosion by wind, loss of soil cover and major subsidence. N-27

CEQA and NEPA require the DEIR to address the cumulative impacts of a project when they are significant. A legally adequate impact analysis is an analysis of a particular project viewed over time and together with other related past, present and reasonable foreseeable probable future projects whose impacts might compound or interrelate with the

proposed project. (*Environmental Protection Information Center v. Johnson* (1985) 170 Ca.App.3d 604, 625.) The impacts just discussed have not been adequately analyzed for their cumulative effects. N-27

XV. CONCLUSION

For the reasons set forth in this letter, it is apparent that the DEIR is legally inadequate and does not comply with the provisions of CEQA. The primary reasons for this failure is that the DEIR project alternatives analysis is flawed and incorrectly states the law concerning the county and area of origin protections. Until a complete and adequate DEIR can be completed, the Water Forum should withdraw the DEIR until such time that the DEIR can be corrected. N-28

The flaws in the DEIR are substantial, and correcting them will significantly change the document. Therefore, recirculation of the DEIR is required to comply with CEQA.

Your consideration of these comments is appreciated.

Sincerely,

KRONICK, MOSKOVITZ, TIEDEMANN & GIRARD
A Professional Corporation

Jon D. Rubin
Attorneys for Westlands Water District

cc: David Orth
555785.1

KRONICK MOSKOVITZ TIEDEMANN & GIRARD

N-1 Comment noted.

N-2 The WFP Draft EIR on the WFP was prepared pursuant to and in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000, *et seq*., and CEQA Guidelines, California Code of Regulations Section 15000, *et seq*. Responses to specific comments on the analysis are provided below.

N-3 Comment noted.

N-4 See response to comment N-2. Responses to specific comments on the analysis are provided below.

N-5 See response to comment N-2. As described in Section 1.4 of the WFP Draft EIR, the document on the Water Forum Proposal is a Program EIR in that it assesses the impacts of the overall program–the Elements of the WFP. State CEQA Guidelines [§15168(b)] encourage the use of Program EIRs in order to provide for a more exhaustive consideration of impacts and alternatives than would be practical in an individual EIR; focus on cumulative impacts; avoid continual reconsideration of recurring policy issues; consider policy alternatives and programmatic mitigation measures at an early stage in the process; and, reduce paperwork by encouraging tiering.

The WFP is a regional water plan that contains provisions for surface water diversion, dry-year cutbacks, conjunctive use, water conservation, and other elements. Detailed modeling has been conducted to determine impacts to fisheries, water supply, water quality, groundwater, and other areas as a result of the program. It is acknowledged in the WFP Draft EIR that additional facilities will be required in the future for WFP implementation and that sufficient detail is not yet available for detailed analysis of project-specific impacts; accordingly it would be unreasonable to speculate regarding such impacts in this EIR. Project-specific impacts of these projects and facilities (e.g., construction of pipelines and other facilities) would be addressed in subsequent environmental documentation.

N-6 The study areas for purposes of analysis of the WFP are defined on pages 3-1 through 3-4 of the WFP Draft EIR. The commentor states that because exports from the Delta would be affected by implementation of the WFP the study area "must include all areas that are served by the CVP and the [SWP]."

As a regional water plan, it is acknowledged that the WFP can have far-reaching effects, yet it is important to define a reasonable study area on which to focus the impact analysis. The study area as defined in the WFP Draft EIR is reasonable because it includes the service

continued ...

areas in which the water addressed by the WFP would be used (much of Sacramento, Placer, and El Dorado counties), as well as the local and upstream water bodies and water courses of the CVP and SWP through which the water would be conveyed.

Definition of "study areas" in a WFP Draft EIR does not preclude disclosure of impacts beyond those boundaries. The WFP Draft EIR includes assessment of impacts outside of the study area in all instances where it is reasonable to do so, including water supply, fisheries and aquatic resources, water quality, and power supply. For example, project-related and cumulative water supply impacts to CVP and SWP contractors–which are located throughout the state–are evaluated in Sections 4.3 and 6.3 of the WFP Draft EIR, respectively. Assessment of impacts to each SWP and CVP contractor, such as Westlands Water District, as a result of operational decisions by DWR and USBR would be speculative and beyond the purview of the Water Forum EIR.

N-7 Proposed diversions for each purveyor in the Water Forum are shown in Table 3-1a and 3-1b in the WFP Draft EIR. Additional details on each diversion, including diversion patterns by each purveyor is included in Volume 2 of the WFP Draft EIR, Appendix G: Modeling Assumptions. Additional detail on total demands and diversion patterns for all CVP, SWP and WFP purveyors is also included in Appendix G.

N-8 The information needed to assess water supply impacts is contained in Section 4.3 of the WFP Draft EIR, which includes results from the PROSIM modeling. The commentor is correct in noting that the monthly data are contained in Appendix I.

At the request of the commentor, the following tables have been prepared based on the data in Appendix J. The tables show projected monthly water delivery changes under the future cumulative condition (i.e., at year 2030), relative to the Base Condition, for each contractor type by geographic location. The tables include:

1. CVP North of Delta Agricultural Contractor Water Delivery Effects
2. CVP North of Delta M&I Contractor Water Delivery Effects
3. CVP South of Delta Agricultural Contractor Water Delivery Effects
4. CVP South of Delta M&I Contractor Water Delivery Effects
5. CVP North of Delta Total Contractor Water Delivery Effects
6. CVP South of Delta Total Contractor Water Delivery Effects

Monthly delivery changes (i.e., increases or reduction, relative to the Base Condition) are presented over the complete hydrologic period of record (1922 through 1990). Yearly totals are summed by both water year and contract year. The results confirm the conclusions presented in the WFP Draft EIR regarding potential delivery shortfalls to CVP customers under the future cumulative condition (which includes the Water Forum Proposal)

N-9 As discussed in Section 4 of the WFP Draft EIR, regional water demands used in the WFP are based on empirical data. Section 4.10 at page 4.10-15 (Land Use and Growth-inducing Impacts) explains that water demand assumptions were developed by Boyle Engineering Corporation for Sacramento County. The Boyle study used current, documented and projected land uses, along with the level of water demand per acre projected for each category of land use, to develop future projections of water demand. Future land uses were projected based on the land use designations in the general plans of the County of Sacramento, and the cities of Sacramento, Folsom, and Galt. Projected water demands were compared with projections developed by DWR using population growth projections supplied by the Department of Finance and were found to be generally consistent. Population projections were then used to refine demand volumes.

Water demand projections for western El Dorado County were derived in part from studies prepared in support of the American River Water Resources Investigation undertaken by USBR and the Sacramento Metropolitan Water Authority. For Placer County, projected water demand was derived by the Placer County Water Agency using population projections of the general plans of Placer County and incorporated cities within its service area.

Full disclosure and discussion of the region's future population and water demands are included in Section 4.10, Land Use and Growth-inducing Impacts. The data described are the bases for recommendations referenced in the comment.

CVP North of Delta Agricultural Contractor Water Delivery Effects (Excludes American River)

Future (2030) Cumulative with WFP Condition versus Current (1998) Base Condition without WFP
(+) plus sign indicates greater delivery in the 2030 Cumulative with WFP Condition
(-) minus sign indicates reduced delivery in the 2030 Cumulative with WFP Condition
Values are Thousands of Acre-Feet

WY	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Water Year	Contract Year
1922	0.3					-0.3	-3.8	-0.3	0.3	1.8	1.7	3.0	2.7	2.1
1923	-0.3					-2.9	-10.7	-15.6	-16.5	-16.9	-14.8	-0.8	-78.5	-80.1
1924	-1.7	-0.2				-0.4	-3.8	-3.9	-4.2	-4.0	-3.5	-1.1	-22.8	-20.9
1925							-8.9	-12.7	-18.8	-20.4	-17.7	-2.4	-80.9	-83.5
1926	-2.6					-0.3	-1.3	-3.8	-4.9	-4.8	-4.2	-1.3	-23.2	-20.8
1927	-0.2					-0.1	-4.0	0.1	1.4	3.1	3.2	3.8	7.3	7.4
1928	-0.1						-3.6	-1.1	-0.8	0.5	0.5	2.3	-2.3	-2.3
1929	-0.1					-0.2	-6.6	-8.1	-7.1	-8.6	-7.6	-2.3	-40.6	-41.8
1930	-1.1	-0.2					-2.3	-3.7	-4.8	-4.7	-4.2	-0.7	-21.7	-20.9
1931	-0.5					-0.7	-3.8	-3.3	-3.7	-4.2	-3.7	-1.2	-21.1	-21.0
1932	-0.4					-0.5	-7.0	-6.6	-8.3	-8.5	-7.4	-1.9	-40.6	-41.5
1933	-1.2	-0.1				-0.4	-3.7	-3.5	-4.1	-4.1	-3.6	-1.1	-21.8	-21.0
1934	-0.3	-0.2				-0.1	-3.1	-3.8	-4.2	-4.4	-3.8	-1.2	-21.1	-20.9
1935	-0.3						-6.6	-19.9	-24.4	-23.9	-21.1	-5.1	-101.3	-102.0
1936	-1.0						-10.7	-15.3	-16.3	-18.3	-16.0	-3.6	-81.2	-83.4
1937	-2.4	-0.6			-0.2		-8.9	-12.6	-12.9	-13.4	-11.6	-2.5	-65.1	-62.2
1938	-0.3						-2.7	1.4	3.2	4.2	4.2	2.8	12.8	10.7
1939	-0.1	-0.2			-2.1	-1.0	-4.0	-3.1	-4.2	-4.0	-3.6	-0.5	-22.8	-20.9
1940	-0.4	-0.1					-3.2	-0.1	2.3	3.7	3.4	3.7	9.3	9.8
1941							-1.9	1.7	5.9	8.0	7.4	4.5	25.6	25.1
1942	-0.5						-1.5	1.4	6.1	7.1	6.9	4.5	24.0	24.8
1943	0.3						-3.2	0.1	0.6	2.5	2.5	3.5	6.3	6.0
1944						-0.5	-13.9	-17.1	-21.5	-23.1	-20.3	-6.5	-102.9	-104.6
1945	-1.7						-7.6	-6.5	-7.5	-6.7	-5.5	0.6	-34.9	-33.2
1946						-0.5	-16.1	-14.2	-15.7	-14.7	-13.3	-2.2	-76.7	-78.4
1947	-1.7						-11.6	-15.2	-15.3	-18.9	-16.6	-5.5	-84.8	-83.5
1948					-0.4	-0.6	-1.2	0.7	5.0	8.9	7.8	3.3	23.5	23.8
1949	-0.1					-0.2	-17.4	-20.5	-26.4	-25.8	-22.6	-6.1	-119.1	-122.9
1950	-3.7				-0.2	-0.4	-12.2	-11.0	-11.8	-11.0	-9.8	-0.7	-60.8	-57.0
1951	-0.1					-0.4	-4.2	-1.1	1.3	2.4	2.3	3.2	3.4	3.3
1952	-0.2						-3.1		-0.3	2.6	2.6	3.1	4.7	5.3
1953	0.4					-1.0	-3.3	-0.5	1.4	4.1	3.4	4.3	8.8	8.5
1954	0.1						-3.0	1.1	0.5	2.5	0.9	3.2	5.3	5.2
1955						-1.6	-8.9	-11.8	-13.0	-12.9	-11.3	-1.7	-61.2	-62.5
1956	-1.3						-3.7	-1.1	1.1	3.3	3.4	3.7	5.4	6.4
1957	-0.1	-0.2				-0.5	-3.6	-0.9	2.1	3.3	3.2	-0.4	2.9	2.9
1958		-0.3					-1.5	2.0	4.3	7.4	7.5	4.9	24.3	25.2
1959	0.8	-0.2				-0.7	-12.7	-10.9	-11.7	-10.9	-9.6	-0.5	-56.4	-59.0
1960	-1.6	-0.3			-0.1		-14.0	-17.3	-22.8	-22.3	-19.6	-5.9	-103.9	-104.4
1961	-2.4		-0.1				-7.1	-7.9	-8.7	-8.7	-7.4	-0.9	-43.2	-41.8
1962	-1.1						-8.5	-7.1	-6.7	-5.7	-5.3	1.1	-33.3	-32.2
1963							-1.9	2.7	6.4	7.7	7.4	5.1	27.4	27.3
1964	-0.1					-1.3	-11.8	-11.5	-11.7	-12.7	-11.0	-2.2	-62.3	-62.4
1965	-0.2					-0.8	-3.4	0.8	1.4	2.5	1.1	3.3	4.7	5.4
1966	0.5					-0.6	-13.0	-11.4	-11.9	-11.0	-9.7	-1.3	-58.4	-60.4
1967	-1.5						-2.6	3.5	4.0	7.4	6.9	4.7	22.4	24.6
1968	0.7					-0.1	-11.6	-10.6	-11.5	-11.0	-8.9	-0.9	-53.9	-55.2
1969	-0.6						-4.2	0.1	0.2	1.3	1.6	2.6	1.0	1.2
1970	-0.4						-4.1	-0.1	-0.7	1.0	1.2	2.6	-0.5	-0.2
1971	-0.1					-1.1	-3.0	-0.2	0.8	3.0	2.9	3.0	5.3	6.1
1972	0.7					-3.7	-11.4	-9.7	-10.3	-9.0	-7.8	0.8	-50.4	-51.1
1973							-3.5	-0.9	-0.4	0.7	1.1	2.3	-0.7	-0.8
1974	-0.1						-2.9	1.3	2.1	1.1	3.4	4.2	9.1	8.9
1975	-0.3						-3.3	0.6	1.7	2.3	2.5	3.6	7.1	5.4
1976		-0.1			-1.9	-2.4	-6.8	-7.5	-7.9	-7.8	-5.8	-0.8	-41.0	-40.5
1977	-1.0				-0.5	-1.7	-8.1	-5.1	-8.7	-8.8	-7.8	-0.6	-42.3	-41.8
1978	-1.0						-1.5	1.9	3.2	4.2	4.1	2.1	13.0	14.7
1979	0.7						-10.5	-11.0	-11.5	-10.7	-9.5		-52.5	-53.4
1980	-0.2						-4.0	0.1	0.3	3.2	3.0	3.5	5.9	6.2
1981	-0.1	0.1		0.1			-11.8	-18.1	-24.5	-24.4	-21.4	-4.1	-104.2	-104.3
1982							-1.6	4.8	3.9	7.5	7.3	0.2	22.1	22.1
1983							-1.5	3.0	6.0	7.6	6.6	2.8	24.5	24.6
1984	0.1					-0.7	-4.1	0.9	1.1	2.4	1.9	3.0	4.6	4.1
1985	-0.4						-9.3	-12.3	-13.6	-13.8	-12.0	-0.7	-62.1	-62.6
1986	-0.9						-2.8	-1.0	1.7	2.9	2.9	2.4	5.2	6.4
1987	0.5	-0.2				-0.1	-3.2	-3.9	-4.3	-4.3	-3.8	-1.1	-20.4	-21.1
1988	-0.4					-1.4	-6.2	-6.2	-8.0	-8.7	-7.7	-2.2	-40.8	-41.8
1989	-1.2				-0.2	-0.1	-8.8	-12.7	-13.5	-14.0	-12.2	-0.1	-62.8	-61.6
1990	-0.2					-0.5	-8.0	-4.7	-9.0	-8.9	-7.4	-2.0	-40.7	-40.5

CVP North of Delta M&I Contractor Water Delivery Effects (Excludes American River)

Future (2030) Cumulative with WFP Condition versus Current (1998) Base Condition without WFP
(+) plus sign indicates greater delivery in the 2030 Cumulative with WFP Condition
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Values are Thousands of Acre-Feet

WY	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Water Year	Contract Year
1922							0.1		0.1	0.2	0.1	0.1	0.6	0.6
1923						-0.5	-0.4	-0.5	-0.4	-0.2	-0.2	-0.4	-2.6	-3.7
1924	-0.4	-0.4	-0.1	-0.1	-0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	-0.2	1.4
1925	0.1	0.1	0.1	0.1	0.1					0.1	0.1		0.7	0.2
1926						-0.5	-0.4	-0.6	-0.5	-0.3	-0.2	-0.6	-3.1	-4.5
1927	-0.4	-0.4	-0.2	-0.2	-0.2				0.2	0.3	0.2	0.2	-0.5	0.9
1928														
1929						-0.3	-0.4	-0.4	-0.3	-0.1	-0.1	-0.4	-2.0	-3.3
1930	-0.4	-0.3	-0.2	-0.2	-0.2	-0.4	-0.5	-0.6	-0.5	-0.3	-0.2	-0.6	-4.4	-4.6
1931	-0.5	-0.4	-0.2	-0.2	-0.2		0.1	0.2	0.1	0.1	0.1	0.1	-0.8	1.2
1932	0.1	0.1	0.1	0.1	0.1	-0.2	-0.2	-0.2	-0.1			-0.1	-0.3	-1.3
1933	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.3	-0.3	-0.2	-0.2	-0.1	-0.2	-2.0	-1.9
1934	-0.2	-0.2				0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	1.3
1935	0.1	0.1	0.1	0.1	0.1	-0.4	-0.4	-0.6	-0.5	-0.3	-0.2	-0.6	-2.5	-4.4
1936	-0.4	-0.4	-0.2	-0.2	-0.2	-0.4	-0.4	-0.6	-0.4	-0.3	-0.3	-0.6	-4.4	-4.2
1937	-0.5	-0.4	-0.1	-0.1	-0.1	-0.3	-0.4	-0.4	-0.3	-0.2	-0.1	-0.4	-3.3	-3.0
1938	-0.3	-0.3	-0.1	-0.1	-0.1		-0.1	0.1	0.2	0.3	0.2	0.1	-0.1	0.8
1939						-0.4	-0.6	-0.5	-0.4	-0.2	-0.2	-0.5	-2.8	-4.3
1940	-0.5	-0.4	-0.2	-0.2	-0.2			0.1	0.2	0.3	0.2	0.2	-0.5	1.0
1941									0.2	0.3	0.2	0.1	0.8	0.8
1942									0.2	0.3	0.2	0.2	0.9	0.9
1943								0.1		0.2	0.1	0.1	0.5	0.5
1944						-0.2	-0.3	-0.3	-0.2	-0.1	-0.1	-0.2	-1.4	-2.4
1945	-0.2	-0.2	-0.2	-0.2	-0.2		0.1		0.2	0.2	0.2	0.1	-0.2	0.8
1946														
1947						-0.3	-0.4	-0.5	-0.3	-0.2	-0.2	-0.5	-2.4	-3.6
1948	-0.3	-0.3	-0.2	-0.2	-0.2			-0.1	0.1	0.2	0.2		-0.8	0.4
1949						-0.5	-0.7	-0.7	-0.6	-0.3	-0.3	-0.7	-3.8	-5.5
1950	-0.6	-0.5	-0.2	-0.2	-0.2						0.1	0.1	-1.5	0.2
1951									0.2	0.3	0.3	0.2	1.0	1.0
1952							0.1	0.1		0.2	0.2	0.1	0.7	0.8
1953	0.1							-0.1	0.1	0.3	0.2	0.2	0.8	0.7
1954							-0.1	0.2	0.1	0.3		0.2	0.7	0.7
1955							-0.1						-0.1	-0.1
1956						0.1		-0.1	0.2	0.3	0.2	0.2	0.9	0.9
1957								-0.1	0.2	0.3	0.2		0.6	0.6
1958									-0.1	0.2	0.2	0.2	0.5	0.6
1959	0.1					-0.1	-0.1	-0.2	-0.1		-0.1	-0.1	-0.6	-1.3
1960	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1			-0.1	-1.3	-1.0
1961	-0.2	-0.1						-0.1	0.1	0.1		-0.1	-0.3	0.0
1962							0.1		0.1	0.3	0.1	0.1	0.7	0.7
1963								0.1	0.2	0.3	0.2	0.2	1.0	1.0
1964						-0.4	-0.4	-0.5	-0.3	-0.1	-0.1	-0.5	-2.3	-3.5
1965	-0.3	-0.3	-0.2	-0.2	-0.2			0.1	0.1	0.2		0.1	-0.7	0.5
1966														
1967								0.1	0.1	0.3	0.2	0.2	0.9	0.9
1968								0.2	0.1	0.2		0.1	0.6	0.6
1969										0.1	0.1		0.2	0.2
1970							0.1			0.1		0.1	0.3	0.3
1971									0.1	0.3	0.2	0.1	0.7	0.8
1972	0.1						0.1	0.1	0.2	0.4	0.3		1.2	1.1
1973							0.1			0.1			0.2	0.2
1974								0.2	0.2	0.1	0.2	0.2	0.9	0.9
1975								0.2	0.2	0.1	0.2	0.2	0.9	0.9
1976							-0.1	0.1	0.1		-0.1	-0.1	-0.1	-0.1
1977														
1978								0.2	0.1	0.2	0.1	-0.1	0.5	0.6
1979	0.1							0.1	0.2	0.3	0.1	0.1	0.9	0.8
1980							-0.1	0.1		0.3	0.2	0.2	0.7	0.7
1981							-0.1			0.1				
1982								0.3	-0.1	0.2	0.2	0.1	0.7	0.7
1983								0.1	0.2	0.3	0.1		0.7	0.6
1984	-0.1							0.1	0.1	0.2	0.1		0.4	0.5
1985						-0.3	-0.5	-0.5	-0.4	-0.2	-0.2	-0.3	-2.4	-3.6
1986	-0.3	-0.3	-0.2	-0.2	-0.2			-0.1	0.3	0.3	0.2		-0.5	0.7
1987						-0.4	-0.5	-0.6	-0.4	-0.3	-0.2	-0.5	-2.9	-4.4
1988	-0.5	-0.4	-0.2	-0.2	-0.2	-0.2	-0.3	-0.2	-0.2	-0.1	-0.1	-0.3	-2.9	-2.4
1989	-0.2	-0.2	-0.2	-0.2	-0.2					0.1	0.1		-0.8	0.2
1990						-0.3	-0.4	-0.3	-0.3	-0.2	-0.2	-0.5	-2.2	-2.2

CVP South of Delta Agricultural Contractor Water Delivery Effects

Future (2030) Cumulative with WFP Condition versus Current (1998) Base Condition without WFP
(+) plus sign indicates greater delivery in the 2030 Cumulative with WFP Condition
(-) minus sign indicates reduced delivery in the 2030 Cumulative with WFP Condition
Values are Thousands of Acre-Feet

WY	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Water Year	Contract Year
1922						-6.8	-7.7	-9.9	-14.7	-16.9	-15.1	-7.0	-78.1	-97.3
1923	-2.6	-2.5	-3.3	-4.0	-6.8	-27.4	-31.0	-39.8	-58.5	-67.6	-60.1	-28.0	-331.6	-389.5
1924	-10.6	-10.1	-13.0	-16.0	-27.4	-6.8	-7.8	-10.0	-14.7	-16.9	-15.1	-7.0	-155.4	-97.6
1925	-2.7	-2.5	-3.3	-4.0	-6.8	-27.4	-30.9	-39.7	-58.6	-67.7	-60.1	-27.9	-331.6	-389.3
1926	-10.5	-10.1	-13.0	-16.0	-27.4	-6.8	-7.8	-10.0	-14.7	-16.9	-15.1	-7.0	-155.3	-97.6
1927	-2.7	-2.5	-3.3	-4.0	-6.8								-19.3	
1928						-13.7	-15.5	-19.9	-29.2	-33.8	-30.1	-14.0	-156.2	-194.7
1929	-5.3	-5.0	-6.5	-8.0	-13.7	-13.7	-15.4	-19.9	-29.3	-33.8	-30.0	-13.9	-194.5	-194.5
1930	-5.2	-5.1	-6.5	-8.0	-13.7	-6.8	-7.8	-10.0	-14.7	-16.9	-15.1	-7.0	-116.8	-97.6
1931	-2.7	-2.5	-3.3	-4.0	-6.8	-6.8	-7.8	-10.0	-14.7	-16.9	-15.1	-7.0	-97.6	-97.6
1932	-2.7	-2.5	-3.3	-4.0	-6.8	-13.7	-15.5	-19.9	-29.2	-33.8	-30.1	-14.0	-175.5	-194.7
1933	-5.3	-5.0	-6.5	-8.0	-13.7	-6.8	-7.8	-10.0	-14.7	-16.9	-15.1	-7.0	-116.8	-97.6
1934	-2.7	-2.5	-3.3	-4.0	-6.8	-6.8	-7.8	-10.0	-14.7	-16.9	-15.1	-7.0	-97.6	-97.6
1935	-2.7	-2.5	-3.3	-4.0	-6.8	-20.5	-23.2	-29.8	-43.9	-50.7	-45.1	-21.0	-253.5	-292.0
1936	-7.9	-7.6	-9.8	-12.0	-20.5	-27.4	-31.0	-39.8	-58.5	-67.6	-60.1	-28.0	-370.2	-389.5
1937	-10.6	-10.1	-13.0	-16.0	-27.4	-20.6	-23.2	-29.9	-43.9	-50.7	-45.1	-21.0	-311.5	-292.1
1938	-7.9	-7.5	-9.7	-12.0	-20.6								-57.7	
1939						-6.8	-7.8	-10.0	-14.7	-16.9	-15.1	-7.0	-78.3	-97.6
1940	-2.7	-2.5	-3.3	-4.0	-6.8								-19.3	
1941														
1942						-6.9	-7.7	-10.0	-14.6	-16.9	-15.0	-7.0	-78.1	-97.3
1943	-2.6	-2.5	-3.2	-4.0	-6.9	6.9	7.7	10.0	14.6	16.9	15.0	7.0	58.9	97.3
1944	2.6	2.5	3.2	4.0	6.9	-34.2	-38.7	-49.8	-73.2	-84.6	-75.1	-34.9	-371.3	-486.8
1945	-13.2	-12.6	-16.3	-20.0	-34.2								-96.3	
1946														
1947						-27.4	-30.9	-39.8	-58.5	-67.6	-60.1	-27.9	-312.2	-389.2
1948	-10.5	-10.1	-13.0	-16.0	-27.4	20.6	23.2	29.9	43.9	50.7	45.0	20.9	157.2	292.0
1949	7.9	7.6	9.7	12.0	20.6	-27.4	-31.0	-39.8	-58.5	-67.6	-60.1	-28.0	-254.6	-389.5
1950	-10.6	-10.1	-13.0	-16.0	-27.4	6.8	7.8	9.9	14.6	16.9	15.1	7.0	1.0	97.4
1951	2.7	2.5	3.3	4.0	6.8	-20.5	-23.2	-29.8	-43.9	-50.7	-45.1	-20.9	-214.8	-291.9
1952	-7.9	-7.6	-9.8	-12.0	-20.5								-57.8	
1953						13.7	15.5	19.9	29.2	33.8	30.0	13.9	156.0	194.6
1954	5.3	5.1	6.5	8.0	13.7	-20.6	-23.2	-29.9	-43.9	-50.7	-45.0	-20.9	-195.6	-292.0
1955	-7.9	-7.6	-9.7	-12.0	-20.6	-20.5	-23.2	-29.9	-43.9	-50.8	-45.1	-21.0	-292.2	-292.2
1956	-7.9	-7.6	-9.8	-12.0	-20.5								-57.8	
1957						-13.7	-15.5	-19.9	-29.2	-33.8	-30.0	-13.9	-156.0	-194.6
1958	-5.3	-5.1	-6.5	-8.0	-13.7	6.8	7.7	9.9	14.6	16.9	15.0	7.0	39.3	97.0
1959	2.6	2.5	3.2	4.0	6.8								19.1	
1960						-34.3	-38.7	-49.7	-73.2	-84.6	-75.1	-34.9	-390.5	-486.8
1961	-13.2	-12.6	-16.2	-20.0	-34.3	-13.7	-15.4	-19.8	-29.3	-33.8	-30.1	-13.9	-252.3	-194.4
1962	-5.2	-5.0	-6.5	-8.0	-13.7	6.9	7.7	10.0	14.7	16.9	15.0	7.0	39.8	97.4
1963	2.6	2.5	3.2	4.0	6.9								19.2	
1964						-20.6	-23.2	-29.8	-43.9	-50.7	-45.0	-20.9	-234.1	-291.9
1965	-7.9	-7.6	-9.7	-12.0	-20.6	6.9	7.7	10.0	14.6	16.9	15.0	7.0	20.3	97.3
1966	2.6	2.5	3.2	4.0	6.9	-6.8	-7.7	-9.9	-14.7	-16.9	-15.1	-6.9	-58.8	-97.2
1967	-2.6	-2.5	-3.3	-4.0	-6.8								-19.2	
1968						-6.8	-7.7	-9.9	-14.6	-16.9	-15.0	-7.0	-77.9	-97.2
1969	-2.6	-2.6	-3.3	-4.0	-6.8								-19.3	
1970						-6.8	-7.7	-9.9	-14.7	-16.9	-15.1	-7.0	-78.1	-97.3
1971	-2.6	-2.5	-3.3	-4.0	-6.8								-19.2	
1972														
1973						-6.8	-7.7	-9.9	-14.7	-16.9	-15.1	-7.0	-78.1	-97.3
1974	-2.6	-2.5	-3.3	-4.0	-6.8	6.8	7.7	9.9	14.7	16.9	15.1	7.0	58.9	97.3
1975	2.6	2.5	3.3	4.0	6.8								19.2	
1976						-6.9	-7.7	-9.9	-14.7	-16.9	-15.0	-7.0	-78.1	-97.4
1977	-2.6	-2.6	-3.2	-4.0	-6.9	-13.7	-15.5	-19.9	-29.3	-33.8	-30.1	-14.0	-175.6	-194.8
1978	-5.3	-5.0	-6.5	-8.0	-13.7								-38.5	
1979						-6.8	-7.8	-9.9	-14.6	-16.9	-15.1	-7.0	-78.1	-97.4
1980	-2.7	-2.5	-3.3	-4.0	-6.8								-19.3	
1981						-34.2	-38.6	-49.7	-73.2	-84.6	-75.2	-34.9	-390.4	-486.6
1982	-13.1	-12.6	-16.3	-20.0	-34.2								-96.2	
1983														
1984														
1985						-20.6	-23.2	-29.8	-43.9	-50.7	-45.0	-20.9	-234.1	-291.9
1986	-7.9	-7.6	-9.7	-12.0	-20.6								-57.8	
1987						-6.8	-7.8	-10.0	-14.7	-16.9	-15.1	-7.0	-78.3	-97.6
1988	-2.7	-2.5	-3.3	-4.0	-6.8	-13.7	-15.5	-19.9	-29.3	-33.8	-30.0	-13.9	-175.4	-194.6
1989	-5.3	-5.0	-6.5	-8.0	-13.7	-13.7	-15.5	-19.9	-29.2	-33.9	-30.0	-14.0	-194.7	-194.7
1990	-5.3	-5.0	-6.5	-8.0	-13.7	-13.7	-15.4	-19.9	-29.3	-33.8	-30.0	-13.9	-194.5	-156.0

CVP South of Delta M&I Contractor Water Delivery Effects

Future (2030) Cumulative with WFP Condition versus Current (1998) Base Condition without WFP
(+) plus sign indicates greater delivery in the 2030 Cumulative with WFP Condition
(-) minus sign indicates reduced delivery in the 2030 Cumulative with WFP Condition
Values are Thousands of Acre-Feet

WY	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Water Year	Contract Year
1922	5.6	3.6	2.7	1.3	2.1	0.9	2.3	4.0	3.3	5.4	6.0	7.0	44.2	36.9
1923	5.1	3.1	-0.8	-1.0	1.6	-3.4	-3.0	-2.4	-3.0	-3.6	-3.0	0.1	-10.3	-24.7
1924	-0.5	-1.4	-2.0	-2.3	-0.2	0.7	1.5	2.8	2.4	2.4	2.1	2.8	8.3	17.3
1925	1.6	0.5	0.2		0.3	-1.2	-0.4	0.6	1.0	1.8	1.3	2.9	8.6	6.3
1926	1.5	0.2	-0.5	-0.6	-0.3	-4.3	-5.5	-4.6	-6.8	-7.2	-7.3	-3.7	-39.1	-63.4
1927	-3.9	-4.1	-5.2	-6.4	-4.4	0.9	2.3	4.0	5.1	5.4	6.0	7.0	6.7	39.3
1928	5.1	1.9	1.0	-1.0	1.6	-1.4	-0.5	0.6	0.8	1.7	1.3	3.3	14.4	10.3
1929	2.1	0.7		-0.3	2.0	-3.6	-3.6	-2.8	-4.8	-5.7	-5.9	-2.6	-24.5	-46.0
1930	-3.0	-3.5	-3.9	-4.0	-2.6	-5.6	-5.8	-4.8	-7.1	-7.4	-7.6	-4.0	-59.3	-63.6
1931	-4.1	-4.4	-4.8	-5.0	-3.0	1.3	2.0	2.8	2.3	2.4	2.1	2.7	-5.7	17.4
1932	1.6	0.5	0.1	-0.6	0.2	-1.4	-0.9	-0.2	-1.5	-1.0	-1.4	0.7	-3.9	-11.2
1933	-0.4	-1.3	-2.0	-2.1	0.3	-2.1	-2.7	-2.5	-3.6	-4.2	-4.4	-1.8	-26.8	-34.8
1934	-2.3	-2.8	-3.2	-3.3	-1.9	0.6	1.4	2.8	2.2	2.3	2.0	2.7	0.5	17.4
1935	1.6	0.5	0.1		1.2	-2.2	-1.6	-0.6	-0.8	-1.2	-0.5	2.0	-1.5	-7.3
1936	1.1	-0.2	-0.8	-1.1	-1.4	-3.3	-2.9	-2.3	-2.9	-2.5	-2.8	0.2	-18.9	-24.8
1937	-0.4	-1.3	-1.9	-2.2	-2.5	-1.3	-0.5	0.7	0.9	0.6	1.2	3.5	-3.2	2.6
1938	2.4	1.0	-2.5	-2.8	-0.6	0.9	2.3	4.0	3.3	5.4	6.0	7.0	26.4	42.2
1939	3.8	1.9	2.2	2.0	3.4	-4.5	-4.8	-4.9	-6.5	-7.6	-7.7	-4.1	-26.8	-63.5
1940	-4.2	-4.4	-4.7	-5.5	-4.6	0.6	2.0	3.6	4.6	4.9	5.5	6.5	4.3	35.5
1941	4.7	2.8	0.1	-1.2	1.4	0.9	2.3	4.0	3.3	5.4	6.0	7.0	36.7	35.7
1942	5.1	1.9	-0.8	-1.0	1.6	0.9	2.3	4.0	3.3	5.4	6.0	7.0	35.7	35.7
1943	5.1	1.9	-0.8	-1.0	1.6	0.9	2.3	4.0	5.1	5.4	6.0	7.0	37.5	44.7
1944	5.1	3.1	2.2	2.0	1.6	-3.4	-1.9	-1.6	-3.2	-3.0	-3.3	-0.7	-3.1	-28.7
1945	-1.4	-2.2	-2.7	-2.8	-2.5	0.9	2.3	5.8	5.1	5.4	6.0	7.0	20.9	40.5
1946	5.1	3.1	-0.8	-1.0	1.6	0.7	2.0	5.4	4.6	6.1	5.5	6.6	38.9	45.1
1947	4.7	2.8	1.9	1.7	3.1	-4.6	-3.5	-3.4	-4.7	-5.5	-5.7	-2.6	-15.8	-46.2
1948	-3.0	-3.4	-3.9	-4.0	-1.9	3.2	2.9	4.7	6.0	6.5	7.1	7.7	21.9	57.0
1949	5.6	3.4	2.5	2.3	5.1	-3.2	-3.0	-1.0	-3.1	-2.9	-3.1		2.6	-24.7
1950	-0.5	-1.4	-1.9	-2.2	-2.4	1.4	2.9	6.5	6.1	7.7	7.1	7.7	31.0	48.3
1951	5.6	2.3	-0.5	-0.6	2.1	0.9	2.3	4.0	5.1	5.4	6.0	7.0	39.6	38.7
1952	5.1	3.1	-0.8	-1.0	1.6	0.9	2.3	4.0	3.3	5.4	6.0	7.0	36.9	34.4
1953	3.8	1.9	-0.8	-1.0	1.6	0.9	2.3	4.0	3.3	5.4	6.0	7.0	34.4	42.9
1954	5.1	3.1	2.2	2.0	1.6	0.4	1.7	3.3	4.2	4.3	4.9	6.3	39.1	34.8
1955	4.6	2.8	0.7	-1.3	2.9	0.2	1.0	2.0	1.0	1.9	1.4	3.0	20.2	6.3
1956	1.5	0.3	-2.8	-2.9	-0.3	0.9	2.3	4.0	3.3	5.4	6.0	7.0	24.7	41.6
1957	3.8	3.1	2.2	2.0	1.6	0.9	2.3	4.0	5.1	5.4	6.0	7.0	43.4	39.3
1958	5.1	1.9	1.0	-1.0	1.6	0.9	2.3	4.0	3.3	5.4	6.0	7.0	37.5	41.6
1959	3.8	3.1	2.2	2.0	1.6	-0.6	1.9	3.2	3.3	3.4	2.9	4.3	31.1	25.6
1960	2.6	1.2	0.4	0.2	2.8	-1.9	0.2	0.9	0.5	0.2	-0.2	1.8	8.7	-1.5
1961	0.7	-0.5	-1.0	-1.2	-1.0	-1.4	0.8	1.6	1.5	1.4	0.9	2.5	4.3	6.4
1962	1.2	-0.1	-0.7	-0.8	-0.5	1.4	2.9	6.5	6.0	7.7	7.1	7.7	38.4	49.8
1963	5.6	2.2	-0.5	1.1	2.1	0.9	2.3	4.0	5.1	5.4	6.0	7.0	41.2	41.1
1964	5.1	0.1	1.0	0.8	3.4	-3.2	-3.2	-3.0	-4.2	-5.0	-5.2	-2.1	-15.5	-45.9
1965	-2.6	-3.1	-5.4	-5.5	-3.4	0.9	2.3	4.0	5.1	5.4	6.0	7.0	10.7	40.5
1966	5.1	3.1	1.0	-1.0	1.6	-1.2	1.1	2.2	1.2	2.2	1.7	3.2	20.2	6.3
1967	1.7	0.3	-2.8	-2.9	-0.4	0.9	2.3	4.0	3.3	5.4	6.0	7.0	24.8	37.4
1968	3.8	1.9	2.2	-1.0	1.6	0.9	2.3	5.8	6.3	6.6	6.0	7.0	43.4	45.9
1969	5.1	3.1	2.2	-1.0	1.6	0.9	2.3	4.0	3.3	5.4	6.0	5.8	38.7	33.2
1970	3.8	1.9	-0.8	-1.0	1.6	0.9	2.3	5.8	5.1	6.6	6.0	7.0	39.2	41.7
1971	5.1	3.1	-0.8	-1.0	1.6	0.9	2.3	4.0	5.1	5.4	6.0	7.0	38.7	43.5
1972	5.1	3.1	2.2	0.8	1.6	0.9	4.1	5.8	5.1	6.6	6.0	7.0	48.3	43.5
1973	5.1	3.1	-0.8	-1.0	1.6	0.9	2.3	4.0	5.1	5.4	6.0	7.0	38.7	35.7
1974	5.1	0.1	-0.8	-1.0	1.6	0.9	2.3	4.0	3.3	5.4	6.0	7.0	33.9	40.4
1975	3.8	3.1	2.2	0.8	1.6	0.9	2.3	4.0	3.3	5.4	6.0	7.0	40.4	43.4
1976	3.8	1.9	2.2	2.0	4.6	-0.3	0.4	2.1	1.0	0.9	0.4	2.1	21.1	6.3
1977	0.8	-0.4	-1.0	-1.1	1.4	-0.4	0.8	1.3	0.5	0.3	0.1	1.2	3.5	-0.2
1978	0.4	-0.5	-0.8	-2.4	-0.7	0.9	2.3	4.0	5.1	5.4	6.0	7.0	26.7	44.7
1979	5.1	3.1	2.2	2.0	1.6	-0.1	1.1	4.3	3.3	3.4	4.0	5.5	35.5	27.7
1980	3.9	2.1	1.3	-1.8	0.7	1.4	2.8	4.5	5.6	5.9	6.5	7.5	40.4	49.5
1981	5.6	3.6	2.7	1.3	2.1	-1.0	-0.2	2.2	2.1	2.1	1.6	3.2	25.3	6.4
1982	1.7	0.4	-2.7	-2.8	-0.2	0.9	2.3	4.0	3.3	5.4	6.0	5.8	24.1	29.6
1983	2.0	0.1	-0.8	-1.0	1.6	0.9	2.3	4.0	3.3	3.6	4.8	4.0	24.8	24.8
1984	2.0	0.1	-0.8	-1.0	1.6	0.9	2.3	5.8	5.1	5.4	6.0	7.0	34.4	41.1
1985	5.1	0.1	-0.8	0.8	3.4	-3.4	-3.4	-3.2	-5.2	-5.3	-5.5	-2.3	-19.7	-46.0
1986	-2.8	-3.2	-3.7	-4.5	-3.5	0.9	2.3	4.0	5.1	5.4	6.0	7.0	13.0	44.7
1987	5.1	3.1	2.2	2.0	1.6	-5.6	-4.8	-4.8	-6.4	-7.5	-7.6	-4.0	-26.7	-63.4
1988	-4.2	-4.4	-4.8	-5.6	-3.7	-2.5	-2.3	-1.2	-2.9	-3.5	-3.8	-1.1	-40.0	-28.5
1989	-1.8	-2.5	-3.0	-3.1	-0.8	-1.4	-0.6	1.6	1.5	1.4	0.9	2.5	-5.3	6.3
1990	1.2	-0.1	-0.7	-0.8	0.8	-3.6	-3.6	-3.5	-4.8	-5.7	-5.9	-2.6	-29.3	-29.7

CVP North of Delta Total Contractor Water Delivery Effects (Excludes American River)

Future (2030) Cumulative with WFP Condition versus Current (1998) Base Condition without WFP
(+) plus sign indicates greater delivery in the 2030 Cumulative with WFP Condition
(-) minus sign indicates reduced delivery in the 2030 Cumulative with WFP Condition
Values are Thousands of Acre-Feet

WY	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Water Year	Contract Year
1922	0.3					-0.3	-3.7	-0.3	0.4	2.0	1.8	3.1	3.3	2.7
1923	-0.3					-3.4	-11.1	-16.1	-16.9	-17.1	-15.0	-1.2	-81.1	-83.8
1924	-2.1	-0.6	-0.1	-0.1	-0.1	-0.3	-3.6	-3.8	-4.1	-3.9	-3.4	-0.9	-23.0	-19.5
1925	0.1	0.1	0.1	0.1	0.1		-8.9	-12.7	-18.8	-20.3	-17.6	-2.4	-80.2	-83.3
1926	-2.6					-0.8	-1.7	-4.4	-5.4	-5.1	-4.4	-1.9	-26.3	-25.3
1927	-0.6	-0.4	-0.2	-0.2	-0.2	-0.1	-4.0	0.1	1.6	3.4	3.4	4.0	6.8	8.3
1928	-0.1						-3.6	-1.1	-0.8	0.5	0.5	2.3	-2.3	-2.3
1929	-0.1					-0.5	-7.0	-8.5	-7.4	-8.7	-7.7	-2.7	-42.6	-45.1
1930	-1.5	-0.5	-0.2	-0.2	-0.2	-0.4	-2.8	-4.3	-5.3	-5.0	-4.4	-1.3	-26.1	-25.5
1931	-1.0	-0.4	-0.2	-0.2	-0.2	-0.7	-3.7	-3.1	-3.6	-4.1	-3.6	-1.1	-21.9	-19.8
1932	-0.3	0.1	0.1	0.1	0.1	-0.7	-7.2	-6.8	-8.4	-8.5	-7.4	-2.0	-40.9	-42.8
1933	-1.3	-0.2	-0.1	-0.1	-0.1	-0.6	-4.0	-3.8	-4.3	-4.3	-3.7	-1.3	-23.8	-22.9
1934	-0.5	-0.4					-3.0	-3.7	-4.1	-4.3	-3.7	-1.0	-20.7	-19.6
1935	-0.2	0.1	0.1	0.1	0.1	-0.4	-7.0	-20.5	-24.9	-24.2	-21.3	-5.7	-103.8	-106.4
1936	-1.4	-0.4	-0.2	-0.2	-0.2	-0.4	-11.1	-15.9	-16.7	-18.6	-16.3	-4.2	-85.6	-87.6
1937	-2.9	-1.0	-0.1	-0.1	-0.3	-0.3	-9.3	-13.0	-13.2	-13.6	-11.7	-2.9	-68.4	-65.2
1938	-0.6	-0.3	-0.1	-0.1	-0.1		-2.8	1.5	3.4	4.5	4.4	2.9	12.7	11.5
1939	-0.1	-0.2			-2.1	-1.4	-4.6	-3.6	-4.6	-4.2	-3.8	-1.0	-25.6	-25.2
1940	-0.9	-0.5	-0.2	-0.2	-0.2		-3.2	0.0	2.5	4.0	3.6	3.9	8.8	10.8
1941							-1.9	1.7	6.1	8.3	7.6	4.6	26.4	25.9
1942	-0.5						-1.5	1.4	6.3	7.4	7.1	4.7	24.9	25.7
1943	0.3						-3.2	0.2	0.6	2.7	2.6	3.6	6.8	6.5
1944						-0.7	-14.2	-17.4	-21.7	-23.2	-20.4	-6.7	-104.3	-107.0
1945	-1.9	-0.2	-0.2	-0.2	-0.2		-7.5	-6.5	-7.3	-6.5	-5.3	0.7	-35.1	-32.4
1946						-0.5	-16.1	-14.2	-15.7	-14.7	-13.3	-2.2	-76.7	-78.4
1947	-1.7					-0.3	-12.0	-15.7	-15.6	-19.1	-16.8	-6.0	-87.2	-87.1
1948	-0.3	-0.3	-0.2	-0.2	-0.6	-0.6	-1.2	0.6	5.1	9.1	8.0	3.3	22.7	24.2
1949	-0.1					-0.7	-18.1	-21.2	-27.0	-26.1	-22.9	-6.8	-122.9	-128.4
1950	-4.3	-0.5	-0.2	-0.2	-0.4	-0.4	-12.2	-11.0	-11.8	-11.0	-9.7	-0.6	-62.3	-56.8
1951	-0.1					-0.4	-4.2	-1.1	1.5	2.7	2.6	3.4	4.4	4.3
1952	-0.2						-3.0	0.1	-0.3	2.8	2.8	3.2	5.4	6.1
1953	0.5					-1.0	-3.3	-0.6	1.5	4.4	3.6	4.5	9.6	9.2
1954	0.1						-3.1	1.3	0.6	2.8	0.9	3.4	6.0	5.9
1955						-1.6	-9.0	-11.8	-13.0	-12.9	-11.3	-1.7	-61.3	-62.6
1956	-1.3					0.1	-3.7	-1.2	1.3	3.6	3.6	3.9	6.3	7.3
1957	-0.1	-0.2				-0.5	-3.6	-1.0	2.3	3.6	3.4	-0.4	3.5	3.5
1958		-0.3					-1.5	2.0	4.2	7.6	7.7	5.1	24.8	25.8
1959	0.9	-0.2				-0.8	-12.8	-11.1	-11.8	-10.9	-9.7	-0.6	-57.0	-60.3
1960	-1.8	-0.4	-0.1	-0.1	-0.2	-0.1	-14.2	-17.5	-22.9	-22.3	-19.6	-6.0	-105.2	-105.4
1961	-2.6	-0.1	-0.1				-7.1	-8.0	-8.6	-8.6	-7.4	-1.0	-43.5	-41.8
1962	-1.1						-8.4	-7.1	-6.6	-5.4	-5.2	1.2	-32.6	-31.5
1963							-1.9	2.8	6.6	8.0	7.6	5.3	28.4	28.3
1964	-0.1					-1.7	-12.2	-12.0	-12.0	-12.8	-11.1	-2.7	-64.6	-65.9
1965	-0.5	-0.3	-0.2	-0.2	-0.2	-0.8	-3.4	0.9	1.5	2.7	1.1	3.4	4.0	5.9
1966	0.5					-0.6	-13.0	-11.4	-11.9	-11.0	-9.7	-1.3	-58.4	-60.4
1967	-1.5						-2.6	3.6	4.1	7.7	7.1	4.9	23.3	25.5
1968	0.7					-0.1	-11.6	-10.4	-11.4	-10.8	-8.9	-0.8	-53.3	-54.6
1969	-0.6						-4.2	0.1	0.2	1.4	1.7	2.6	1.2	1.4
1970	-0.4						-4.0	-0.1	-0.7	1.1	1.2	2.7	-0.2	0.1
1971	-0.1					-1.1	-3.0	-0.2	0.9	3.3	3.1	3.1	6.0	6.9
1972	0.8					-3.7	-11.3	-9.6	-10.1	-8.6	-7.5	0.8	-49.2	-50.0
1973							-3.4	-0.9	-0.4	0.8	1.1	2.3	-0.5	-0.6
1974	-0.1						-2.9	1.5	2.3	1.2	3.6	4.4	10.0	9.8
1975	-0.3						-3.3	0.8	1.9	2.4	2.7	3.8	8.0	6.3
1976		-0.1			-1.9	-2.4	-6.9	-7.4	-7.8	-7.8	-5.9	-0.9	-41.1	-40.6
1977	-1.0				-0.5	-1.7	-8.1	-5.1	-8.7	-8.8	-7.8	-0.6	-42.3	-41.8
1978	-1.0						-1.5	2.1	3.3	4.4	4.2	2.0	13.5	15.3
1979	0.8						-10.5	-10.9	-11.3	-10.4	-9.4	0.1	-51.6	-52.6
1980	-0.2						-4.1	0.2	0.3	3.5	3.2	3.7	6.6	6.9
1981	-0.1	0.1		0.1			-11.9	-18.1	-24.5	-24.3	-21.4	-4.1	-104.2	-104.3
1982							-1.6	5.1	3.8	7.7	7.5	0.3	22.8	22.8
1983							-1.5	3.1	6.2	7.9	6.7	2.8	25.2	25.2
1984	0.0					-0.7	-4.1	1.0	1.2	2.6	2.0	3.0	5.0	4.6
1985	-0.4					-0.3	-9.8	-12.8	-14.0	-14.0	-12.2	-1.0	-64.5	-66.2
1986	-1.2	-0.3	-0.2	-0.2	-0.2		-2.8	-1.1	2.0	3.2	3.1	2.4	4.7	7.1
1987	0.5	-0.2				-0.5	-3.7	-4.5	-4.7	-4.6	-4.0	-1.6	-23.3	-25.5
1988	-0.9	-0.4	-0.2	-0.2	-0.2	-1.6	-6.5	-6.4	-8.2	-8.8	-7.8	-2.5	-43.7	-44.2
1989	-1.4	-0.2	-0.2	-0.2	-0.4	-0.1	-8.8	-12.7	-13.5	-13.9	-12.1	-0.1	-63.6	-61.4
1990	-0.2					-0.8	-8.4	-5.0	-9.3	-9.1	-7.6	-2.5	-42.9	-42.7

CVP South of Delta Total Contractor Water Delivery Effects

Future (2030) Cumulative with WFP Condition versus Current (1998) Base Condition without WFP
(+) plus sign indicates greater delivery in the 2030 Cumulative with WFP Condition
(-) minus sign indicates reduced delivery in the 2030 Cumulative with WFP Condition
Values are Thousands of Acre-Feet

WY	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Water Year	Contract Year
1922	5.6	3.6	2.7	1.3	2.1	-5.9	-5.4	-5.9	-11.4	-11.5	-9.1		-33.9	-60.4
1923	2.5	0.6	-4.1	-5.0	-5.2	-30.8	-34.0	-42.2	-61.5	-71.2	-63.1	-27.9	-341.9	-414.2
1924	-11.1	-11.5	-15.0	-18.3	-27.6	-6.1	-6.3	-7.2	-12.3	-14.5	-13.0	-4.2	-147.1	-80.3
1925	-1.1	-2.0	-3.1	-4.0	-6.5	-28.6	-31.3	-39.1	-57.6	-65.9	-58.8	-25.0	-323.0	-383.0
1926	-9.0	-9.9	-13.5	-16.6	-27.7	-11.1	-13.3	-14.6	-21.5	-24.1	-22.4	-10.7	-194.4	-161.0
1927	-6.6	-6.6	-8.5	-10.4	-11.2	0.9	2.3	4.0	5.1	5.4	6.0	7.0	-12.6	39.3
1928	5.1	1.9	1.0	-1.0	1.6	-15.1	-16.0	-19.3	-28.4	-32.1	-28.8	-10.7	-141.8	-184.4
1929	-3.2	-4.3	-6.5	-8.3	-11.7	-17.3	-19.0	-22.7	-34.1	-39.5	-35.9	-16.5	-219.0	-240.5
1930	-8.2	-8.6	-10.4	-12.0	-16.3	-12.4	-13.6	-14.8	-21.8	-24.3	-22.7	-11.0	-176.1	-161.2
1931	-6.8	-6.9	-8.1	-9.0	-9.8	-5.5	-5.8	-7.2	-12.4	-14.5	-13.0	-4.3	-103.3	-80.2
1932	-1.1	-2.0	-3.2	-4.6	-6.6	-15.1	-16.4	-20.1	-30.7	-34.8	-31.5	-13.3	-179.4	-205.9
1933	-5.7	-6.3	-8.5	-10.1	-13.4	-8.9	-10.5	-12.5	-18.3	-21.1	-19.5	-8.8	-143.6	-132.4
1934	-5.0	-5.3	-6.5	-7.3	-8.7	-6.2	-6.4	-7.2	-12.5	-14.6	-13.1	-4.3	-97.1	-80.2
1935	-1.1	-2.0	-3.2	-4.0	-5.6	-22.7	-24.8	-30.4	-44.7	-51.9	-45.6	-19.0	-255.0	-299.3
1936	-6.8	-7.8	-10.6	-13.1	-21.9	-30.7	-33.9	-42.1	-61.4	-70.1	-62.9	-27.8	-389.1	-414.3
1937	-11.0	-11.4	-14.9	-18.2	-29.9	-21.9	-23.7	-29.2	-43.0	-50.1	-43.9	-17.5	-314.7	-289.5
1938	-5.5	-6.5	-12.2	-14.8	-21.2	0.9	2.3	4.0	3.3	5.4	6.0	7.0	-31.3	42.2
1939	3.8	1.9	2.2	2.0	3.4	-11.3	-12.6	-14.9	-21.2	-24.5	-22.8	-11.1	-105.1	-161.1
1940	-6.9	-6.9	-8.0	-9.5	-11.4	0.6	2.0	3.6	4.6	4.9	5.5	6.5	-15.0	35.5
1941	4.7	2.8	0.1	-1.2	1.4	0.9	2.3	4.0	3.3	5.4	6.0	7.0	36.7	35.7
1942	5.1	1.9	-0.8	-1.0	1.6	-6.0	-5.4	-6.0	-11.3	-11.5	-9.0	0.0	-42.4	-61.6
1943	2.5	-0.6	-4.0	-5.0	-5.3	7.8	10.0	14.0	19.7	22.3	21.0	14.0	96.4	142.0
1944	7.7	5.6	5.4	6.0	8.5	-37.6	-40.6	-51.4	-76.4	-87.6	-78.4	-35.6	-374.4	-515.5
1945	-14.6	-14.8	-19.0	-22.8	-36.7	0.9	2.3	5.8	5.1	5.4	6.0	7.0	-75.4	40.5
1946	5.1	3.1	-0.8	-1.0	1.6	0.7	2.0	5.4	4.6	6.1	5.5	6.6	38.9	45.1
1947	4.7	2.8	1.9	1.7	3.1	-32.0	-34.4	-43.2	-63.2	-73.1	-65.8	-30.5	-328.0	-435.4
1948	-13.5	-13.5	-16.9	-20.0	-29.3	23.8	26.1	34.6	49.9	57.2	52.1	28.6	179.1	349.0
1949	13.5	11.0	12.2	14.3	25.7	-30.6	-34.0	-40.8	-61.6	-70.5	-63.2	-28.0	-252.0	-414.2
1950	-11.1	-11.5	-14.9	-18.2	-29.8	8.2	10.7	16.4	20.7	24.6	22.2	14.7	32.0	145.7
1951	8.3	4.8	2.8	3.4	8.9	-19.6	-20.9	-25.8	-38.8	-45.3	-39.1	-13.9	-175.2	-253.2
1952	-2.8	-4.5	-10.6	-13.0	-18.9	0.9	2.3	4.0	3.3	5.4	6.0	7.0	-20.9	34.4
1953	3.8	1.9	-0.8	-1.0	1.6	14.6	17.8	23.9	32.5	39.2	36.0	20.9	190.4	237.5
1954	10.4	8.2	8.7	10.0	15.3	-20.2	-21.5	-26.6	-39.7	-46.4	-40.1	-14.6	-156.5	-257.2
1955	-3.3	-4.8	-9.0	-13.3	-17.7	-20.3	-22.2	-27.9	-42.9	-48.9	-43.7	-18.0	-272.0	-285.9
1956	-6.4	-7.3	-12.6	-14.9	-20.8	0.9	2.3	4.0	3.3	5.4	6.0	7.0	-33.1	41.6
1957	3.8	3.1	2.2	2.0	1.6	-12.8	-13.2	-15.9	-24.1	-28.4	-24.0	-6.9	-112.6	-155.3
1958	-0.2	-3.2	-5.5	-9.0	-12.1	7.7	10.0	13.9	17.9	22.3	21.0	14.0	76.8	138.6
1959	6.4	5.6	5.4	6.0	8.4	-0.6	1.9	3.2	3.3	3.4	2.9	4.3	50.2	25.6
1960	2.6	1.2	0.4	0.2	2.8	-36.2	-38.5	-48.8	-72.7	-84.4	-75.3	-33.1	-381.8	-488.3
1961	-12.5	-13.1	-17.2	-21.2	-35.3	-15.1	-14.6	-18.2	-27.8	-32.4	-29.2	-11.4	-248.0	-188.0
1962	-4.0	-5.1	-7.2	-8.8	-14.2	8.3	10.6	16.5	20.7	24.6	22.1	14.7	78.2	147.2
1963	8.2	4.7	2.7	5.1	9.0	0.9	2.3	4.0	5.1	5.4	6.0	7.0	60.4	41.1
1964	5.1	0.1	1.0	0.8	3.4	-23.8	-26.4	-32.8	-48.1	-55.7	-50.2	-23.0	-249.6	-337.8
1965	-10.5	-10.7	-15.1	-17.5	-24.0	7.8	10.0	14.0	19.7	22.3	21.0	14.0	31.0	137.8
1966	7.7	5.6	4.2	3.0	8.5	-8.0	-6.6	-7.7	-13.5	-14.7	-13.4	-3.7	-38.6	-90.9
1967	-0.9	-2.2	-6.1	-6.9	-7.2	0.9	2.3	4.0	3.3	5.4	6.0	7.0	5.6	37.4
1968	3.8	1.9	2.2	-1.0	1.6	-5.9	-5.4	-4.1	-8.3	-10.3	-9.0		-34.5	-51.3
1969	2.5	0.5	-1.1	-5.0	-5.2	0.9	2.3	4.0	3.3	5.4	6.0	5.8	19.4	33.2
1970	3.8	1.9	-0.8	-1.0	1.6	-5.9	-5.4	-4.1	-9.6	-10.3	-9.1		-38.9	-55.6
1971	2.5	0.6	-4.1	-5.0	-5.2	0.9	2.3	4.0	5.1	5.4	6.0	7.0	19.5	43.5
1972	5.1	3.1	2.2	0.8	1.6	0.9	4.1	5.8	5.1	6.6	6.0	7.0	48.3	43.5
1973	5.1	3.1	-0.8	-1.0	1.6	-5.9	-5.4	-5.9	-9.6	-11.5	-9.1		-39.4	-61.6
1974	2.5	-2.4	-4.1	-5.0	-5.2	7.7	10.0	13.9	18.0	22.3	21.1	14.0	92.8	137.7
1975	6.4	5.6	5.5	4.8	8.4	0.9	2.3	4.0	3.3	5.4	6.0	7.0	59.6	43.4
1976	3.8	1.9	2.2	2.0	4.6	-7.2	-7.3	-7.8	-13.7	-16.0	-14.6	-4.9	-57.0	-91.1
1977	-1.8	-3.0	-4.2	-5.1	-5.5	-14.1	-14.7	-18.6	-28.8	-33.5	-30.0	-12.8	-172.1	-195.0
1978	-4.9	-5.5	-7.3	-10.4	-14.4	0.9	2.3	4.0	5.1	5.4	6.0	7.0	-11.8	44.7
1979	5.1	3.1	2.2	2.0	1.6	-6.9	-6.7	-5.6	-11.3	-13.5	-11.1	-1.5	-42.6	-69.7
1980	1.2	-0.4	-2.0	-5.8	-6.1	1.4	2.8	4.5	5.6	5.9	6.5	7.5	21.1	49.5
1981	5.6	3.6	2.7	1.3	2.1	-35.2	-38.8	-47.5	-71.1	-82.5	-73.6	-31.7	-365.1	-480.2
1982	-11.4	-12.2	-19.0	-22.8	-34.4	0.9	2.3	4.0	3.3	5.4	6.0	5.8	-72.1	29.6
1983	2.0	0.1	-0.8	-1.0	1.6	0.9	2.3	4.0	3.3	3.6	4.8	4.0	24.8	24.8
1984	2.0	0.1	-0.8	-1.0	1.6	0.9	2.3	5.8	5.1	5.4	6.0	7.0	34.4	41.1
1985	5.1	0.1	-0.8	0.8	3.4	-24.0	-26.6	-33.0	-49.1	-56.0	-50.5	-23.2	-253.8	-337.9
1986	-10.7	-10.8	-13.4	-16.5	-24.1	0.9	2.3	4.0	5.1	5.4	6.0	7.0	-44.8	44.7
1987	5.1	3.1	2.2	2.0	1.6	-12.4	-12.6	-14.8	-21.1	-24.4	-22.7	-11.0	-105.0	-161.0
1988	-6.9	-6.9	-8.1	-9.6	-10.5	-16.2	-17.8	-21.1	-32.2	-37.3	-33.8	-15.0	-215.4	-223.1
1989	-7.1	-7.5	-9.5	-11.1	-14.5	-15.1	-16.1	-18.3	-27.7	-32.5	-29.1	-11.5	-200.0	-188.4
1990	-4.1	-5.1	-7.2	-8.8	-12.9	-17.3	-19.0	-23.4	-34.1	-39.5	-35.9	-16.5	-223.8	-185.7

N-10 Section 4.10 of the WFP Draft EIR analyzes Land Use and Growth-Inducing Impacts and contains an extensive discussion of the methodology, assumptions, and refinement of water demand volumes that resulted from the Water Forum negotiations and their relationship to future population growth. Please see response to comment N-9 for an explanation of the data utilized for this discussion. The WFP Draft EIR acknowledges that environmental effects due to population increases are likely to occur with development projects. Impacts associated with planned growth and development are assessed in the General Plan EIRs which have been certified and approved by each jurisdiction. As noted on page 7-1 of the WFP Draft EIR, the city and county EIRs previously analyzed the environmental effects on "traffic and transportation, local and regional air quality, noise, public services and utilities, population and employment, light and glare, hazards, and mineral resource impacts associated with the development of residential, commercial, industrial, and other urban uses." CEQA explicitly encourages such reliance on broader EIRs. (See Pub. Res. Code §21094; State CEQA Guidelines §15152.) Accordingly, the WFP Draft EIR appropriately refers the reader to such general plan EIRs for analysis of service area effects. (See WFP Draft EIR at 4.1-4, 7-1.)

It should be noted that a central feature of the WFP is that it only *accommodates* growth that has already been planned by the appropriate land use authorities in the region; it does not contribute to, or authorize any additional population growth. Thus, the WFP is consistent with the growth parameters described in each city and county general plan and evaluated in the environmental documents for the plans.

In addition, several uncertainties exist that render the extent of the impacts associated with planned growth uncertain. As discussed in Section 4.10, water demand projections for the year 2030 are estimates, based on a variety of factors, many of which cannot be determined with certainty. Further, approval of the WFP would not in itself guarantee the negotiated water supply to each purveyor given the numerous implementation steps that would be required, including approval and construction of facilities and regulatory approvals. Regional growth that will occur to the year 2030 will be governed by local city and county government decision-makers and the locally adopted general plans and other land use regulations.

N-11 The Improved Pattern of Fishery Flow Releases (IPFFR) is an appropriate assumption for the WFP Draft EIR's impact analysis. The commentor asserts that the IPFFR is inappropriate because it is defined in the WFP Draft EIR in the same manner as the AFRP flow objectives as set forth in the November 20, 1997 "Department of the Interior Final Administrative Proposal on the Management of Section 3406 (b)(2) Water" (Final AP). As the commentor notes, the Final AP has been enjoined in the United States District Court decision of *San Luis & Delta Mendota Water Authority v. United States of America* (March 19, 1999) CV-F-97-6140, CV-F-98-5261. However, as the commentor notes, the court decision was directed at the Department's method of calculating the dedicated 800,000 AF of CVP yield for (b)(2) purposes and not the adequacy of the AFRP flow objectives *per se*. Accordingly, the pertinent issue in that litigation was one of the accounting procedures used by the Department in determining the dedicated yield for (b)(2) purposes and not the

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pattern of releases (as defined by the AFRP). To date, the Water Forum has no other reasonable or feasible basis for projecting the IPFFR except for the AFRP flow objectives, nor does the commentor suggest any reasonable or feasible alternative. Therefore, the WFP Draft EIR appropriately relies on the AFRP flow objectives for modeling purposes.

Section 3406(b)(2) of the Central Valley Project Improvement Act (CVPIA) includes upstream as well as Bay-Delta actions. Upstream actions were interpreted to correspond with actions of the AFRP, as defined in the Final AP. As noted, the issue in *San Luis and Delta Mendota Water Authority v. United States of America* pertained to the accounting of dedicated yield applied to 3406(b)(2), and the preliminary injunction blocks the Final AP's accounting method for the current year-period only. Moreover, the preliminary injunction does not directly address "the appropriateness" of upstream or Bay-Delta actions, but rather the allocation of yield. Therefore, it is reasonable to assume both upstream and downstream (b)(2) actions in the future (i.e., 2030). Moreover, NMFS has responded to the one-year decision by invoking ESA as another means of implementation of upstream and Bay-Delta actions.

N-12 Comment noted. See response to comment N-11.

N-13 The commentor states that the WFP Draft EIR fails to contain an adequate range of alternatives in accordance with CEQA guidelines, in particular, a low-growth alternative. The WFP Draft EIR evaluated seven alternatives, including Alternative 6, Constrained Surface Water and Groundwater, which could result in slowing future growth through limited water supplies.

Alternative 6 would approximate a continuation of existing conditions on the Lower American River and groundwater basins. This alternative would reduce certain significant impacts related to the increased diversions contemplated by the WFP. This alternative could, however, result in water shortages for existing water users, and as such, would not meet the basic objective of the project.

N-14 The WFP already includes water conservation as one of the elements of the project. Water meters are among the conservation practices included in the project.

The WFP Draft EIR identifies those water purveyors whose customers are already metered. It also identifies the commitments of other water purveyors to retrofit existing unmetered customers.

The WFP Draft EIR explains that the City of Sacramento has a provision in its Charter prohibiting mandatory residential meters. It is recognized that it would not be reasonable to assume a Charter Amendment will occur. Going as far as possible within the limitations of its Charter, the City of Sacramento would implement a voluntary meter retrofit program. The city plans a public education campaign that will illustrate the financial

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incentives (i.e., reducing monthly water bills, toilet and appliance rebates) associated with residential metering. Marketing tools implemented by the city to educate the public include advertisements in local newspapers, printed brochures, advertisements at community events, and advertisement through city resources (i.e., utility bill inserts).

The WFP also states that as soon as practical, purveyors signatory to the *Water Forum Agreement* will begin reading all meters and including the usage on the customers' bills. After that is completed purveyors will implement conservation pricing which bases customer charges on the quantity of water used.

With respect to Sacramento's per capita water use, it is recognized that hotter inland areas will have greater demand than cooler coastal regions (DWR, 1998). Accordingly, comparisons of per capita water use between different regions are not valid. Water needs to be met by the WFP already have been reduced by 25% to reflect projected savings from implementation of the Water Conservation Element, including meter retrofit and conservation-oriented pricing.

The 25% reduction is consistent with estimates from other areas which have implemented meter retrofit and other similar conservation programs (Brown and Caldwell. "Residential Water conservation Projects - Summary Report," Report Number HUD-PDR-903, prepared for the Department of Housing and Urban Development, Washington D.C., June 1984.)

N-15 The WFP anticipates that there will be some water transfers. For instance, it is envisioned that some of SMUD's water will be transferred to Sacramento County Water Agency. Similarly, water from Placer County Water Agency will be a source of supply for the conjunctive use project in the northern portion of Sacramento County. However, it is not possible to entirely meet the first of the Water Forum's two coequal objectives; namely, provide a reliable and safe water supply for the region's economic health and planned development to the year 2030, through water transfers. The 2030 diversion quantities negotiated through the Water Forum process were based on existing entitlements (contract and water rights) and water demand projections. It is not reasonable for the EIR to assume additional water tranfers beyond those included in the WFP.

The WFP Draft EIR analyzed seven (7) alternatives to the proposed project as described in Section 5.3. CEQA requires only that a "reasonable range" of alternatives be analyzed rather than every possible alternative.

N-16 The commentor's opinion that the WFP Draft EIR exaggerates the applicability of the county of origin protection (Water Code § 10505) of Water Forum service areas is noted. However, substantial evidence indicates that the county of origin protection would apply as described in the WFP Draft EIR. Based on the application of the county of origin protection and a combination of other "state and federal law[s] as well as certain water rights and terms and conditions," the WFP Draft EIR states that Sacramento, El Dorado, and Placer Counties "are protected from water supply impacts associated with the operation of the CVP and SWP, and are guaranteed a priority of right to water senior to the water rights held by the CVP and SWP …." (WFP Draft EIR at p. 4.3-9). The statement lists those three counties because they contain the geographic scope of the WFP; the listing was not intended to suggest that their protection from water supply impacts was based solely on the county of origin doctrine.

To the extent this statement is based upon the county of origin protection, it finds support in the WFP Draft EIR's specific description of the application of that protection (WFP Draft EIR page 4.3-9):

> The "county of origin" doctrine is found at Water Code §10505, which provides: "No priority under this part shall be released nor assignment made of any application that will, in the judgment of the board, deprive the county in which the water covered by the application originates of any such water necessary for the development of the county." This section applies in those cases where the Department of Water Resources, or its predecessor, has filed applications for water under §10500, which provides that the department may make applications for the development of water which in its judgment "is or may be required in the development and completion of the whole or any part of a general or coordinated plan looking toward the development, utilization, or conservation of the water resources or state."
>
> USBR's water rights, both for Folsom Dam and Reservoir and associated with the once-proposed Auburn Dam project, are based, at least in part, on these types of filings. In order to grant permits requested by USBR, and upon which they now rely, SWRCB had to decide whether to release the existing state applications and had to find that such releases would not deprive the counties of origin of water necessary for future development. These types of findings were made by the SWRCB for both of the USBR's Folsom and Auburn water rights permits based on the inclusion, within these permits, of terms and conditions protecting counties of origin.

The county of origin doctrine thus specifically protects Sacramento, El Dorado, and Placer counties in this manner. Commentor does not dispute this specific application of the county of origin protection to those counties, but misconstrues the more general statement it quotes as mischaracterizing the protection. However, reading the general and specific

statements together as a whole demonstrates that the WFP Draft EIR accurately describes the county of origin doctrine and that no revisions to the EIR in this regard are required.

N-17 The commentor states that the WFP Draft EIR mischaracterizes the watershed of origin protections (Water Code §§11460-11463) as operating as a limitation on the Central Valley Project ("CVP"). Commentor's opinion is noted. However, substantial evidence indicates that the watershed of origin protections would apply as described in the WFP Draft EIR. The watershed of origin protections prohibit impairment of a watershed by any public agency involved in the construction and operation of the CVP. *See* Water Code § 11128. The commentor concedes that Water Code sections 11460 and 11463 apply to the CVP but asserts that sections 11461 and 11462 of the Water Code do not. However, the assertion that the latter two provisions do not apply finds no support on commentor's citation to Water Code section 11128, which merely states that sections 11460 and 11463 *apply* to the CVP. Moreover, the Attorney General's discussion of sections 11461 and 11462 as qualifications on sections 11460 and 11463 supports the assertion that all four sections apply to the CVP. See 25 Ops.Atty.Gen. 8, 18-25 (1955).

N-18 The commentor states that the WFP Draft EIR should note that, under the area of origin doctrines, "compensation is required before CVP storage can be used" to augment diversion amounts contemplated by the Water Forum. Commentor's opinion is noted. However, an Attorney General Opinion examining this issue explained that it is a "question of fact" whether "the ultimate needs of the inhabitants of the watershed of origin can only be fully met by some degree of augmentation and regulation of the natural flow of the stream [with CVP water]" sufficient to require compensation to the CVP. 25 Ops.Atty.Gen. at 24. At this time, it is premature for the Final EIR to predict whether the Water Forum project will require use of CVP storage sufficient to require compensation to the CVP. Any subsequent agreement between a water purveyor and USBR would, of course, require compliance with all applicable project-level environmental review requirements.

It should also be noted that the majority of water to be diverted under the WFP is already covered by existing entitlements. Where new water rights are required, project-level environmental review would be required, and holders of existing water rights will have an opportunity to protest before the State Water Resources Control Board.

N-19 The commentor claims that the WFP Draft EIR inaccurately references the language of statutes authorizing Auburn and Folsom Dams (63 Stat. 852 (1949); 79 Stat. 615 (1965)) as indicating a congressional intent to recognize the watershed of origin doctrine. Those statutes recognize California's watershed of origin protections because they authorize the Secretary of Interior to conduct studies for the purpose of developing plans for the disposal of water consistent with those protections. Furthermore, the Attorney General has stated that the watershed of origin protections apply to the federal government so long as they do not conflict with more specific provisions of federal law. *See* 55 Ops.Atty.Gen. at 28-29.

The Attorney General was not aware of any federal statute preventing compliance with the watershed of origin protections nor is the Water Forum. *Id.* Therefore, the WFP Draft EIR accurately explains that the watershed of origin protections apply to the federal government.

N-20 The commentor states that the WFP Draft EIR's discussion of the area of origin protections render the final conclusion of the water supply impacts section of the WFP Draft EIR inadequate. The WFP Draft EIR's water supply section concludes, based on substantial evidence, that water supply impacts are significant and unavoidable. See WFP Draft EIR page 4.3-12. This conclusion is based upon a comparison of simulations representing the WFP under current level hydrology and of the Base Condition. See WFP Draft EIR page 4.3-5. The commentor has not presented any evidence demonstrating that the conclusion regarding water supply impacts is erroneous.

See responses to comments N-18 and N-19.

N-21 USBR's PROSIM model is not a water quality model. It does, however, account for key water quality standards for the Sacramento-San Joaquin Delta and other areas of the CVP/SWP system. Since compliance with water quality standards does affect the management operations of the CVP/SWP, it is important that PROSIM have the capability of accommodating these standards. In fact, based on the relationship between Delta outflow and salinity, PROSIM uses Delta outflow as an indicator that salinity standards in the Delta would be met.

In the PROSIM modeling performed for the Water Forum Proposal, Delta water quality requirements were met first, with Water Forum proposed diversions being met only after these water quality requirements were satisfied. Output from the PROSIM modeling performed for the WFP Draft EIR confirmed that Delta water quality standards could be met while delivering the additional diversions defined under the WFP. Hence, applicable salinity standards (observed through reliance on Delta outflow as an indicator in the Delta were met in the PROSIM simulations performed for the WFP Draft EIR.

N-22 USBR's PROSIM 6.0(a) represents a pre-release version of PROSIM 99. While there are subtle and minor differences between PROSIM 6.0(a) and PROSIM 99, the differences are insignificant from an impacts evaluation perspective. PROSIM 6.0(a), as a pre-release version of PROSIM 99 as applied by the Water Forum EIR preparers included theoretical storage corrections, a revised nodal configuration, improved logic for the coordination of Trinity and Shasta Division operations, updated logic for implementing CVPIA 3406(b)(2) actions, and other corrections in input hydrology consistent with PROSIM 99.

Regarding PROSIM Node 13, at the time the Water Forum's modelers first uncovered the inaccuracies associated with PROSIM Node 13, corrections were made as a part of the then PROSIM 6.0(a).

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It should be noted that it was the Water Forum's EIR preparers who first identified and then worked with the USBR to correct inaccuracies in PROSIM.

See response to comments N-16 through N-20.

N-23 The WFP Draft EIR acknowledges significant impacts to south of Delta water supplies. However, it is highly speculative as to what specific actions entities south of the Delta would take to mitigate or alleviate reductions in water deliveries. Moreover, given this uncertainty, it would be unduly speculative to attempt to determine what potential impacts might result from any number of possible actions these entities might implement. CEQA does not require an evaluation of impacts based on undue speculation or conjecture.

As an example, land fallowing as raised in the comment could result from decision(s) made by land use authorities after considering numerous factors, including but not limited to, the magnitude of reduced water availability, market strength, and economics. The magnitude of any reductions in water availability would be a function of how, if at all, the entity would pursue additional alternative water supplies (e.g., water purchases or transfers to make up for the shortfall in surface water deliveries). This decision together with those economic factors would influence whether land areas would be fallowed. Only after reasonable confirmation of this condition would an assessment of potential environmental impacts (e.g., soil erosion by wind, loss of soil cover, or land subsidence) be warranted.

Regarding operations and maintenance costs, CEQA provides that "[E]conomic or social effects of a project shall not be treated as significant effects on the environment." (State CEQA Guidelines §15131(a)).

Commentor's opinion regarding the impact of reduced water supplies on its operations and maintenance costs is noted. The WFP Draft EIR does not analyze the impact of reduced water supply on operations and maintenance costs because those are purely economic impacts.

Commentor's opinion with respect to subsidence damage is noted. While it is acknowledged that increased pumping of groundwater could lead to the impacts described by commentor, it would be unduly speculative for the EIR to analyze these impacts in the absence of specific information regarding future level of reliance on groundwater in dry periods. Water users have a range of options other than groundwater for obtaining water supplies during dry periods. For example, water users can purchase water from the State Drought Water Bank, as was done in 1991 and 1992. Thus, prediction of potential subsidence damage would require an unreasonable degree of speculation.

Commentor also suggests that it will need to modify wells in the western area of Westland Water District if it experiences an increase in the rate of groundwater extraction. The comment is noted. As explained above, the magnitude of reliance on groundwater that

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would be caused by implementation of the WFP is speculative in light of the availability of other water supplies. In addition, modification of wells, in and of itself, is not an environmental impact but an economic impact.

Commentor's statement that water quality will decrease if increased groundwater pumping occurs is noted. Again, it is not feasible to determine the extent of groundwater pumping that would actually occur as a result of implementation of the WFP. Therefore, it is infeasible to ascertain the extent of water quality degradation that would occur as a result of such pumping. Thus, any analysis of water quality impacts linked to increased reliance on groundwater by water users is unduly speculative at this time.

N-24 The WFP Draft EIR examines a reasonable range of measures to reduce impacts to SWP and CVP water users. The WFP itself includes features intended to lessen potential environmental impacts. Such features include water conservation, dry year diversion restrictions, conjunctive use of groundwater and surface water, and the Lower American River Habitat Management Element. Adoption of the WFP with these features would reduce adverse water supply impacts to SWP and CVP contractors elsewhere in the system. (See WFP Draft EIR at 4.3-8) Further reduction of water supply impacts will require reoperation of the system, a measure which lies under the control of state and federal regulatory agencies and is thus beyond the jurisdiction of Water Form signatories. Given the complex nature and approval processes for system reoperation, it is infeasible at this time for the WFP to propose any further measures which could meaningfully reduce water supply impacts. In addition, the WFP does not provide for diversion of any water to which signatory agencies are not already entitled under state and federal law, including area-of-origin protections. See also responses to comments N-16, N-17, and N-20.

N-25 See responses to comments N-23 and N-24.

N-26 See responses to comments N-9 and N-10.

N-27 With regard to definition of the "study area", see response to comment N-6. With regard to assessment of impacts south of the Delta, see responses to comments N-23 and N-24.

N-28 See responses to comments N-2, N-13, N-16, and N-17.

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LETTER
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STATE OF CALIFORNIA - RESOURCES AGENCY
Gray Davis, Governor
DEPARTMENT OF PARKS AND RECREATION
AMERICAN RIVER DISTRICT
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April 1, 1999

Mr. Dennis Yeast
Sacramento Water Forum
827 7th Street, Room 220
Sacramento, CA 95814

Re: State Clearinghouse # 95082041
Water Forum Proposal Draft Environmental Impact Report

Dear Mr. Yeast:

The California Department of Parks and Recreation (CDPR) has reviewed the above document (DEIR) and submits the following comments:

- A project of this magnitude has many potential stakeholders beyond those listed as signatories in the document; with the many effects to Folsom Lake listed in the DEIR, it would seem that the Water Forum should have included the many Folsom Lake interests, including CDPR, as part of the stakeholder group. Earlier direct dialogue would have proven of value in the analysis and identification of issues and potential resolutions. O-1
- An excerpt from the Water Forum's objective, "Preserve the fishery, wildlife, recreational, and aesthetic values of the Lower American River", raises the question of the Water Forum's commitment to Folsom Lake. Given the degree of impacts to Folsom Lake found in the DEIR, it would appear that the lake has been a low preservation-protection priority. O-2
- As evident from lake elevation/recreation use data, relatively inelastic recreation demands exist at Folsom Lake; the formulation of a plan that directly exacerbates lake elevation fluctuations appears to be a deliberate action that discounts the importance and value of Folsom Lake's natural, cultural, and recreational resources. O-3
- All Folsom Lake related mitigation measures need to be agreed upon, finalized, and included as part of the final project EIR - not to be identified in a follow-up or successor effort. O-4
- The modeled period of record data needs to be accompanied by a 'real time" historic record that would allow for more meaningful comparison of effects of the Water Forum proposal. Inclusion of Temperature Control Device related weighted data furthers the perception of biased data. O-5

- Swimming beach-related data arbitrarily defined 420'-455' as the "usable" beach zone; effects were derived using this definition. Through analysis and operating experience, CDPR has found that lake elevation range 440'-high pool is the "usable" or optimal beach range for this recreational use. Attendance and revenue figures drop significantly as lake elevations go below this range. The data and conclusions need to be remodeled based upon this zone range. O-6
- Exhibit 4.9-6c, "Lower American River Flows Compared to Recreation Thresholds in July", is formatted in a manner that would allow for its use as an effective means to show break points for Folsom Lake launch ramps at given lake elevations. Inclusion of such an exhibit would aid the information analysis process. O-7
- Project Impact 4.5-2, "Impacts to Folsom Reservoir's Warmwater Fisheries", provides a range of mitigation measures that will require an active monitoring program to accomplish. CDPR should be funded as the lead agency to perform these tasks. O-8
- Project Impact 4.8-6, "Special Status Species of Riparian and Open Water Habitats", has no supporting analysis of the actual potential effects to the known wintering Bald Eagle population of Folsom Lake. Further analysis needs to be provided on this species; should a long-term monitoring plan be deemed necessary, CDPR should be funded as the lead agency for this task. O-9
- Project Impact 4.9-3, ""Reduced Folsom Reservoir Boating Opportunities", it is unclear why other non-Water Forum related agencies should be relied upon to fund Water Forum based impacts. Mitigation actions are to be developed as a part of a follow-up Habitat Management Plan or other successor effort; processes and procedures regarding such an endeavor are not provided. All Folsom Lake identified impacts need to be negotiated directly with CDPR prior to issuance of a final EIR. Folsom Marina area improvements are not specified; it is not possible to evaluate impact significance reduction without specified measures - again such details must be included in the final EIR. O-10
- Project Impact 4.9-4, "Reduced Availability of Folsom Reservoir Swimming Beaches", in addition to the earlier comments regarding the defined "usable" swimming beaches, it is unclear why other non Water Forum related agencies should be relied upon to fund Water Forum based impacts. Mitigation actions are to be developed as a part of a follow-up Habitat Management Plan or other successor effort; processes and procedures regarding such an endeavor are not provided. All Folsom Lake identified impacts need to be negotiated directly with CDPR prior to issuance of a final EIR. Folsom Point needs to be included as an impact mitigation study site. O-11
- A General Plan Amendment or updated General Plan for Folsom Lake State Recreation Area must be performed prior to the implementation of any major recreation facility change not indicated in the current unit General Plan. Such a General Plan action will need to be funded by the Water Forum or its successor entity. O-12
- Project Impact 4.12-1, "Effect of Varying Water Levels on Cultural Resources in Folsom Reservoir", CDPR staff believes that a vehicular management program can be developed to lessen cultural resource impacts within the reservoir fluctuation zone. Development and implementation of such a program needs to be included as a mitigation measure in the final EIR. O-13

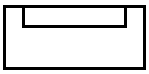
- All cumulative impact discussions require the same measures as called for above. O-14
- CDPR reserves its rights for further comment pending ongoing discussions between CDPR staff and Water Forum representatives. O-15

Thank you for the opportunity to comment on this document. Please call me at (916) 988-0205 if you have further questions.

Sincerely,

Rick LeFlore
District Planner

Cc: Bruce Kranz, ARD District Superintendent
Projects Coordinator, Resources Agency, Nadell Gayou
Richard G. Rayburn, Chief, Resource Management Division



Rick LeFlore, District Planner
California Department of Parks & Recreation
April 1, 1999

O-1 The comment concerns the composition of the Water Forum stakeholders and is noted. The original coequal objectives of the Water Forum addressed protection of the Lower American River. Some agencies with interests beyond the Lower American River are affected by the WFP, including the California Department of Parks and Recreation (CDPR). The involvement of affected agencies and the public has occurred through the distribution of the WFP Draft EIR, receipt of comments on the WFP Draft EIR, and preparation of responses to comments, as required by CEQA. Also, direct consultation has taken place, and will continue to take place, with CDPR staff regarding mitigation opportunities.

O-2 The Water Forum Draft EIR recognizes the value of Folsom Reservoir and its resources. The WFP includes numerous actions to reduce adverse impacts, including impacts on Folsom Reservoir. These actions include dry-year cutbacks, water conservation, conjunctive use, and other measures. The WFP Draft EIR also contains additional mitigation opportunities for Folsom Reservoir. See also response to comment O-4.

O-3 The WFP Draft EIR recognizes the relationship between reservoir surface elevation and recreation opportunity for boating and swimming, and concludes that the WFP would result in significant effects to recreation at Folsom Reservoir. A significant effect is also identified for other resources related to Folsom Reservoir, i.e., cultural resources and warm water fisheries. The WFP Draft EIR clearly discloses the potential for adverse effects, so it does not discount the importance of the consequences of the WFP. As explained in response to comment O-4, the WFP is designed to reduce the extent of reservoir surface elevation impacts to the fullest extent feasible.

O-4 The comment requests consultation and additional detail regarding mitigation measures related to Folsom Reservoir. Since receipt of the Draft EIR comments, Water Forum staff and purveyors have had several meetings with representatives of the California Department of Parks and Recreation (CDPR) and staff to Congressman Doolittle. During these meetings the CDPR has clarified that its comments relate to recreation, particularly the anticipated loss of visitor days. An approach for mitigation has been developed during these meetings that responds to this comment and also addresses comments B-1, O-8, O-10, O-11, and EE-1.

Summary

Water Forum signatories will work with their elected officials, CDPR and other agencies that have an interest in reservoir levels, such as Congress, USBR, California Department of Boating and Waterways and the Sacramento Area Flood Control Agency, to obtain at

continued ...

least $3,000,000 of new funding for improvements to Folsom Reservoir recreation facilities.[1]

Background

Historically, many Water Forum purveyors secured water rights prior to the construction of the Folsom Reservoir. After construction of the reservoir, USBR assumed responsibility for operating the reservoir to store and manage water for the operation of the CVP, among other purposes. The reservoir has historically held and released to CVP customers water that Water Forum purveyors were entitled to but had not diverted. As purveyors increase diversions in accordance with historic entitlements, the manner in which USBR operates the reservoir together with flood control operations will influence reservoir levels. For these reasons and because CEQA defines "impacts" and "effects" as "direct or primary effects which are *caused* by the project" (14 Cal. Code Regs. § 15358), some purveyors believe that reservoir declines are properly viewed as being caused by the lack of replacement water supplies for the Central Valley Project as senior water rights are exercised and CVP yield is required to be used for environmental purposes. Accordingly, these purveyors believe that CEQA mitigation for reservoir impacts is not a legally required purveyor responsibility. As described below, however, the Water Forum project will include measures that will tend to lessen the effect of the reduction in Folsom Reservoir levels that would occur in the future.

As noted in the DEIR, the Water Forum project includes measures that limit the extent of reservoir reductions by restricting diversions in dry years and imposing more extensive water conservation measures than would occur in the absence of the Water Forum Agreement. To help offset the effects of reservoir reductions that do occur, the Water Forum will work with other agencies that have an interest in reservoir levels, such as Congress, USBR, California Department of Boating and Waterways, and Sacramento Area Flood Control Agency, to obtain at least $3,000,000 of new funds for improvements to Folsom Reservoir recreation facilities. The CDPR is the agency responsible for managing the resources of Folsom Reservoir. Therefore, it is the appropriate agency to receive these funds and manage the recreational improvement projects.

The CDPR will develop a list of potential recreation improvement projects as part of the funding request. One type of project could be "mini-dikes," i.e., sculpted embankments

[1] New funding means funding Water Forum signatories are instrumental in obtaining that was not authorized, appropriated, or requested as of January 1, 2000.

continued ...

within the lake bed to impound water for swimming use when reservoir levels are low. The design of the recreational improvements in the lake would also include design features for improving warm water fishery habitat, such as structural complexity for fish on the lake side of the mini-dike embankment, which would also support recreational fishing. Other projects could include, but not be limited to, those identified in the Draft EIR. The improvements are intended to help mitigate the anticipated loss of visitor days.

The USBR will contribute separate funding for an update by CDPR of the Folsom Lake State Recreation Area General Plan.

O-5 There is no "real-time" historic record that comports with the modeled period of record. The CVP has only been in place since the mid 1940s. The operations of the project since that time have evolved with the addition of new facilities, regulatory actions and legislative mandates, including the Central Valley Project Improvement Act which has only been in place since 1992. The way the CVP was previously operated in "real-time" is not the way the CVP is currently operated, thus real time operating data would provide no meaningful information for the purpose of impacts analysis. The 70-year hydrologic period of record was modeled in a way that represents the most reasonable CVP and SWP operations under existing conditions.

With respect to the TCD, see response to comment C-8.

O-6 The rationale supporting the thresholds used in the WFP Draft EIR is presented on pages 4.9-21 and 22 (including Table 4.9-10). The Folsom Reservoir water surface elevation range of 420 to 455 feet msl established as the threshold for swimming beaches was determined after review of previously published information and environmental documents. The high end of the range is based on a California Department of Parks and Recreation public information sheet on the State Recreation Area, cited as CDPR (no date), which indicated that above 455 feet the water substantially encroaches on available beach area. The low end of the range, 420 feet, was previously used as a threshold in two environmental documents, for the Sacramento Area Flood Control Agency's interim Folsom Dam reoperation (SAFCA and USBR 1994) and Sacramento County's Public Law 101-514 water contract (Sacramento County and USBR 1997). While the CDPR did not dispute the use of these thresholds in the previous documents, it has been clarified by CDPR staff since the release of the Water Forum's Draft EIR that the range does not reflect their current understanding of how swimming visitation responds to lake levels.

The WFP Draft EIR states that the quality of the swimming beaches declines below 435 feet and that the optimum range for high quality recreation activities is between 435 and 455 feet (see page 4.9-22). Although recognizing the concept of optimum elevation, the WFP Draft EIR analysis focuses on the "useable" elevation range, or the level below which the swimming beach is no longer in service. Reduced visitation is expected as the lake

continued ...

declines (as it goes below an optimum level), but the beach can still be used down to 420 feet.

Current operating experience of CDPR staff, as discussed in meetings with CDPR since the release of the WFP Draft EIR, indicates that the minimum lake elevation for optimum swimming beach use should be 440 feet, and that water levels above 455 feet to full pool do not substantially diminish swimming visitation. As requested by the commentor, the analysis of swimming beaches has been expanded to include the effect of the WFP on summer reservoir elevations relative to the 440-foot threshold. The results of the additional analysis do not change the conclusion of the WFP Draft EIR that significant effect to swimming opportunities would occur as a result of the WFP diversions.

The WFP Draft EIR provided estimates, based on PROSIM modeling results of average or mean month-end reservoir elevation, of the number of years of the hydrologic record when certain recreation-related elevation thresholds would be met during peak-use, summer months. The analysis compared the base condition with the Water Forum diversions.

Table O-6 illustrates the effect of the Water Forum Proposal on how often the 440-foot threshold would be maintained in peak-use summer months. The number of years of the 70-year hydrologic record when the reservoir is at or above 440 feet is presented for both the base condition and Water Forum Proposal. During June and August, the number of years when the reservoir is at or above 440 feet would be reduced by 2 to 3 years as a result of the Water Forum Proposal diversions. In other summer months, there would no adverse effect on maintaining the 440-foot recreation threshold resulting from the Water Forum Proposal.

TABLE O-6
Effect of CDPR Optimum Recreation Elevation of 440 Feet msl in Folsom Reservoir

Month	Number of years of the 70-year hydrologic record at or above 440' msl elevation recreation threshold		
	Base Condition	Base Plus WFP	WFP Change
May	45	46	+1
June	40	37	-3
July	26	27	+1
August	25	23	-2

continued ...

September	0	0	n/c

Source: EDAW 1999, based on model results of average month-end elevation by SWRI

O-7 As requested by the commentor, a chart showing the change in reservoir elevations resulting from the WFP, analogous in format to the Lower American River chart in Exhibit 4.9-6 of the WFP Draft EIR, is presented for May, June, July, August, and September. Please refer to Exhibit O-1a through O-1e.

O-8 Please refer to response to comment O-4.

O-9 The WFP Draft EIR contained a less-than-significant impact conclusion for special-status, terrestrial species, including bald eagle, on the Lower American River (Impact 4.8-6). The comment requests consideration of the wintering bald eagle population of Folsom Reservoir. Since the release of the WFP Draft EIR, EDAW has further investigated the presence of wintering bald eagles on Folsom Reservoir and the potential effect of reservoir elevation changes. The conclusion of the investigation is that the reservoir elevation fluctuations associated with the Water Forum Proposal would not cause significant effects to the wintering bald eagle population of the reservoir, as explained below.

The assessment of bald eagles on Folsom Reservoir included research and consultation regarding the number of eagles in the population and the potential for changing reservoir elevations to adversely affect the wintering population (King 1999). The Folsom Christmas Bird Count undertaken annually by local birdwatchers and the Bald Eagle Midwinter Survey performed annually by biologists from resource agencies both include information useful for describing the Folsom Reservoir bald eagle population. Based on these surveys, the wintering population in the reservoir area is probably small (1 to 5 birds), but may be increasing with the overall improvement in the species' numbers in California. Comparison of the number of wintering birds with data on Folsom Reservoir elevations found no clear relationship. The data suggests that a slight increase in the number of birds may occur with lower reservoir elevations, but the relationship is not statistically significant. A search of the literature also revealed no clear indications of reservoir level having a significant effect on bald eagles elsewhere. The literature cites other issues as important impact factors, e.g., disturbance by recreation visitors to reservoirs, availability of perching and roosting sites, and overall availability of food.

The results of this assessment support the conclusion that the Water Forum Proposal would not result in any significant environmental effects to wintering bald eagles. No mitigation measures are required.

O-10 Please refer to response to comment O-4.

continued ...

O-11 Please refer to response to comment O-4.

O-12 In meetings since the release of the WFP Draft EIR, CDPR staff has indicated that they have secured funds to initiate the process of updating the Folsom Lake State Recreation Area General Plan. As indicated in Response O-4, CDPR will develop a list of recreation improvements to support a request for new funds involving at least $3,000,000. The Water Forum organizations will work with CDPR and their elected representatives to obtain this funding. Although CDPR would not be precluded from using some of this funding to continue the General Plan update process, based on discussions with CDPR staff, other pending requests for planning funds have already been submitted for the General Plan. Any recreation improvements ultimately implemented by CDPR would be consistent with the General Plan.

O-13 Since the release of the WFP Draft EIR, the USBR has been pursuing the development of a Memorandum of Agreement (MOA) with the State Historic Preservation Officer in compliance with Section 106 of the National Historic Preservation Act, to mitigate impacts related to cultural resources resulting from reservoir reoperation for flood control. The MOA would implement an amended Research Design for mitigation presented in the 1994 Sacramento Area Flood Control Agency/USBR Interim Re-operation EIR/EA. The Research Design includes cultural resource protection measures, data recovery procedures, and consultation requirements with Native American interests. SAFCA and USBR are required to implement the mitigation program to comply with Section 106. Because this overall program would involve the same cultural resources in Folsom Reservoir that could be affected by the WFP, implementation of this mitigation program could mitigate the effects described in Impact 4.12-1 of the Water Forum Draft EIR. Therefore, the cultural resources effects described in the WFP Draft EIR can and should be mitigated by the process and actions required for Section 106 compliance related to interim or long-term reoperation of the reservoir for flood control implementation by the USBR as part of the permanent reoperation of Folsom Reservoir for flood control.

O-14 The significant environmental effects to Folsom Reservoir resources identified in the WFP Draft EIR for cumulative impacts are the same as those identified for project impacts. Therefore, mitigation described in the WFP Draft EIR and in the above responses would also address the WFP's contribution to cumulative effects.

O-15 Comment noted.

O-1a
may

O-1b
june

continued ...

O-1c
july

O-1d
august

continued ...

O-1e
September

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LETTER
P

SRCSD

Wastewater Treatment

RECEIVED
APR 0 5 1999
CCMWP

April 5, 1999

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Ms. Susan Davidson
Sacramento City-County Office of Metropolitan Water Planning
5770 Freeport Boulevard, Suite 200
Sacramento, CA 95822

Dear Ms. Davidson:

Subject: **Comments on the Draft Environmental Impact Report (DEIR) for the Water Forum Proposal (WFP)**

The Water Forum is to be commended on its diligent efforts to provide a reliable water supply for the region to the year 2030, and on it's ability to overcome significant complex and controversial obstacles to achieve this goal. Much has been accomplished through these efforts to reduce the significant cumulative impacts of anticipated increased diversions from the American River.

The purpose of this letter is to convey the potential impacts that the Sacramento Regional County Sanitation District (SRCSD) faces due to changes in Sacramento and American River water quality or quantity. Because the WFP proposes to divert American and Sacramento River water to supplement the future water supply needs for the Sacramento metropolitan region, SRCSD believes comments are appropriate and appreciates the opportunity to comment. SRCSD comments provided herein are consistent with those submitted on other proposed projects that affect river quality and quantity (i.e. East Bay Municipal Utility District (EBMUD) Supplemental Water Supply Project). These cumulative diversions are of concern for the reasons explained below. P-1

The SRCSD is a publicly owned wastewater agency serving over one million people by providing wastewater conveyance and treatment for the Sacramento Metropolitan Area. The SRCSD owns the Sacramento Regional Wastewater Treatment Plant (SRWTP) and is responsible for its operation. The plant currently treats a seasonal dry weather flow in excess of 150 million gallons per day (mgd) and has a permitted capacity to treat up to 181 mgd. It is anticipated that the plant site will reach its 360 mgd buildout capacity around the year 2027. Treated effluent is discharged into the Sacramento River at a point downstream of the town of Freeport. The SRWTP's discharge is governed by strict quality limits that are specified in a NPDES permit issued by the Central Valley Regional Water Quality Control Board (CVRWQCB). The discharge permit specifies significant fines and criminal penalties that can be levied if the discharge is not in compliance with the permit.

The SRCSD comments on the subject DEIR fall into three categories: potential impacts to SRWTP operations and associated costs, potential impacts to permit compliance, and other.

2.a. *Increased background concentrations.*
On January 23, 1998, the Regional Board adopted the 1998 Clean Water Act Section 303(d) list of impaired water bodies and Total Maximum Daily Load (TMDL) priority list for the Central Valley. These water bodies are not expected to meet water quality standards even if point sources are regulated to comply with the current level of treatment technology required by law. Constituents of concern listed for the Sacramento River from Red Bluff to the Delta include diazinon, chlorpyrifos, mercury (Hg), "unknown toxicity" and organo chlorine pesticides.

The Sacramento River notably has very high background concentrations of pollutants including mercury and diazinon; even minute increments in these pollutants are of concern. Proposed reductions in American River flows that typically provide substantial volumes of high quality water could adversely impact Sacramento River water quality. Because it has a much higher water quality, the American River reduces the concentration of pollutants in the Sacramento River. This is critical since receiving water concentrations are used in calculating effluent limits. Pending stringent regulations propose water quality standards that could make future permit compliance difficult. If the Sacramento River water quality is degraded due to diversion of American River water, the SRWTP permit may include more stringent effluent limitations (particularly for metals and/or organics) that would require costly advanced treatment.

2.b. *Compliance with State Thermal Plan.*
In Section 4.5 Project Fisheries Resources and Aquatic Habitat Impacts, the DEIR concludes that there is a less-than-significant impact in lower Sacramento River temperatures (page 4.5-72-73 and Table 4.5-25). It also states that cumulative impacts would not substantially change the 69-year average water temperatures at Freeport, but there would be substantial temperature increases that would occur about 5 to 40% of the time for individual months during June through September (page 6-28). These temperature increases could impose a significant impact to SRWTP compliance with the State Thermal Plan. P-3

Sacramento River water temperatures are of great concern due to the presence of sensitive migrating anadromous fish in the vicinity of the SRWTP discharge. Because of the concern for even small increments in river temperature, SRWTP river temperature compliance monitoring is recorded to a tenth of a degree, thus even relatively minor changes in Sacramento River water temperatures could pose a significant impact to the SRCSD.

The SRWTP discharge must comply with three temperature restrictions specified in the SWRCB Water Quality Control Plan for Control of Temperatures in Coastal Waters and Enclosed Bays and Estuaries of California (Thermal Plan). Because there are periods of time when SRWTP discharge cannot comply with two of the temperature limits due to fluctuations in river quantity and/or temperature, the SWRCB adopted resolutions that provide exceptions to these limits. These exceptions are only temporary and may be revoked. Effluent flow is diverted to onsite emergency storage basins when effluent thermal conditions can not meet the Thermal Plan requirements and exceptions.

The Central Valley Regional Water Quality Control Board (CVRWQCB) is currently in the process of renewing the SRWTP NPDES permit. The CVRWQCB has notified the SRCSD that continuation of the Thermal Plan exceptions will depend on the results of a SRCSD study to evaluate the impacts of the SRWTP discharge on the fishery. The study requirement is the result of the CVRWQCB's

opinion that the Thermal Plan and Basin Plan do not address the temperature parameters necessary to protect migrating fish. In addition to performing this study, the SRCSD has been working with federal, State and local regulatory agencies for more than ten years to resolve these issues. The SRCSD is participating in the State Board's Thermal Plan triennial review which is anticipated to result in temperature limits that are more stringent.

2.c. *Increased salts, TOC and pathogens.*
The SRCSD is under increasing pressure from downstream water purveyors who have expressed significant concerns about potential impacts from SRCSD's proposal to increase discharge to accommodate future growth. Increases in river concentrations of salts, TOC and pathogens are of significant concern to the water purveyors. They believe any increase in these constituents above the current concentration is a significant impact on their water treatment costs and must be mitigated. Reduction in American River flows will increase the concentrations of salts, TOC and pathogens in the Sacramento River and could potentially impact future SRWTP discharges.

2.d. *Increased influent concentrations.*
An increase in the use of surface water may increase the concentration of permitted and/or potentially permitted constituents so that permit compliance may be affected. Currently, the source of wastewater is about 40% groundwater and 60% surface water. Groundwater quality typically has lower concentrations of some constituents that are of concern to the SRCSD. Thus, an increase in the ratio of surface water to groundwater may slightly increase the concentration of certain constituents of concern in the wastewater influent so that permit compliance may be compromised. P-3

One example of how this may impact the SRCSD can be illustrated with mercury. Mercury limits are based on two different standards. One standard is to protect human health and the other is to protect aquatic life. In the case of mercury, the adopted drinking water standard (2 ppb (parts per billion) is larger than the proposed receiving water standard due to the fact that mercury bioaccumulates in fish that are consumed by humans. Although the mercury receiving water standard has not been firmly established, the proposed standards are all significantly less than the human health standard. Numbers being proposed range from 50 ppt (parts per trillion) in the California Toxics Rule (CTR) to 12 ppt in EPA's 1984 Ambient Water Quality Criteria for Mercury. The 12 ppt is based on the exceedance of the FDA action level for methylmercury in fish tissue. In response to the proposed CTR, the Fish and Wildlife Service and the National Marine Fisheries Service has draft a biological opinion objecting to the 50 ppt standard proposing a 2 ppt standard. Due to the uncertainty of the applicable water quality criteria, the CVRWQCB removed a 12 ppt mercury effluent limit in the SRWTP tentative permit until further internal discussion and determination.

3. Other.
The following comments are included for your consideration:

1. The DEIR states that water quality mitigation measures due to planned growth will be addressed in the Sacramento County and other regional General Plans and notes that the SRCSD is currently updating its Master Plan and will update the document every 5 years. The Master Plan is updated as needed and the SRCSD anticipates that approximately every 5 or so years there will be enough changes to warrant a significant update. The relevance of the Master Plan and this DEIR is unclear. It seems to imply that the Master Plan will address impacts that may result from the proposed project. Deletion of this reference is requested. P-4

1. Potential impacts to SRWTP operations and costs due to reduced discharge periods.
In Sections 4.4 Project Water Quality Impacts and 6.4 Cumulative Water Quality Impacts, the DEIR concludes that there is a potentially-significant impact in Sacramento River water quality due to a slight reduction in river dilution capacity coupled with increased consistent loading from urban, stormwater, and wastewater discharges. It was noted that project impacts would reduce the 70-year average flow at the Freeport location, upstream of the SRWTP's discharge, by 0.5% to 3.4% (pages 4.5-69-70 and Table 4.5-22). It is also stated that flow reductions of 1% to 10% could occur regularly in individual years and flow reductions of 10% or more will occur on a more infrequent basis.

In addition, the projected flow reductions due to cumulative impacts from both Water Forum and non-Water Forum projects would reduce the flows even further. The 70-year average flow would be reduced by less than 5% with flow reductions of 1% to 10% occurring more regularly in individual years during all months. Flow reductions of 10% or more are expected to occur infrequently during November through May, but more frequently during the June through October and flow reductions of 20% or more will occur infrequently during all months except August, when flow reductions of 20% or more would occur (pages 6-26).

These flow reductions could be a significant impact to the SRCSD because river flow dictates when and how much effluent discharge is allowed. River flow is strongly influenced by upstream water releases, diversions from CVP, SWP and other facilities along with downstream ocean tides. The SRWTP discharge permit specifies a minimum dilution ratio of 14:1 (river:effluent) that must be maintained at all times during discharge to the river. Effluent flow is stopped when river flow does not provide adequate dilution and flow is diverted to onsite emergency storage basins where effluent is temporarily stored until the 14:1 dilution ratio can be met. Stored effluent must be retreated and can substantially increase plant influent flows. Increased return rates in turn can stress plant process and may result in degradation of effluent quality. P-2

The procedure for returning flow to the river is very complicated and is subject to human and mechanical error and provides opportunities for technical permit violations. Establishing proper chemical balance to meet water quality standards prior to resuming discharge to the river is complex. Each time effluent is returned to the river, there is a potential for a chlorine and/or pH permit violation. Also, stored wastewater must be discharged to the river in a 24-hour period to ensure that there is adequate storage for subsequent diversions.

Low river flow periods in particular create problems. For example, in 1988 there were a total of 366 diversions including 96 consecutive days of diversions from August through November. Multiple diversions occurring on consecutive days, weeks, months complicate plant operation, stress plant processes during the return period, and threaten river water quality. The proposed decreases in river flow will compound this problem.

2. Potential impacts to permit compliance.
Reduction in Sacramento River water quality and quantity may have significant impacts on SRWTP discharge permit compliance as described below. P-3

2. On page 4.4-4 the acronym SRWWTP should be SRWTP. P-5

3. On page 4.4-5 the following statement is made: "In the 1980's, rice pesticides were responsible for fish kills in agricultural drains and also for taste and odor problems in the water treated at the SRWTP." The taste and odor problems were probably related to the City of Sacramento Water Treatment Plant, not SRWTP. P-6

4. On page 4.4-11 the following sentence is under the heading Sacramento River Watershed Program (SRWP) "SRCSD participation in this program will contribute to efforts to reduce and control priority pollutant loadings to the Sacramento River and Delta from key point and non-point sources in the watershed." It is suggested that the sentence be revised to read: "SRCSD is a stakeholder in the SRWP and as such will contribute to efforts to reduce.....in the watershed." P-7

5. It is suggested that the acronym SRCSD, used to identify the Sacramento Regional County Sanitation District, be added to the list of acronyms. P-8

6. In Section 5, evaluation of alternatives to reduce potential adverse environmental impacts of the WFP, the SRCSD is concerned with Alternative 1. Alternative 1 proposes to divert up to 78,000 acre-feet of surface water for drinking water supply from the lower American River to two locations on the Sacramento River, Freeport and Elkhorn. The SRCSD is concerned that a water treatment facility at Freeport (just upstream of the SRWTP discharge) would impose unnecessary liability even though SRWTP discharge is stopped when reversed or inadequate river flow occurs. One of the main reasons the Regional Board strongly recommended wastewater regionalization was to significantly separate water intakes and wastewater discharges. P-9

As noted above, the SRCSD has concerns with the proposal to divert water from the American River as it could adversely impact the SRWTP operation and permit compliance due to changes in river water quality and quantity. The SRCSD requests that the issues raised in this letter be considered and addressed in the preparation of the Final EIR. If you have any questions regarding this letter, please contact Mary James at (916) 875-9120. P-10

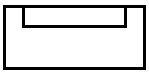
Sincerely,

Wendell H. Kido

Wendell H. Kido
District Manager

WHK/RS:gjl (DEIR.doc)

cc: R. Shanks
K. DeVore
S. Dean
M. James
R. Seyfried
D. Dean
D. Eck



Wendell H. Kido
Sacramento Regional County Sanitation District
April 5, 1999

P-1 Comment noted.

P-2 Comment noted. The WFP Draft EIR acknowledges that potentially significant water quality impacts would occur for both the project and future cumulative conditions.

P-3 The comment notes various effects of the WFP on the SRWTP. Operational implications of WFP implementation are acknowledged and are discussed in the WFP Draft EIR as described below.

Part a. Increased background concentrations. The WFP Draft EIR (page 4.4-14) indicated that reduced Lower American and Sacramento River flows during some months of some years, combined with increased effluent discharge from the SRWTP and other sources, could further degrade Sacramento River water quality. Future water quality regulations, standards, and policies, as well as future CVP/SWP operations (affecting river flows), may dictate the need for additional treatment at the SRWTP in the future.

Part b. Compliance with State Thermal Plan. As noted by the commentor, the WFP Draft EIR discusses factors that may affect the ability of SRWTP to comply with the State Thermal Plan requirements. It is acknowledged that the SRWTP may need to change its operations in the future to address continuing concerns over temperatures in the Sacramento River. The WFP Draft EIR identifies potentially significant cumulative impacts on Sacramento River water quality, including "… additional warming in various reaches of the Sacramento River, relative to higher flow conditions, when ambient air temperatures are high (i.e., during the summer and fall months" (WFP Draft EIR page 6-9). Through the SRCSD's ongoing Master Planning process, as well as the 5-year renewals of the plant's NPDES permit, information has been brought forward to indicate that temperature requirements for the SRWTP may indeed change in the future, relative to those that exist today. Mitigation measures were incorporated into the WFP in order to reduce potentially significant impacts (including impacts related to temperature changes), where feasible, to less-than-significant levels.

Part c. Increased salts, TOC, and pathogens. The impacts of reductions in American River flows to downstream water quality were modeled in a water quality analysis discussed in Response to Comment AA-1.

It also should be noted that the full diversions defined in the WFP would not occur for 20-30 years. As such, there is sufficient time for the SRCSD's SRWTP master planning

continued ...

process to develop and implement specific strategies (e.g., upgraded treatment, increased reclamation, source control, etc.) to minimize or prevent further degradation of Sacramento River and Delta water quality. Specific measures required to adequately implement these strategies to address water quality issues in the future would be expected to be paid for, in part, by ratepayers within Water Forum purveyor jurisdictions that are situated in the SRCSD service area. This could occur through the collection of new and/or increased connection fees and increased household sewer rates.

Part d. Increased influent concentrations. The responses provided to other components of this comment (above) apply here as well. Changes in the proportion of surface to groundwater used in the SRCSD service area could result in changes to various constituent influent concentrations. It is further acknowledged that the regulation of mercury in the SRWTP's NPDES permit remains uncertain at this time. Any programs required to adequately address this issue would be expected to be paid for, in part, by ratepayers within Water Forum purveyor service areas that are within the SRCSD's service area through the collection of new and/or increased connection fees and increases in household sewer rates.

P-4 It is not implied that SRCSD should mitigate for the adverse water quality impacts of the WFP. However, the SRCSD's Master Planning process and future 2020 Master Plan EIR will address increased needs for wastewater treatment and disposal associated with regional growth. Moreover, it is anticipated that the WFA signatories and SRCSD will work together to identify the most cost effective strategies for protecting water quality.

P-5 Comment noted. This change is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR, in the Final EIR. This change does not affect the conclusions of the WFP Draft EIR.

The second sentence of the second paragraph on page 4.4-4 is revised as follows:

… Despite the seasonal variability of many constituents, a recent study revealed that monitored water quality parameters in the vicinity of Freeport (immediately upstream of the SRW~~W~~TP's point of discharge) typically met water quality objectives specified in the former Inland Surface Waters Plan (described below), except for some metals (SWRCB, 1994). …

P-6 Comment noted. This change is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR, in the Final EIR. This change does not affect the conclusions of the WFP Draft EIR.

The third paragraph on page 4.4-5 is revised as follows:

continued ...

Agricultural drainage constituents of concern include nutrients, pesticides/herbicides, suspended solids, dissolved solids and organic carbon (City of Sacramento, 1993). In the 1980s, rice pesticides were responsible for fish kills in agricultural drains ~~and also for taste and odor problems in the water treated at the SRWTP~~. The major fish kills in the Colusa Basin Drain have since been eliminated as a result of the multi-agency rice pesticide control program (City of Sacramento and City of West Sacramento, 1995).

P-7 Comment noted. This change is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR, in the Final EIR. This change does not affect the conclusions of the WFP Draft EIR.

The last paragraph on page 4.4-11 is revised as follows:

The SRWP was initiated by the SRCSD for the express purpose of addressing water quality issues that are best addressed on a watershed-wide basis rather than an individual point or non-point source basis. An important early task of the watershed program is to design and implement a water quality monitoring program, which has occurred. ~~SRCSD participation in this program~~ SRCSD is a stakeholder in the SRWP and as such will contribute to efforts to reduce and control priority pollutant loadings to the Sacramento River and Delta from key point and non-point sources in the watershed.

P-8 Comment noted. The acronym SRCSD for Sacramento Regional County Sanitations District, is added to the WFP Draft EIR. This change is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR. This change does not affect the conclusions of the WFP Draft EIR.

P-9 The commentor's concern regarding a diversion at Freeport is noted. Freeport is only one potential site for a new diversion on the Sacramento River and it would be considered by lead agency decision-makers in evaluating alternatives. In any case, selection of any alternative other than the proposed project would require substantial, additional environmental review, including public and agency participation.

The close proximity of a new surface water diversion facility at Freeport to that of the SRCSD's outfall for the SRWTP will be taken into account, in and when the Sacramento County Water Agency considers alternative diversion locations in a site-specific EIR.

P-10 The comments raised in the letter have been addressed in the foregoing responses and are hereby incorporated into this document, Responses to comments and Additional Information.

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LETTER
Q

EL DORADO COUNTY TAXPAYERS FOR QUALITY GROWTH
MAIDU GROUP, MOTHER LODE CHAPTER, SIERRA CLUB

RECEIVED
APR 05 1999
CComwp

3 April 1999

By fax (916/433-6295); original by mail

To: Sacramento City-County Office of
Metropolitan Water Planning
Attn.: Ms. Susan Davidson
5770 Freeport Boulevard, Suite 200
Sacramento, California 95822

From: Alice Q. Howard
1487 Crooked Mile Court
Placerville, California 95667

Alice Howard

COMMENTS ON WATER FORUM DRAFT ENVIRONMENTAL IMPACT REPORT AND ACTION PLAN

Preface

These comments are submitted on behalf of the El Dorado County Taxpayers for Quality Growth and the Maidu Group of the Mother Lode Chapter, Sierra Club. I personally much appreciate the extension of time to April 5 as I was called out of town by an emergency at the time I was intending to compile these remarks.

Comments

First, we congratulate the Water Forum for this culmination of the many long and difficult hours spent on getting to know one another and the various interests represented among you, and on attaining consensus and reaching this point. The Maidu Group and Taxpayers for Quality Growth are especially appreciative of your recognition of our concerns as *unrepresented* interests while the interests of upstream water purveyors in our area *were* represented. Q-1

We recall the day that Susan Sherry and representatives of the Forum stakeholders appeared before the El Dorado County Board of Supervisors to explain the Forum process. In Q-2

retrospect the remarks on that occasion by a representative of the building industry that he mistrusted the environmentalists' commitment to living up to any agreement they should sign seems ironical, indeed. The covetous eyes since cast by developers on south-of-Highway 50 lands outside the designated urban limit line are notable. Q-2

As members of the Forum probably are aware, voters in El Dorado County last November showed their concern for the unbridled growth envisioned by the 1996 county general plan by passing Measure Y to address ever-increasing traffic congestion. Earlier, the joint application by the El Dorado County Water Agency and the El Dorado Irrigation District for 17,000 acre-feet per year of new water rights was invalidated by a superior court decision that rejected the environmental documents upon which the State Water Resources Control Board's Decision 1635 rested and the decision was withdrawn. And only a couple of months ago, El Dorado County's new general plan was similarly invalidated by another superior court ruling. Q-3

Despite these evidences of citizen and judicial disapproval, however, some entity, presumably in El Dorado County, has prevailed upon Congressman John Doolittle to override these considerations in his current draft of the 1999 Water Resources Development Act. This draft would, among other features: Q-4

- Issue new Central Valley Project contracts overriding the Central Valley Project Improvement Act;
- Ignore federal authorization standards set forth in the 1986 and 1996 Water Resource Development Acts;
- Link his "wish list" of water resource development proposals with Sacramento flood control;
- Override the authority of the State Water Resources Control Board with respect to water rights;
- Override usual environmental documentation required under state law;
- Similarly bypass environmental documentation required under federal law.

Noting that the Procedural Agreements set forth on pp. 283 et seq. of the Water Forum Q-5

supervisor as setting the figure for *just one* of these ditches at 12,000 af.

3) The canal delivering Project 184 water to Forebay, whence up to 15,080 afa is taken by EID, is quite leaky. Documents generated in connection with repair of the canal indicate that as much as 60 cubic feet per second must be diverted at the Kyburz diversion dam in order to attain 40 cfs at Forebay. This is despite diversion of an unknown amount of water from tributaries intercepted by the canal and *constitutes a sizable waste of precious water*. Though PG&E has asserted pre-1914 rights to divert water from several of these tributaries, it has been unable to demonstrate any water rights to divert from Bull Creek though it has done so for decades. Q-6

4) PG&E has likewise been unable to demonstrate consumptive water rights for lakes depended upon for late-season diversions to supply EID (while largely dewatering the South Fork of the American River). We hear much about the 1919 contract between the predecessors of PG&E and EID, but Caples Lake, one of these major sources of late-season water, was not constructed until the 1920s and in 1919 existed only in a much smaller natural configuration.

Relative to the proposed Action Program itself, we are concerned at the wording implying that those entities not part of the initial signing need only reach a mutually acceptable agreement re remaining issues *with the other participating stakeholders*. (E.g., p. 284 of the Water Forum Action Plan, paragraph 2.) While we are grateful for the support of the Forum's environmental caucus relative to our concerns, we think that the El Dorado County water purveyors should present to the Water Forum only an agreement that is mutually acceptable, first and foremost, to other stakeholders in western El Dorado County, including environmental interests such as ours, that were excluded from the Water Forum process. Q-7

The meaning of the statement on p. 2-3 of the DEIR that "all signatory organizations would support the diversions agreed to for each supplier as summarized in Table 3-1 (which is inclusive of both a and b)" is unclear given that both EID and GDPUD appear in this table, especially when p. 3-8 states that "the diversions indicated in Tables 3-1a and b are the volumes that were included in the modeling analysis for purposes of impact assessment". Are they diversions to be agreed to or are they not? While it is understandable that they were used for modeling, nevertheless, as targets they still should be modified in the light of the aforementioned Q-8

Proposal call for EID and GDPUD, as stakeholders, "to work in good faith to negotiate mutually acceptable agreements to resolve remaining issues", we can only conclude that the Doolittle draft also ignores and overrides such public processes as the Water Forum and the CalFed effort. We trust that this does not escape the attention of Water Forum participants as it has serious implications for the assumption on p. 3-31 of the DEIR that the State Water Resources Control Board will reserve jurisdiction on specific water projects to ensure compatibility with the CalFed program.

Specifically, with respect to El Dorado County, the draft would circumvent process by:

- Directing Interior (USBR) to contract with the El Dorado Irrigation District to supply it with 35,000 acre-feet per year of water either from Folsom Lake or "for exchange upstream on the American River or its tributaries". This is *in addition to* the 15,000 afa of "Fazio" water; Q-5
- Directing Interior (USBR) to enter into a Warren Act contract with EID/EDCWA;
- Directing Interior (USBR) to design and construct for EID those facilities needed to retrofit its current diversion infrastructure at Folsom Lake; and
- Directing Interior (USBR) to design and construct "diversion, transportation, treatment and storage" facilities for the Georgetown Divide Public Utility District to take 7,500 afa of water through expansion of the capacity of the PCWA pumping station.

With respect to El Dorado County's professed "need" for additional water supplies as represented to the Water Forum, we call your attention to the following:

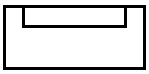
1) EID has not reduced its projected "need" in view of the court and voter decisions previously mentioned. It has been our contention that the amount of growth projected in the general plan quite failed to recognize existing constraints, including water supply, topography, air quality, traffic congestion, and habitat preservation, among others. Moreover, El Dorado County completely failed to consider the needs of its neighboring counties farther upstream. Q-6

2) EID possesses water rights in connection with ditches supplying agriculture (raw water) amounting to several thousand acre-feet that it has never included in its accounting for purposes of the county's water supply vs. demand annual report. A former supervisor estimated the amount as "20,000 to 30,000 acre-feet" at an EID Board meeting, while EID's minutes for 21 September 1998 (attached) show an EID

court rulings. Q-8

Because our interests are not just parochial, we are also concerned at the statement (e.g., p. 2-9) that "Unless additional supplies are developed or diversions are reduced, this would result in impacts on the Sacramento River, above and below the American River, and the Bay-Delta." How does the 800,000 af discrepancy in modeling fit into this picture? While we appreciate the uncertainties involved, we cannot accept further deterioration in these water bodies. They have been sacrificed far too much already. And we are dubious as to the desirability of more dams. Q-9

Thank you for this opportunity to comment.



Alice Q. Howard
El Dorado County Taxpayers for Quality Growth
April 3, 1999

Q-1 Comment noted.

Q-2 Comment noted.

Q-3 Comment noted.

Q-4 Comment noted.

Q-5 Comment noted. Following the close of the public comment period, the 1999 Water Resources Development Act as passed by Congress did not include new water supply projects in the Water Forum project area.

Q-6 Comment noted. The cumulative impacts analysis of the WFP Draft EIR includes estimates of future diversions in El Dorado County. However, as noted on page 3-13 of the WFP Draft EIR, "Assumptions (including those pertaining to El Dorado County) included in these footnotes are for WFP Draft EIR modeling purposes only. Modeling these diversions does not imply there is agreement on these assumptions."

Q-7 Before entering into any proposed specific agreement among El Dorado Irrigation District, Georgetown Divide Public Utility District and the Water Forum, it is reasonable to assume that there would be full public disclosure and discussion of the agreement particulars. There would also be full compliance with CEQA. In addition, the Water Forum Successor Effort makes a specific commitment to keep the Taxpayers for Quality Growth informed of the status of any proposed agreement.

Q-8 There is no agreement on how much future diversions would be supported by the Water Forum signatories. See response to comment Q-6.

Q-9 The modeling performed for the WFP Draft EIR was performed after the discovery and correction of the inconsistencies in the PROSIM model. Therefore, all simulations are unaffected by the 800,000 acre-foot "discrepancy" and support the statement of the results presented in the WFP Draft EIR.

LETTER
R

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Subject: WaterForum
Date: Sat, 3 Apr 1999 15:19:16 -0500 (EST)
From: AnyForm Form <sdavidson@sacto.org>, lisa@tmsonline.com
To: sdavidson@sacto.org, lisa@tmsonline.com

AnyForm User: ppp17.gv.net (207.159.62.66)
AnyForm Document: http://www.waterforum.org/comment.html
AnyForm Server: www.uky.edu (/cgi-bin/cgiwrap/johnr/AnyForm.cgi)

name = Nick Wilcox
title = Chief, Bay-Delta Unit
org = State Water Resources Control Board
address = 14514 Balld Mountain Road, Penn Valley CA 95946
phone = 530 432-2171 (home)
fax =
E-Mail: = nwilcox@gv.net
section = Draft EIR
sectnum = 5
COMMENTS = Though I am an employee of the State Water Resources Control Board, these comments are submitted as a concerned private citizen. The Sacramento Water Forum DEIR correctly notes that Placer County Water Agency (PCWA) receives 100,400 acre-feet annually from PG&E for water imported into Western Placer County from the Yuba and Bear Rivers. PG&E uses this water for power generation and then sells it to PCWA for consumptive use. Within the PCWA 67% of their 28,440 connections are regularly served by the Yuba/Bear Rivers.
he DEIR also notes that the contract is anticipated to expire in the year 2013.

R-1

Specific Comment:

The water sold to PCWA by PG&E is developed mainly from the Drum/Spaulding project on the south fork of the Yuba River. On average, 400,000 acre-feet per year is exported from the Yuba River watershed via the Drum Canal. The FERC license for the Drum/Spaulding project expires in the year 2013, and PG&E must begin the relicensing process no later than 2008.

At the present time, summertime releases to the south fork Yuba River below the Drum/Spaulding project are frequently in the 2-3 cfs range. It is likely that FERC will determine that this is an inadequate flow to protect downstream resources when the project is considered for relicense, and require higher instream releases.

Higher Yuba River releases will reduce the amount of water available for export, and potentially a reduction in supply available to the American River watershed. This possibility should be fully considered in your discussion of cumulative impacts.

R-2

Nick Wilcox
14514 Bald Mountain Road
Penn Valley, CA 95946

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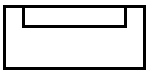
AnyForm HTML Form Processor Version 3.2



Nick Wilcox, Chief
Bay-Delta Unit, State Water Resources Control Board
April 3, 1999

R-1 Comment noted.

R-2 Each PROSIM modeling simulation performed for the WFP was based on numerous assumptions. The key assumptions made for modeling future cumulative conditions were based on all known or reasonably foreseeable actions and anticipated CVP/SWP operating criteria. Although releases to the South Fork Yuba River below the Drum/Spaulding Project could change as the result of re-licensing in the year 2013, such changes are undefined at this time. Hence, it would be unreasonably speculative to model a flow condition other than what currently exists.

LETTER
S

FRIENDS OF THE RIVER

915 20th Street, Sacramento, CA 95814
916/442-3155 • FAX: 916/442-3396 • E-mail: info@friendsoftheriver.org • www.friendsoftheriver.org

CALIFORNIA'S
STATEWIDE RIVER
CONSERVATION
ORGANIZATION

April 5, 1999

Ronald M. Stork
Associate Conservation Director
Sacramento Office, Friends of the River

Susan Davidson
Sacramento City-County Office
of Metropolitan Water Planning
5770 Freeport Boulevard, Suite 200
Sacramento, CA 95822

Dear Ms. Davidson,

We are pleased with the progress made in constructing the Water Forum Action Plan. Many of these actions will be necessary to reliably protect the health of the Lower American River if the region's demand for water increases in the future — and existing unused entitlements and new area of origin based entitlements are used to meet that demand. S-1

As you know, the Water Forum draft programatic EIR identifies significant impacts of planned water development actions to some important river resources. The Water Forum Action Plan and dEIR does not include firm commitments to reliably mitigate for these impacts. Successfully confronting this issue will be the important measure of success of the Water Forum. S-2

We look forward to helping the Water Forum to address these issues in the coming months.

Sincerely yours,

Ronald Stork

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A NONPROFIT TAX DEDUCTIBLE ORGANIZATION

Ronald Stork
Friends of the River
April 5, 1999

S-1 Comment noted.

S-2 The WFP includes numerous assurances that go beyond voluntary compliance with a Memorandum of Understanding. First, the signatories will support updating of the Lower American River flow standard including:

> Water Forum Agreement provisions on water diversions, including dry year diversions, and
>
> Implementation of the Improved Pattern of Fishery Flow Releases, which optimizes the release of water for fisheries.

Another assurance will be contracts between suppliers that divert from upstream of Nimbus Dam and the U.S. Bureau of Reclamation. Every effort will be made to have those contracts consistent with the diversion provisions in each supplier's Purveyor-specific Agreement.

An additional legally-enforceable assurance will be included in the diversion contracts between the purveyors and the Bureau of Reclamation. The contract will include a provision specifically establishing other Water Forum Agreement signatories, including the Friends of the River, as specified third party beneficiaries with their own legal standing to enforce the diversion restrictions in those contracts.

As part of the Water Forum Agreement, identified signatories will contractually agree to financially participate in the Lower American River Habitat Management Element and the Water Forum Successor Effort.

Assurances for groundwater management in the North area of the County of Sacramento have already been incorporated in a joint powers agreement. Signatories to the Water Forum Agreement will also agree to work through the Water Forum Successor Effort to negotiate arrangements for groundwater management for the Galt and South areas within the County of Sacramento.

In addition, suppliers will agree to include commitment to all elements of the Water Forum Agreement, including water conservation, in their future project-specific environmental impact reports.

In addition to the foregoing measures, which are appropriate for a programmatic EIR, both CEQA and the WFP require that each specific project included in the WFP that moves forward must have its own set of specific, enforceable mitigation assurances.

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LETTER
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PALISADES
PROPERTIES, INC.

147 IRON POINT ROAD, STE. A
FOLSOM, CA 95630
(916) 353-1900
FAX (916) 353-0268

April 5, 1999

VIA FAX: 916-433-6295

Ms. Susan Davidson
Sacramento City-County Office of Metropolitan Water Planning
5770 Freeport Boulevard, Suite 200
Sacramento, CA 95822

Re: Draft Environmental Impact Report for the Water Form Proposal

Dear Ms. Davidson:

I would like to provide our comments to the above-referenced document. We appreciate that the comment period was extended for additional input.

Although the El Dorado County Water Agency (CWA) is tasked with obtaining additional water rights and the procurement of existing water rights, it is the El Dorado Irrigation District (EID) and the Georgetown Public Utility District (GPUD) that deliver service to domestic and agricultural customers. Our reference in this letter to El Dorado County includes the CWA, EID and GPUD.

Our primary concerns are directed to the Draft Environmental Impact Report for the Water Form Proposal (EIR) exclusion of adequate discussion and analysis of El Dorado County's existing water contracts/supplies and pursuits of additional water supplies. The EIR should address the following matters:

Failure to Adequately Define the "Project"

The EIR addresses only those environmental issues which are caused by purveyors who have reached an agreement with the Water Forum at this time, excluding other purveyors who have not yet signed the Water Forum Proposal. The EIR discusses the impacts of the WFP only, virtually ignoring other purveyors, including El Dorado County, until such time as "procedural agreements" can be reached. When these agreements are reached, then additional environmental studies will be prepared. T-1

CEQA Guidelines Section 15378 defines "project" as "..the whole of an action, which has a potential for resulting in a physical change in the environment directly or ultimately....". The purpose of this section of CEQA is to afford the public the opportunity to understand the ramifications of the entire project.

Consequently, the project description in the EIR must include El Dorado County's existing water contracts and planned water projects so that an adequate discussion can be held in the impact analysis and mitigation measures. Without such a discussion, the EIR fails to disclose to the public the full impacts of the project. Including El Dorado County in the Cumulative Analysis Section of the EIR is not enough; El Dorado County must be included in the project description of the EIR. T-1

Further, the EIR attempted to explain the failure of including El Dorado County as the Water Forum and El Dorado County's inability to resolve issues. For the benefit of the public, an explanation of the "unresolved issues" must be made so that one can better understand the rationale for excluding El Dorado County from the project description.

Hydrology Modeling

The EIR was unclear as to what water supplies for El Dorado County the hydrology modeling included. Specifically, did the modeling include all existing and planned water supplies that El Dorado County owns and is seeking? If not, the project description needs to account for the Public Water Contract 101-514 (Fazio water), which was an Act of Congress granting 15,000 acre/feet of water to El Dorado County upon completion of an EIS and contract with the United States Bureau of Reclamation (USBR). Moreover, EID had an existing contract with the USBR since the late 1960's, with original entitlement of up to 37,000 acre/feet of water per year to EID. The water modeling prepared for the project description of the EIR must include these existing water rights. T-2

County of Origin Water Rights

Through El Dorado County the American River, the Cosumnes River, Weber Creek, and other streams generate over 1 million acre/feet of water annually that flow to the Sacramento Valley, where it is used for domestic and agricultural pursuits. Yet, El Dorado County uses less than 5 percent of the water that originates in this county and will use less than 7.5 percent after all water right applications are granted. Given the importance of El Dorado County contribution to the WFP, the project description of the EIR must include a standard for the threshold of significance for the land use and water supply elements. The WFP, as presented in the EIR, has the potential to jeopardize El Dorado County's ability to implement its recently enacted General Plan, which relies on securing additional water rights to build out. Consequently, the EIR must include a T-3

threshold describing the impacts and mitigation measures to El Dorado County's land use and water supplies if the WFP proceeds. T-3

EID's Water Conservation Efforts

Although briefly discussed in the EIR, the document failed to adequately analyze the positive effects of water conservation efforts. All water purveyors should follow EID's leadership in water conservation efforts: metering for all users, tiered rates, water emergency measures, reclaimed water for domestic uses, and limited use of groundwater for domestic uses. The EIR needs to either provide a more meaningful discussion of conservation methods or explain why such methods are not a viable or preferred option. T-4

Unenforceable Mitigation Measures

The EIR contains numerous mitigation measures to reduce the impacts of the project to less than significant; however, these mitigation measures bind non-Water Forum participants to enact and/or enforce the mitigation measures. These mitigation measures, such as the participation of the USBR to control CVP releases for fishery habitat, are crucial to the successful implementation of the WFP. Without the USBR's full participation in the EIR (which will require an EIS), enforcement of the mitigation measure is uncertain, at best. T-5

Providing a finding to override the mitigation measure, such as provided in CEQA Section 15091 (2) (which will permit a finding that implementation of a mitigation measure is not feasible because it is not within the authority of the lead agency) is unacceptable when such significant impacts are left unmitigated and are crucial to the implementation of the WFP.

Inadequacy of Alternatives

With respect to the alternative analysis, we offer the following comments:

- An alternative must be provided that delineates the maximum water demand for all purveyors (including provisional agreement purveyors). T-6
- A more thorough discussion needs to be provided, with substantial evidence, which articulates why the alternatives are not viable.

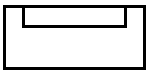
We appreciate the opportunity to provide our comments to the Draft EIR. Please forward a copy of the Final EIR to the address stated above.

If you have any questions or comments, please do not hesitate to contact me.

Very truly yours,

PALISADES PROPERTIES, INC.
A California corporation

By: _____
Michael J. McDougall
Vice President



Michael J. McDougall
Palisades Properties
April 5, 1999

T-1 El Dorado County is not excluded from the WFP Draft EIR analysis. Modeling assumptions used in the analysis include proposed diversions by El Dorado Irrigation District and Georgetown Divide Public Utility District. (See Table 3-1b and page 3-14 of the WFP Draft EIR.) The WFP Draft EIR discussion of Procedural Agreements is simply to make clear that at this time there is not agreement among El Dorado purveyors and other Water Forum signatories on the specifics of future El Dorado diversions from the American River. If El Dorado entities are ultimately not included in the Water Forum Agreement, it is possible that impacts of the proposed project are overstated. Also, if diversion amounts by El Dorado are ultimately greater than those contemplated in the WFP Draft EIR, then additional CEQA analysis may be required.

The WFP Draft EIR did include an analysis of cumulative impacts of all foreseeable future diversions in the American River watershed. This analysis includes potential diversions that are not part of the WFP.

T-2 The total volume of water for EID and Georgetown demand is shown in Table 4.1-2, American River Maximum Surface Water Diversions, of the WFP Draft EIR. Modeling volumes for EID and Georgetown used in Table 4.1-2 were demand-based, not contract-based because the WFP is intended to accommodate demand created by anticipated growth in the region. In addition, complete details on the distribution of water supplies for EID, El Dorado County Water Agency and Georgetown Divide PUD are contained in Appendix G of the WFP Draft EIR.

T-3 Extensive coordination and negotiation with El Dorado County purveyors were conducted to arrive at demand assumptions that would meet El Dorado County's water needs through the year 2030 consistent with El Dorado County's General Plan.

As noted in the response to comment T-1, those proposed diversions by EID and GDPUD are included in the WFP analysis. It is beyond the scope of the EIR to assess land use and water supply impacts to individual purveyors in the event that they *do not* reach agreement with other Water Forum signatories except as set forth in the EIR's alternative analysis.

T-4 EID's water conservation efforts are acknowledged. As described on pages 3-24 and 3-25 of the WFP Draft EIR, the WFP contains a water conservation element which includes programs related to residential water meters, water conservation best management practices, public involvement, purveyor-specific water conservation plans, and agricultural water conservation.

T-5 The commentor correctly notes that the EIR contains numerous mitigation measures to reduce the significant impacts of the project. However, where the feasibility or effectiveness of mitigation is in question (such as the ultimate form of the Habitat Management Element), or where mitigation is under the jurisdiction of another agency (such as mitigation for water supply impacts on CVP and SWP contractors), the WFP Draft EIR appropriately identifies the impact as significant or potentially significant after mitigation. This finding must be made because it is not possible to determine how other agencies will exercise their discretion. With regard to preparation of an EIS pursuant to NEPA, USBR would assess whether the actions required of it under the WFP constituted discretionary federal actions, and if so, would comply with the necessary environmental review requirements.

As distinct from mitigation measures, however, the WFP Draft EIR clearly states on page 3-23 that three actions anticipated to be carried out by other agencies are necessary preconditions to implementation of the Water Forum Agreement. These include: 1) implementation of a temperature control device for the urban water intake from Folsom Dam; 2) optimum use of the cold water pool in Folsom Reservoir; and 3) continued program of Improved Pattern of Fishery Flow Releases. The Water Forum Agreement is dependent upon these actions being implemented and without them, no regional agreement would exist.

The commentor's opposition to a Statement of Overriding Considerations for significant unavoidable impacts is noted.

T-6 El Dorado County's proposed 2030 diversions are included in the WFP Draft EIR.

The WFP Draft EIR also evaluates a reasonable range of alternatives, which includes Alternative 5 - No Project Alternative—Independent Actions. Under this alternative, water purveyors would independently pursue individual actions to secure water supplies necessary to meet projected growth in their service areas. This would equate to a "maximum demand" alternative as noted by the commentor. Other alternatives, in accordance with CEQA and the State CEQA Guidelines, aim to reduce or minimize one or more significant environmental effects. Environmental tradeoffs, as well as the ability of the alternatives to meet the coequal objectives of the WFP, are discussed in Section 5, Corrections and Revisions to the WFP Draft EIR. This information is included to provide full disclosure to lead agency decision-makers who will determine the viability of the various alternatives considered.

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LETTER
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SIERRA CLUB
FOUNDED 1892

Mother Lode Chapter
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April 5, 1999

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Susan Davidson
Sacramento City-County Office
of Metropolitan Water Planning
5770 Freeport Boulevard, Suite 200
Sacramento, CA 95822

Dear Ms. Davidson:

The following comments on the Water Forum Draft EIR are offered on behalf of the Sierra Club and the Environmental Council of Sacramento.

General comments

It was difficult to separate the components of the DEIR from those of the Water Forum Action Plan. The Plan is certainly thoughtful and extremely carefully crafted and the DEIR is very detailed and identifies many significant impacts. However, many of the mitigation measures proposed are weak, unenforceable, speculative, or dependent on state or federal jurisdictions for funding. U-1

We are disappointed that so many of the details of implementation have been relegated to the work of the Water Forum Successor Effort. Too often it has been our experience that once a project is completed, interest in complying with the promised mitigation measures diminishes dramatically. Our faith in the City of Sacramento, which has control over much of the American River water involved in this plan, has been deeply shaken by its actions related to the North Natomas Habitat Conservation Plan. For this reason we ask that enforceable mitigation measures be in place before construction begins on facilities covered by the Water Forum Proposal. U-2

It is important to emphasize that by signing the Water Forum Agreement environmental stakeholders may endorse the fact of diversion of water for municipal uses, but that endorsement does not automatically extend to site-specific impacts of all project facilities or endorsement of a proposed ultimate water use. For example, we should not be expected to endorse extravagant uses of water such as additional golf courses. Purveyors continue to have a legal obligation to the public at large to prepare adequate environmental review documents. U-3

Environmental stakeholders agree that principles of the Water Forum Agreement (as examined in the DEIR) cover facilities to support "planned growth" as of December 1993, but not future plans for growth. The American River water is already fully (or nearly fully) appropriated. U-4

Surface Water Diversions

The DEIR does not address what happens to American River fisheries, vegetation, aesthetics, and recreation if East Bay Municipal Utility District is allowed to divert from Nimbus. This analysis should be included in the Final EIR. U-5

Please examine the impact of the diversion of approximately 100,000 acre feet of water per year from the Yuba and Bear rivers by Placer County. This is a significant amount of water and opportunities to restore this river system should be evaluated in order to fully understand participating counties' water diversions. U-6

Impacts to Recreation

Page 2-43 of the DEIR mentions "potential" but not specific enforceable mitigation measures for impacts to water-dependent recreation. We recommend that the following mitigation measures be included in the Final Environmental Impact Report:

1. Closing the Auburn Tunnel at the former Auburn Dam site on the North Fork of the American River to allow for white-water rafting and other water-based recreation U-7
2. Adding more intermediary canoe access points along the length of the Lower American River
3. Dedicated efforts to secure funding to purchase the Uruttia Property to provide for more water-dependent recreation at the lower end of the Parkway. Plans to acquire this property should be in place before construction begins on facilities covered by the WFP.

Improved Pattern of Fishery Flow Releases from Folsom Reservoir Element

4. The Final EIR should include a strategic plan for coordinated efforts to ensure that essential temperature control devices (already authorized, but not funded by Congress) are installed and proven to be working before construction begins on facilities covered by the WFP. U-8
5. The work plan of the Water Forum Successor Effort should emphasize steps to ensure that the State Water Resources Control Board incorporates the Improved Pattern of Fishery Flow Releases and adaptive management into the Bureau's permit for operation of Folsom and Nimbus dams. Such "adaptive management" should include a requirement that the Bureau of Reclamation agressively move toward forcast-based releases and non-releases to guard against what happened in 1997 when there was a wet January, but dry the rest of the year (but contract water was not reduced to benefit fish.) U-9

Lower American River Habitat Management Element

6. The Habitat Mitigation Element is very speculative, designed like a house of cards. It lacks specificity and is so loosely envisioned that its potential for implementation cannot be evaluated. Signatories to the WFP appear to have transferred most of the financial obligations to State and Federal agencies. We recommend that enforceable assurances be written into the plan to guarantee that there is adequate funding for this vital component before construction begins on WPF facilities. U-10

7. The Habitat Management Element calls for performance review once every five years. We believe the interval is too long and that there should be an annual performance review issued on a 12-month cycle—a cycle that would inform interested parties about the condition of the fall-run chinook and steelhead populations. U-11
8. We note that neither the WFP nor the DEIR adequately address federal and California endangered species act issues. U-12

Water Conservation Element

9. The plan requires water meters to make the water conservation part work, but the water conservation measures (notably meter retrofiting) are merely voluntary. Since so much of the WFP presumes successful aggressive water conservation, we recommend that the Final EIR include enforceable assurances as mitigation measures. U-13
10. WFP, Page 85, paragraph 3 suggests that Natomas Central Mutual Water Company conserve water by lining canals in sandy soil. The canals in Natomas are habitat for Giant Garter Snake (GGS) which is threatened under CESA and ESA. GGS use vegetated canal banks as "cover" from predators (such as Egrets and Herons), and hibernate (and hide from sun) in old rodent burrows in sides of canals. Lining canals with concrete effectively eliminate those canals as GGS habitat. According to USFWS, Natomas has largest remaining population of GGS. Recent surveys of GGS in Natomas by Natomas Basin Conservancy show significant decline, in part due to deliberate elimination of vegetation on canal banks. The Natomas HCP is currently being challenged in Federal and State courts as legally and biologically inadequate. U-14

Groundwater Management Element

11. The south area groundwater management agreement must be emphasized and raised to a level of top priority. There is too much water being diverted for conjunctive use without specific plans about how the ultimate groundwater usage will be measured or controlled. This is a major flaw in the Water Forum Agreement. U-15

Water Forum Successor Effort

We agree that the Successor Effort is critical, but we are not willing to defer implementation or consideration of important mitigation measures until "later". It is vital to the environmental interests that build-out of water facilities not proceed until mitigation measures are adopted, funded, or substantially underway. U-16

Thank you for considering our comments.

Sincerely,

Vicki Lee, Chair
Sierra Club--Mother Lode Chapter

Earl Withycombe, President
Environmental Council of Sacramento

Vicki Lee, Chair
Sierra Club-Mother Lode Chapter
April 15, 1999

U-1 It is significant to note that several of the most important efforts to reduce impacts are already proceeding. For instance, the single most important facility for improving conditions for anadromous fish in the Lower American River is the Temperature Control Device on the urban water intake at Folsom Reservoir. With active support of organizations participating in the Water Forum, this facility has received Congressional authorization and funds are included in the Fiscal Year 2000 budget, and the U.S. Bureau of Reclamation has opened the bid process for design and construction.

Another very important measure to reduce impacts is the commitment by purveyors to limit their diversions in drier years. Again, work has already begun to assure that this takes place. Project-specific environmental documents prepared for water projects serving Sacramento County Water Agency, City of Folsom, San Juan Water District, City of Roseville and the Northridge Water District already include enforceable commitments to those cutbacks. Commitments for other purveyors in the Water Forum will be included as their project-specific environmental documentation is prepared.

Water conservation is another element of the WFP that will reduce impacts. The project-specific EIRs cited above also include commitments to carry out the conservation programs developed for the WFP.

The WFP and EIR include other enforceable mitigations. Those purveyors that receive Central Valley Project water will enter into diversion agreements specifying their dry year cutbacks. These diversion agreements will be in the form of enforceable contracts between each of the purveyors and the U.S. Bureau of Reclamation. To provide further assurances, environmental groups signatory to the Water Forum Agreement will also be named in those contracts as third party beneficiaries. That will provide them legal standing to obtain judicial enforcement of the cutbacks.

Groundwater management is required so that everyone can be assured that purveyors in the northern area of Sacramento county will have sufficient groundwater in drier years. That will allow them to meet their customers' needs while limiting diversions of surface water. The Sacramento North Area Groundwater Management Authority has now been formed by an enforceable joint powers agreement.
Purveyor's financial contributions to the Habitat Management Element and the Water Forum Successor Effort will also be assured through enforceable contracts. Environmental groups signatory to the Water Forum Agreement will also be named as third party beneficiaries to those contracts that will provide legal standing to obtain judicial enforcement of the contribution.

continued ...

U-2 The WFP includes numerous assurances that go beyond voluntary compliance with a Memorandum of Understanding. First, the signatories will support updating of the Lower American River flow standard including:

> Water Forum Agreement provisions on water diversions, including dry year diversions, and
>
> Implementation of the Improved Pattern of Fishery Flow Releases, which optimizes the release of water for fisheries.

Another assurance will be contracts between suppliers that divert from upstream of Nimbus Dam and the U.S. Bureau of Reclamation. Every effort will be made to have those contracts consistent with the diversion provisions in each supplier's Purveyor-specific Agreement.

An additional legally-enforceable assurance will be included in the diversion contracts between the purveyors and the Bureau of Reclamation. The contract will include a provision specifically establishing other Water Forum Agreement signatories, including the Sierra Club, as specified third party beneficiaries with their own legal standing to enforce the diversion restrictions in those contracts.

As part of the Water Forum Agreement, identified signatories will contractually agree to financially participate in the Lower American River Habitat Management Element and the Water Forum Successor Effort.

Assurances for groundwater management in the North area of the County of Sacramento have already been incorporated in a joint powers agreement. Signatories to the Water Forum Agreement will also agree to work through the Water Forum Successor Effort to negotiate arrangements for groundwater management for the Galt and South areas within the County of Sacramento.

In addition, suppliers will agree to include commitment to all elements of the Water Forum Agreement, including water conservation, in their future project-specific environmental impact reports.
In addition to the foregoing measures, which are appropriate for a programmatic EIR, both CEQA and the WFP require that each specific project included in the WFP that moves forward must have its own set of specific, enforceable mitigation assurances.

U-3 The commentor is correct that signing of the Water Forum Agreement does not automatically extend to endorsement of site-specific impacts of all associated project facilities or endorsement of a proposed water use. The commentor is also correct in noting

that purveyors continue to have a legal obligation to the public at large to prepare adequate environmental review documents as required by law.

U-4 Comment noted. It is recognized that by signing the Water Forum Agreement, the Sierra Club is not committing to support future plans for growth.

U-5 Please refer to the supplemental cumulative impact analysis (Section 6 of this Responses to Comments volume).

U-6 The existing Yuba River and Bear River diversions to PCWA are included in the PROSIM modeling for the WFP Draft EIR. Since those diversions are not part of the WFP, changes in those diversions are not evaluated in the WFP Draft EIR.

U-7 The commentor recommends that three specific mitigation measures be included in the Final EIR.

With regard to closing the Auburn Tunnel to allow whitewater rafting, this measure is being explored by a Water Forum member agency and USBR. An EIR/EIS is under preparation to examine its feasibility. However, the outcome of the EIR/EIS is unknown and this measure is unduly speculative at this time.

With regard to adding more canoe access points along the Lower American River, these are identified on page 4.9-50 of the WFP Draft EIR under "Recreation Facility Improvements to the American River Parkway."

With regard to property purchase, the Water Forum Action Plan identifies property acquisition (e.g., Uruttia Property) as potential mitigation for recreation impacts on the Lower American River. Funding for purchase of property (such as Uruttia) is included as mitigation in the WFP Draft EIR. To the extent that additional funding is necessary, that funding will be identified and will be addressed in project-specific environmental documentation.

U-8 As indicated on page 3-23 of the WFP Draft EIR, the Water Forum Agreement cannot be implemented without the Temperature Control Device (TCD).

Water Forum signatories have already been successful in working with their legislative representatives to secure federal authorization and appropriation for this necessary facility. The USBR anticipates that the TCD will be operational by fall of 2000. However, Water Forum stakeholders do not have the authority to ensure that the TCD will be built.

The mitigation monitoring and reporting program (MMRP) for the WFP includes temperature monitoring that will assess the effectiveness of the TCD and optimal cold

water pool management. Optimal cold water pool management, which would reduce impacts to fisheries, is a necessary feature for implementation of the WFP.

U-9 Comment noted. As described on page 125 of the Water Forum Action Plan, the Water Forum Successor Effort will pursue an updated Lower American River Flow Standard with the State Water Resources Control Board. The Lower American River flow standard being advocated does include adaptive management with releases during spring and summer months based on forecasted inflow and storage at Folsom Reservoir.

Federal law (the Defense Appropriation Act of 1993 and the Water Resources Development Act of 1999) calls for the Corps of Engineers and the Bureau of Reclamation to make use of the improved weather forecasting capability of the National Weather Service in order to ensure that reservoir releases are made as quickly as possible in anticipation on incoming flow. These statutes require the development of a management plan that will address the issues raised by the commentor.

U-10 As indicated on page 128 and 129 of the Water Forum Action Plan, the WFP includes contractual commitments to financially contribute to the Lower American River HMP. Commitments to specific amounts for each Water Forum purveyor are identified on pages 76 and 78 of the Water Forum Action Plan.

An additional legally-enforceable assurance will be included in the contract requiring purveyors to financially contribute to the HMP. The contract will include a provision specifically establishing other Water Forum Agreement signatories, including the Sierra Club, as specified third party beneficiaries with their own legal standing to enforce the contract.

The Lower American River ecosystem is also affected by agencies outside the Water Forum (e.g., the Bureau of Reclamation and the Sacramento Area Flood Control Agency). In addition, several other agencies have resources for projects to assist ecosystems such as the Lower American River, e.g. the Central Valley Project Improvement Act and CALFED.

The WFP envisions participation by Water Forum stakeholders as well as other agencies with responsibility for resources of the Lower American River. To date, agencies that have expressed in writing their support for such a partnership include:

- County of Sacramento
- City of Sacramento
- State Department of Fish & Game
- State Reclamation Board
- U.S. Fish & Wildlife Service
- U.S. Bureau of Reclamation

continued ...

- Save the American River Association
- Sierra Club
- American River Natural History Association
- California State University, Sacramento
- California Exposition and State Fair
- Building Industry Association of Superior California
- Sacramento County Taxpayers League
- Sacramento Municipal Utility District
- Natomas Central Mutual Water Company
- Sacramento Metropolitan Water Authority
- San Juan Water District
- Fair Oaks Water District
- U.S. Army Corps of Engineers
- American River Parkway Foundation

It should be noted that the Water Forum has already been successful in securing federal authorization and appropriation for the Temperature Control Device on the urban water intake at Folsom Dam. This is one of the most important measures to preserve the fisheries of the Lower American River. Similarly, the USBR, through the CVPIA, is funding the Spawning Habitat Management Study and Project identified on page 75 of the Water Forum Action Plan.

See also response to comment S-2.

U-11 The MMRP for the WFP will include an annual report with data on the health of the Lower American River fishery. The five-year interval defined for performance review is intended to provide comprehensive evaluations of the annual reports to determine whether substantial changes in management philosophy, actions and/or monitoring need to be made.

U-12 Significant discussion of Endangered Species Act considerations, including regulatory context, complete identification of species listed and/or proposed, focused evaluation of potential impacts to listed species, and a thorough evaluation based on established thresholds and recommendations made in Biological Opinions is provided in the WFP Draft EIR.

Under Regulatory Setting for Fisheries Resources, for example (see pages 4.5-15 through 4.5-19 of the WFP Draft EIR) discussions of the relevant regulatory setting including the National Marine Fisheries Service Biological Opinion for winter-run chinook salmon, U.S. Fish & Wildlife Service Biological Opinion for delta smelt, and the California Department of Fish & Game steelhead restoration plan for the Lower American River are provided.

continued ...

Moreover, the significance criteria were tailored specifically to meet, or otherwise be consistent with, Endangered Species Act requirements (see pages 4.5-33 and 4.5-34) made through existing Biological Opinions. The evaluation of potential fisheries impacts in the WFP Draft EIR rigidly followed these criteria. For terrestrial resources, the WFP Draft EIR addresses potential impacts to over 40 special-status species of plants and animals, 16 of which are either listed, proposed, or candidates for listing as threatened or endangered under the federal and/or California endangered species acts.

It is also recognized on page 79 of the Water Forum Action Plan, "If the Lower American River is designated as critical habitat for an endangered or threatened species, the Endangered Species Act may require a higher level of mitigation than that anticipated to be paid from the Habitat Management Element."

U-13 Each purveyor's water conservation plan will be incorporated into the Water Forum Agreement by reference. These plans include projected schedules and budgets. Water meters, including retrofit metering schedules, are included in the Water Conservation Element. The WFP Draft EIR identifies those water purveyors whose customers are already metered.

In addition to committing to water meter retrofit programs as part of the Water Forum Agreement, purveyors will also include the commitment to water meter retrofit programs in their project-specific environmental documentation at the time those documents are prepared. Commitments to water meter retrofit have already been included in recent project-specific environmental documentation for water projects to serve Sacramento County, City of Folsom, City of Roseville, San Juan Water District, Orange Vale Water District, Fair Oaks Water District, Citrus Heights Water District, and Northridge Water District.

Water meters are also a federal requirement for all purveyors receiving Central Valley Project water supplies. These include the City of Roseville, Placer County Water Agency, City of Folsom, and Sacramento County Water Agency.

The City of Sacramento does have a provision in its Charter prohibiting mandatory residential meters. It is recognized that it would be very difficult to amend the Charter. Going as far as possible within the limitations of its Charter, the City of Sacramento would implement a voluntary meter retrofit program.

It is also recognized that environmental signatory organizations prefer and will continue to advocate that all connections be metered.

The WFP also states that as soon as practical, purveyors signatory to the Water Forum Agreement will begin reading all meters and including the usage on the customers' bills.

continued ...

After that is completed purveyors will implement conservation pricing which bases customer charges on the quantity of water used.

U-14 Agricultural water users may independently propose additional conservation actions. However, those actions are not part of the WFP. Any such independent proposals would be subject to compliance with CEQA and ESA.

U-15 The Water Forum agrees that development of a groundwater management plans is a top priority. The Water Forum Agreement for the first time establishes an estimated average annual sustainable yield for each of the three sub-basins in Sacramento County. In addition, a Sacramento North Area Groundwater Management Authority has already been formed by a joint powers authority among Sacramento County, City of Sacramento, City of Folsom and City of Citrus Heights. They have the authority to impose regulatory fees for a conjunctive use program consistent with the Water Forum Agreement.

With respect to your concern that groundwater be measured or controlled, Zone 40 of the Sacramento County Water Agency will be the water supplier for the majority of the urban area located in South Sacramento County. The County of Sacramento/Sacramento County Water Agency Purveyor-specific Agreement (PSA) is included in the Water Forum Action Plan at pages 191 through 199. Section D of the PSA includes a discussion of the Agreement for meeting the County of Sacramento's and the Sacramento County Water Agency's water supply needs to the year 2030. The Agency has developed a comprehensive plan for Zone 40 with extensive details and timeframes for use of both surface water and groundwater within the framework of the Water Forum Agreement. This plan will ensure that groundwater usage will be measured and controlled in a manner that promotes effective implementation of the conjunctive use program and sustainable yield recommendation of the Water Forum Groundwater Element.

The Successor Effort Element is included in the Water Forum Action Plan beginning at page 105 and continuing through page 119. One of the immediate tasks of the Successor Effort is to commence negotiations for appropriate groundwater management in both South Sacramento Area and Galt Area programs (see pages 113 –114). If stakeholders in the South Area sub-basin and the Galt sub-basin agree that it would be beneficial, existing authorities of Sacramento County, the City of Sacramento, and Sacramento County are available to facilitate proper management of the sub-basins.

U-16 The Water Forum Successor Effort is proposed as a way to implement rather than defer mitigation responsibilities. As described in responses to comments U-1 and U-2, WFP, which is a programmatic agreement, includes specific actions to reduce the impacts of future diversions. In addition, as specific projects move forward, they must include their own enforceable mitigation.

LETTER
V

ENVIRONMENTAL UTILITIES
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April 5, 1999

Ms. Susan Davidson
Sacramento City-County Office of
Metropolitan Water Planning
5770 Freeport Boulevard, Suite 200
Sacramento, CA 95822

Subject: **Comments on the Water Forum Draft Environmental Document**

Dear Ms. Davidson:

I appreciate the amount of effort that has been incorporated into the Draft Environmental Impact Report (DEIR). After reviewing the document, I have the following comments:

Page 3-33 Section 3.6.13 - Roseville/USBR Pumping Plant Expansion -

This section suggests that this facility would not be available for use until Roseville's Warren Act contract is complete and the City has purchased an additional 10,000 acre feet of water. This is not true. The City's USBR contract had a provision for expanding the pumping facility to supply water at a higher rate - CVP water or non-project water. Expansion of the pumping facility is well underway. In fact, the construction is complete and final testing is being conducted. The Bureau issued a categorical exemption for the project over a year ago. V-1

Please change the section to reflect the above information.

Page 3-33 Section 3.6.14 - Long-Term Warren Act Contract, Roseville/USBR -

The Warren Act contract is to pump up to 30,000 acre feet of PCWA contract water through federal facilities. Contract negotiations between the Bureau and Roseville are currently underway. The corresponding environmental review must be completed prior to signing the agreement. PCWA water supply contracts are in place. Roseville does not need to acquire an additional 10,000 acre feet of water over the next 25 years. V-2

Page 4.10-22 The narrative suggests that Roseville has projected water demands solely on population. This is not correct. Roseville's 54,900 acre feet is based on approved landuse throughout the community. V-3

The Spink Corporation completed a water system evaluation in 1993 that established water use for varying landuse which is the basis for the City's projections.

V-3

Please focus the discussion on Roseville's water use projections on a landuse-based approach instead of population based.

Page 4.10-25 A discussion on wastewater treatment plant discharge impacts to water supply is misleading. Roseville's wastewater treatment plant's discharge complies with the highest quality criteria under Title 22. To ensure a high quality discharge, a regional wastewater master plan was conducted for southwestern Placer County. This document should be referenced in comments.

V-4

Page 5-6 Reclaimed Wastewater Alternative -

Roseville is not considering a discharge to the American River. This project has been dropped and will not be evaluated in the future. This project was dismissed due to lack of interest from the Regional Board. Also, when Roseville elected to build a second treatment facility on Pleasant Grove Creek, the pump back alternative became impractical.

V-5

I again appreciate all your good work and look forward to working with you in the future. If you have any questions please feel free to give me a call.

Respectfully,

Derrick H. Whitehead, PE
Environmental Utilities Director

Derrick H. Whitehead, Environmental Utilities Director
City of Roseville
April 5, 1999

V-1 Comment noted. Information provided by the commentor is reflected in Section 5, Corrections and Revisions of the WFP Draft EIR. This revision does not change the results of the WFP Draft EIR analysis.

The following paragraph on page 3-33 is revised as follows:

3.6.13 Roseville/USBR Pumping Plant Expansion

The City of Roseville is proposing the expansion of its raw water pumping plant from 240 cfs (153 mgd) to 400 cfs (259 mgd). ~~Approval of this project is contingent upon USBR approval for the use of federal facilities to convey non-Central Valley Project water.~~ The USBR issued a categorical exemption for the proposed project over a year ago and construction is complete. Currently the facility is in its final testing phase. The USBR contract includes a provision which allows the expanded facility to supply water at a higher rate - CVP water or non-project water. ~~The project is currently in the environmental review phase.~~

V-2 Comment noted. The WFP Final EIR acknowledges that the City of Roseville is presently negotiating its long-term Warren Act contract with USBR and further, that NEPA and ESA documentation and compliance is under preparation. The executed Warren Act contract would allow the City to take delivery of up to 30,000 AFA of water through the federal facilities at Folsom Dam from two existing agreements with PCWA. This water would be from PCWA's Middle Fork Project on the American River.

It is also understood that the City's buildout demand of 54,900 AFA (consistent with the WFP) will be accommodated through a combination of the City's existing federal CVP water contract (up to 32,000 AFA in wet-years) and its agreement(s) with PCWA. In wet years, therefore, it is assumed that the City would require approximately 22,900 AFA of PCWA water (i.e., the difference between 54,900 AFA and 32,000 AFA) to meet its 2030 buildout demands. See also response to comment V-1.

V-3 The land use based approach used by the City of Roseville to determine water demand is noted. The WFP Draft EIR's population based analysis yields similar demands and there is

continued ...

no change in the WFP Draft EIR analysis or results. The WFP impact analysis considers water demands of 54,900 AFA for the City of Roseville (page 3-10 of the WFP Draft EIR).

V-4 Comment noted. The WFP Draft EIR's discussion on page 4.10-25 is meant to convey that the increased effluent discharges into the Sacramento River from several wastewater treatment plants is a concern to some downstream users. Concerns have been raised in other forums regarding the potential for these increased future effluent discharges to adversely affect water quality and, therefore, pose a risk to human health. The City's comments regarding the level of treatment achieved by the Roseville Wastewater Treatment Plant and their Regional Wastewater Master Plan are noted and will be conveyed to agency decision-makers.

V-5 The Final EIR acknowledges that this once proposed project is no longer being considered by the City of Roseville. It is recognized that changing circumstances, including the City of Roseville's own proposal to construct a second treatment facility on Pleasant Grove Creek, rendered this project impractical and unwarranted. This change is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR. This change does not affect the conclusions of the WFP Draft EIR.

continued ...

City of Roseville

The City of Roseville has rights to the tertiary treated effluent from the Regional Wastewater Treatment Plant on Booth Road in Roseville. Planned capacity of the treatment plant is 54 million gallons per day (mgd) and a portion of the reclaimed water is currently used in Roseville's existing reclaimed water system. ~~Roseville considered a project to replace its consumptive use of American River water. The project would involve construction of a pumping and conveyance system to transport up to 40,000 AF of reclaimed water upstream to be discharged to the American River at a point upstream of Nimbus Dam (Whitehead, pers. comm., 1997). The Roseville project is inconsistent with existing Regional Water Quality Control Board (RWQCB) standards for the Lower American River, and is considered a low-priority project in the near term (3 to 5 years).~~ Roseville is no longer considering a discharge to the American River.

El Dorado Irrigation District

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In reply refer to: M0499-749

April 5, 1999

Ms. Susan Davidson, Senior Administrative Officer
Sacramento City-County Office of Metropolitan Water Planning
5770 Freeport Boulevard, Suite 200
Sacramento, CA 95822

RE: Draft Environmental Impact Report (DEIR) for the Water Forum Proposal

Dear Susan:

The El Dorado Irrigation District has and continues to support the objectives of the Water Forum Proposal, including our full participation. Although EID does not have an adopted Purveyor Specific Agreement at this time, the DEIR needs to address our eventual full participation as other regional water purveyors are treated.

It is our understanding that future consumptive water demands from the American River for EID's future needs are included in the cumulative impacts analysis and hydrological modeling. This is imperative that these future needs are included to insure compliance with CEQA.

W-1

Thank you for considering our comments.

Sincerely,

David Witter
Project Administrator

DW:hl

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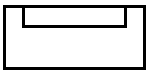

David Witter, Project Administrator
El Dorado Irrigation District
April 5, 1999

W-1 The commentor is correct. The WFP Draft EIR does include potential future diversions by EID in the future cumulative impacts analysis.

LETTER
X

EDCWA El Dorado County Water Agency

L _TORS
William S. Bradley
Raymond J. Nutting
J. Mark Nielsen
Penny Humphreys
David A. Solaro

GENERAL MANAGE
Merv de Haas

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April 2, 1999

Ms. Susan Davidson, Senior Administrative Officer
Sacramento City-County Office of Metropolitan Water Planning
5770 Freeport Boulevard, Suite 200
Sacramento, California 95822

Re: Draft Environmental Impact Report (DEIR) for the Water Forum Proposal

Dear ~~Ms. Davidson~~ Susan:

As noted in the attached letter dated March 18, 1999, by our counsel, Mr. Thomas Cumpston, we are in basic agreement with the form and content of the referenced DEIR based on our understanding that El Dorado County's concerns and future water demands will be included in the Final EIR, so that we can tier off the EIR appropriately. X-1

It is also our understanding that the Water Forum has agreed that upon resolution of the litigation against El Dorado County's General Plan EIR, El Dorado County interests will promptly become full participants in the Water Forum. X-2

Thank you for the opportunity to comment on the DEIR. We look forward to receipt of the Final EIR, and to expanding our participation in the Water Forum.

Sincerely,

Merv de Haas
General Manager

MdeH:lks
Attachment
cc: Water Agency Board of Directors
Marie Davis, General Manager, Georgetown Divide Public Utility District
David Witter, Project Administrator, El Dorado Irrigation District

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March 18, 1999

Susan Davidson
Sacramento City-County Office of
Metropolitan Water Planning
5770 Freeport Blvd., Suite 200
Sacramento, CA 95822

Re: Draft Environmental Impact Report for the Water Forum Proposal

Dear Ms. Davidson:

This office represents the El Dorado County Water Agency, a stakeholder in the Water Forum process. We appreciate this opportunity to comment on the above-named document.

It is our understanding from review of the document and discussions with Water Forum participants that the draft EIR's cumulative impacts analysis assumes and includes the following future consumptive uses from the American River system for the benefit of El Dorado County interests:

1. Diversion and/or rediversion of up to 17,000 acre-feet annually from Folsom Reservoir sought jointly by El Dorado County Water Agency and El Dorado Irrigation District, for the benefit of El Dorado Irrigation District, via Applications Nos. 29919A, 29920A, 29921A, and 29922A, and petition for partial assignment of state-filed Application 5645 before the State Water Resources Control Board. This diversion was approved by Decision 1635 of the SWRCB on October 2, 1996, although the SWRCB subsequently took Decision 1635 under reconsideration, where it remains pending at this time.

1- Directors' Mail (FYI)

2. Diversion and/or rediversion of up to 15,000 acre-feet annually of water from Folsom Reservoir or by exchange at points upstream, via a contract between the United States Bureau of Reclamation and El Dorado County Water Agency, for the benefit of El Dorado Irrigation District and Georgetown Divide Public Utility District, as authorized and directed by Public Law 101-514. As the draft EIR states, the environmental review prerequisite to this contract is presently underway.

Given the bulk and complexity of the draft EIR, we would appreciate a succinct confirmation in response to this comment that each of these two future consumptive uses is, in fact, assumed and included in the hydrological modeling and impacts analysis in Section 6, "Cumulative Impacts," of the draft EIR. In our view, the inclusion of these projects in that modeling and analysis is appropriate to ensure compliance with the California Environmental Quality Act, given their clear foreseeability as illustrated by the above facts.

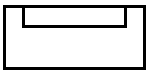
Thank you for providing clarification on this point.

Sincerely,

LOUIS B. GREEN
County Counsel

By: 
Thomas D. Cumpston
Deputy County Counsel

TDC:sln
davidson.ltr
cc: Merv de Haas, Water Agency General Manager
Dave Witter, El Dorado Irrigation District
Marie Davis, Georgetown Divide Public Utility District
James Moose, Esq.



Merv de Haas, General Manager
El Dorado County Water Agency
April 2, 1999

X-1 The WFP Draft EIR does include potential future diversions by EID in the cumulative impacts analysis. Please note that the letter attached to comment letter X is included in this Final EIR as comment letter H.

X-2 The WFP includes a Procedural Agreement between El Dorado Irrigation District and Georgetown Divide Public Utility District. It recognizes that there are some issues that could not be resolved by the initial signing of the Water Forum Agreement. As soon as these issues are resolved, the Water Forum Agreement will be amended to include both districts.

LETTER
Y

EAST BAY
MUNICIPAL UTILITY DISTRICT

April 5, 1999

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APR 0 5 1999
COMWP

Ms. Susan Davidson
Sacramento City-County Office of
Metropolitan Water Planning
5770 Freeport Boulevard, Suite 200
Sacramento, California 95822

Dear Ms. Davidson:

EBMUD Comments on
Water Forum Draft Programmatic
Environmental Impact Report (EIR)

The East Bay Municipal Utility District (EBMUD) appreciates the opportunity to review and comment on the Draft Programmatic EIR. The Draft EIR states that it is intended to provide the co-lead Agencies (the City of Sacramento and Sacramento County) and Responsible Agencies with the environmental information necessary to make an informed decision when they decide whether to approve and adopt the Water Forum Proposal (WFP, Draft EIR pg. 1-4). Subsequent actions by individual lead /responsible agencies to implement the WFP may rely on this EIR to determine if any separate/supplemental environmental documentation is necessary.

EBMUD holds a 1970 water service contract with the United States Bureau of Reclamation (USBR) for delivery of American River water and has been vitally interested in American River supply planning activities. EBMUD completed a programmatic planning effort called the Water Supply Management Program (WSMP), certified by the EBMUD Board of Directors in 1993. As a result of that process several components were approved, including aggressive demand management (conservation, reclamation and dry year customer rationing), enhancement of the lower Mokelumne River, aqueduct strengthening, and a water supply component. Strong conservation and reclamation programs are now in place and EBMUD's dry year customer rationing policy of up to 25% in severe droughts reduces the need for supplemental supplies. Y-1

EBMUD and USBR published a Draft EIR/EIS in November '97 and allowed 165 days for public review, twice granting review period extensions totaling 75 days. Two alternatives for taking delivery of the CVP contractual supply were examined in that Draft EIR/EIS and EBMUD anticipates certifying the environmental document and selecting the preferred project as early as June 1999.

375 ELEVENTH STREET . OAKLAND . CA 94607-4240 . FAX (510) 287-1275
P.O. BOX 24055 . OAKLAND . CA 94623-1055

EBMUD's review of the Water Forum Draft EIR remains in progress because the requested detailed modeling information was not provided in a complete nor timely fashion. Comments based on a thorough review of the Draft EIR cannot be completed without additional time for review. Additional time is necessary because many of the approaches used in the modeling, especially for aquatic analyses, have not been explained adequately in the document, are not replicable using available information and are of unknown technical basis.

In recognition of the coordination needed, Water Forum staff have agreed to a joint session of the Water Forum and EBMUD modelers/consultants to address questions regarding the modeling assumptions and data relied upon for the analyses in the Water Forum Draft EIR. See Exhibit 6 of EBMUD Detailed Comments, letter dated April 1, 1999 from CCOMP to EBMUD. EBMUD's request for an extension to the comment period beyond April 5, 1999 was denied (See Exhibit 7 of EBMUD Detailed Comments, letter dated April 2, 1999 from CCOMP to EBMUD), but this seems incongruous with the public disclosure requirements of CEQA and we request that you reconsider. Y-2

EBMUD's comments are intended to provide constructive input to the Water Forum Proposal Plan and related environmental documentation. The specific comment areas include: consideration of EBMUD project alternatives, NEPA compliance, Increased Surface Water Diversions, Modeling, Water Supply Impacts, Fisheries, Conservation, Reclamation and Demand Management, Water Quality and Conjunctive Use, and Cumulative Impacts. Based on review of the Draft EIR to date we have identified numerous aspects of the draft document that are inadequate under CEQA. Consequently, based on the specific comments provided herein, the Water Forum Draft EIR must be substantially modified and supplemented and then recirculated to the public for review. Y-3

As you know EBMUD has requested an additional 60-90 days to review this Draft EIR, to receive the remainder of the requested information from the Water Forum and to better understand the analyses. The Water Forum elected to only provide EBMUD 14 days to complete its review of the voluminous and complex modeling data and assumptions provided on March 18, 1999. EBMUD will continue to review the information and Draft EIR and will forward additional comments as soon as possible prior to certification of the EIR by the City and County. Y-4

Although many of the attached comments are critical and call for additional work, EBMUD remains committed to reaching agreement on a mutually acceptable Joint Project with the City and County of Sacramento. EBMUD strongly urges that the Joint Project be fully and accurately described in the Water Forum Proposal draft document including the reasons for its exclusion from the analyses of the Water Forum's primary alternative. If you have any questions concerning these comments, please call me at (510) 287-1066. Y-5

Sincerely,

Kurt G. Ladensack
Water Supply Improvements Division

cc: Tom Aiken
Rod Hall

Attachments

KGL:rlp

Forum Tr_Ltr 499

Exhibit 1 - Why Sacramento Parties Believe Original Joint Project is Infeasible
Exhibit 2 - Effects on Nimbus Releases due to EBMUD at Joint Project
Exhibit 3 - Effects on X2 Location due to EBMUD at Joint Project
Exhibit 4 - Letter to Jonas Minton dated March 31, 1999
Exhibit 5 - Letter to Kurt Ladensack dated March 3, 1998
Exhibit 6 - Letter to Kurt Ladensack dated April 1, 1999
Exhibit 7 - Letter to Kurt Ladensack dated April 2, 1999

Detailed EBMUD Comments
Sacramento Area Water Forum Draft EIR

Comment Areas
Consideration of EBMUD
NEPA Compliance
Increased Surface Water Diversions
Modeling
Water Supply Impacts
Fisheries
Conservation, Reclamation and Demand Management
Water Quality
Conjunctive Use and Groundwater Management
Cumulative Impacts
List of Exhibits

Consideration of EBMUD

A Purveyor Specific Agreement for EBMUD was published in the January *1997 Draft Recommendations for the Water Forum Agreement (pages 166-178)*. No documentation is included in the Draft EIR indicating why EBMUD was removed from the Water Forum Proposal (WFP). A separate document entitled, "Why The Original Joint Project Is Infeasible For Sacramento Parties," dated January 28, 1999, transmitted to EBMUD on February 6, 1999 by the City-County Office of Metropolitan Water Planning (CCOMWP) Executive Director, however, refers to work on the Water Forum Draft EIR when discussing the following:

1. American River - Diversion by EBMUD in drier years would result in less water available for release during the fall spawning periods.

2. Sacramento River - Dry year diversions by EBMUD would reduce flows and increase temperatures in the Sacramento River. They would also move the X-2 standard upstream.

Y-6

Other reasons offered in the January 28 document for the unacceptability of a Joint Project, include disruption of downtown City streets caused by installation of the pipeline from the proposed diversion to the Fairbairn Water Treatment Plant, and downstream purveyor opposition to Joint Project.

Based on the Water Forum Draft EIR the following is apparent:

1. American River – No evidence is presented in the Draft EIR showing how EBMUD deliveries for the Joint Project cause impacts during the fall spawning period.

Releases from Nimbus Dam are largely controlled by the Anadromous Fisheries Restoration Program (AFRP) criteria, which is a function of Folsom Reservoir storage and inflow, and not EBMUD deliveries. EBMUD's independent modeling verifies that Nimbus releases during the fall are not adversely affected by EBMUD deliveries under the draft Bureau contract for the downstream diversion. A 70-year spreadsheet attached hereto (Exhibit 1) and incorporated herein displays this. When the City and County deliveries, in addition to EBMUD deliveries for the Joint Project, are considered some increased effect may be apparent, but it is disingenuous and misleading to attribute the entire effect to EBMUD. The City and County effects will occur with or without EBMUD, and on an average annual basis the City and County take more water under the Joint Project than EBMUD (42,000 AF and 45,000 AF, respectively, compared to less than 25,000 AF). The cumulative scenario analyzed by the Water Forum Draft EIR, which includes EBMUD deliveries, may show some effect on Nimbus releases. However this effect is not attributable to EBMUD because this scenario also includes increased demand by the State Water Contractors (an increase of 600,000 AF/yr) and increased Trinity River flows (up to 750,000 AF/yr instead of 340,000 AF/yr used in the Base condition).

2. Sacramento River – No evidence is presented in the Draft EIR showing how EBMUD deliveries for the Joint Project cause flow and temperature impacts or X2 impacts. EBMUD's independent modeling verifies that X2 position is not adversely affected by EBMUD deliveries under the terms and conditions of the Draft Bureau/EBMUD contract as applied to deliveries at the Joint Project diversion location. A 70-year spreadsheet is attached hereto (Exhibit 2) and incorporated herein to display this. The City and County effects will occur with or without a Joint Project with EBMUD. The cumulative scenario analyzed by the Water Forum Draft EIR, which includes increased deliveries to State Water Contractors, increased Trinity River flows and EBMUD deliveries may show some effects, but these are not attributable to EBMUD. Further, deliveries to EBMUD are not modeled in accordance with the draft Bureau-EBMUD water contract. The draft contract includes dry year constraints, which helps to limit impacts. Y-6

Regarding construction related impacts to downtown streets, EBMUD notes that the Water Forum Draft EIR discusses this same concept under the summary of the increased surface water diversions by the City of Sacramento. Page 3-18 states, **"the City could divert from a new diversion site near the mouth of the American River and pump the water back to FWTP for treatment."** Has the City found a way to install a pipeline in this area without "unacceptable" impacts to downtown streets? The EIR should address the associated significant impacts if unacceptable impacts to downtown residents and businesses are an important concern.

Regarding opposition by downstream purveyors, EBMUD notes that the *January 1997 Draft Recommendations for the Water Forum Agreement* specifically states, "all signatories will support the diversion agreed to for each purveyor as specified in Section Four, I., of the Draft Recommendations (pg. 3)." The EBMUD Purveyor Specific Agreement is included in Section Four, I., of the January 1997 document. How the

stakeholders could agree to support the 1997 Forum Recommendations and then violate one of the key principles and object to the EBMUD Specific Agreement is not explained in the Water Forum Action Plan or Draft EIR.

The CCOMWP January 28, 1999 document is attached hereto (Exhibit 1) and incorporated herein. Based on the above stated reasons and the absence of due process and adequate dispute resolution are fundamental weaknesses of the Water Forum, and constitute fatal flaws. Without substantive, enforceable processes and institutional structure, no assurance is provided to any stakeholder that prevents the Water Forum from operating in an ad hoc, arbitrary manner without fair procedures to allow an aggrieved party to be heard. Y-6

National Environmental Policy Act (NEPA)

Discretionary decisions by Federal agencies are a key part of implementation ofthe Water Forum Proposal (WFP). For example, as discussed under the Habitat Mitigation Element (i.e. pg. 2-5, 3-22), Federal agency approvals are required. However, the Federal agencies identified, including the U.S. Bureau of Reclamation (Bureau), the National Marine Fisheries Service (NMFS), and the U.S. Fish and Wildlife Service (USFWS), have not prepared a NEPA document to address their involvement or otherwise indicated any formal intent to participate, so far as EBMUD is aware. Since many of the Water Forum actions rely on federal approvals and support, it begs the question - why is the WFP being circulated and analyzed without a parallel effort on the part of the federal agencies? If the federal agencies do not propose to undertake actions consistent with the WFP and the Draft EIR, how can the WFP proceed? Please clarify. Y-7

Signatories to the Water Forum Plan are apparently ready to recommend that specific conditions be included in the Bureau's permit for operation of Folsom and Nimbus dams (pg. 3-22), but Bureau concurrence is not indicated. Without any federal action or Endangered Species Act consultation, all of the planning seems very tenuous. If the Bureau does not agree to implement actions contemplated by the WFP - will the WFP be implemented? Until the Bureau affirms its participation in the WFP, this EIR cannot be relied on. If the lead or responsible agencies cannot enforce mitigation measures through permit conditions, agreements, or other legally binding instruments such measures do not constitute mitigation (CEQA Guidelines §15126.4(a)(2)). No evidence is presented to assure readers that the federal actions will happen as planned. This means future project-level EIRs will not be able to tier from this programmatic EIR until the federal agencies have firmly established their role.

Increased Surface Water Diversions

The discussion of **South County Agriculture** (pg. 3-16) discusses diverting up to 35,000 AF from the Folsom South canal when March through November unimpaired flow into Folsom Reservoir is greater than 1,600,000 AF ("above Hodge"). Certain Water Forum stakeholders oppose deliveries to EBMUD via the Folsom South Canal, in accordance Y-8

with the Hodge Decision, yet no reason is offered why deliveries to others are acceptable. Please explain the basis for this dichotomy. Y-8

EBMUD supports groundwater management in the South Area as discussed in this section. Y-9

The **Sacramento Municipal Utility District** (SMUD) water use is another example of using the Folsom South Canal for delivering water diverted at Nimbus Dam. SMUD will assign a portion of its USBR contract water to the County (pg.3-17). In turn, SMUD will construct groundwater facilities for use in dry years with the assistance of the County for operation and maintenance and assistance by USBR to the federal conveyance facility to convey pumped groundwater. Bureau approvals are required for both the contemplated assignment and use of the federal conveyance for non-project water. These examples illustrate why a NEPA compliance document is necessary and should accompany this EIR. Y-10

The **County of Sacramento/SCWA** section describes "firm" entitlements of 45,000 AF (pg. 3-19) and "intermittent" water in the amount of 78,000 AF. The definition of "firm" should be supplied in the EIR. The source of these rights and specific quantities should be also identified. The County's P.L. 101-514 entitlement is subject to CVP deficiencies and its firmness should be described in that context. Please clarify whether the 15,000 AF assignment from SMUD is part of the "firm" total, even though it has not been approved by the Bureau, has not been subject to public review, and would also be subject to CVP deficiencies? Y-11

Modeling

Since 1997 EBMUD has repeatedly requested that hydrologic modeling for the Water Forum effort and the Joint Project considered in the Supplemental Supply Draft EIR/EIS be carried out in a consistent fashion. Sacramento County/SCWA and the Water Forum have consistently denied to share this information and to coordinate on assumptions relative to modeling. EBMUD was forced to make Public Records Act and Freedom of Information Act requests in March 1999 to obtain additional information. Only very recently, on March 18, 1999, was some of the requested information made available.

EBMUD has not had enough time to review and analyze all of the details of the supplied information. See EBMUD letter of March 31, 1999 attached hereto (Exhibit 4) and incorporated herein. Further, some of the information requested was not provided. As an example, EBMUD specifically requested modeling information addressing how the Temperature Control Device was considered. Y-12

As a result of this, EBMUD will submit additional detailed comments after a more thorough review all of the requested information. The Water Forum has used several non-standard techniques in the Draft EIR/EIS modeling and should allow interested parties an opportunity for thorough review. An EIR is supposed to be an informational

document to inform agency decision-makers and the public generally (CEQA Guidelines §15121). No adequate reason has been provided as to why key analytic information should be withheld.

Key information regarding the role of the Bureau is not provided in the Draft EIR. The Bureau, not the Water Forum, is responsible for operating major American River facilities, yet rather than rely on previous modeling approaches conducted under Bureau auspices, the Water Forum has based all of its aquatic analyses on a unique approach without Bureau support. A letter from the Bureau disclosing its intent to operate according to the WFP as well as its approval of the modeling approach should be supplied. Y-12

As mentioned earlier, additional EBMUD comments concerning the modeling details will be forthcoming at a later date prior to certification of this EIR. EBMUD will work diligently to provide the comments as early as possible. The most recent letters received from the Water Forum are included with these comments as Exhibits 6 and 7.

<u>Water Supply Impacts</u>

The Draft EIR identifies significant impacts in the form of reduced deliveries to CVP and SWP customers (pg. 4.3-6). No mitigation is proposed and the net effect is identified as significant and unavoidable (pg. 4.3-12). This section of the document appears to be self-serving in terms of water rights. The Draft EIR states "the WFP mitigates substantially the impacts which would otherwise exist if the Water Forum participants were to assert their individual rights (pg. 4.3-11)." However, this statement conveniently ignores one of the basic problems identified by the Water Forum:

> "*Here in the American River watershed, the biggest stumbling block to balanced water solutions is that individual groups – water suppliers, environmentalists, local governments, business groups, agriculturalists, and citizen groups – have been independently pursuing their own water objectives – without much success. In many cases, competition among groups has generated protests, lawsuits and delay. Even though millions of dollars has been spent in the past decade pursuing single purpose solutions, there has been little to show for these fragmented efforts. Gridlock has hit our water solutions.*" Water Forum Action Plan (January 1999, pg. 6). Y-13

The Draft EIR reasoning and Water Forum Action Plan seem to conflict in this area. The impetus for formation of the Water Forum was to broker a coordinated, mutually acceptable, balanced project.

Also ignored is the discussion of the Attorney General 1955 Opinion in the Draft EIR stating: Y-14

> "(2) The establishment of priority does not create or vest in any individual person a presently definable "water right" in the conventional sense of the term. As the need of such an inhabitant develops he ***must comply with general water law of the state both substantially and procedurally to apply for and perfect a water right.***" (pg. 4.3-11, emphasis added)

Many stakeholders within and outside the Sacramento region will have input to the establishment of any new rights. The DEIR acknowledges that CVP and SWP will be significantly affected by the WFP and further acknowledges that the adverse impact will not be mitigated. The level of participation by affected parties during water rights proceedings will likely be proportional to the impact and mitigation could have ameliorated some concerns. Whether the Water Forum proposal promotes or encourages water resources "gridlock" in a statewide context seems debatable. Y-14

The obligations of the Bureau, whose operations span many areas in addition to Sacramento, will effect how the WFP will be implemented and therefore influence the effect on State and federal water contractors. This is another reason why a NEPA document or a joint NEPA/CEQA document would be helpful.

The paragraph on page 4.3-9 implying that development of additional water supplies by the CVP and/or SWP could mitigate the effects on CVP and SWP deliveries caused by the WFP should be deleted. Independent actions by the State and federal government, not intended to compensate for WFP impacts, should not be described as mitigation for such impacts. If WFP proponents are serious about mitigating water supply impacts, the stakeholders should more aggressively pursue demand management or commit to supporting additional storage actions by the CVP and SWP; similar to the way they purport to support each other's diversions. Y-15

The significant impacts to CVP and SWP contractors presented in the Draft EIR are not accompanied by substantial evidence to support that such impacts are unavoidable (CEQA Guidelines § 15090-93). Such a showing is required if a statement of overriding considerations will be adopted. The Draft EIR does not demonstrate that it is infeasible to modify the WFP by incorporating more aggressive conservation measures, rationing during droughts and/or water reclamation. Because these actions would reduce the level of impact of the WFP on water supply the Draft EIR is inadequate.

Fisheries

Temperature Control Device (TCD)

The TCD will be constructed and implemented by others as acknowledged on pg. 3-23. The Bureau will install and operate the TCD as discussed in the P.L. 101-514 Draft and Final EIR/EIS. The TCD is an independent federal action and is not part of the Water Forum project description. The TCD is neither installed nor operating at the present time and is not part of the baseline physical conditions (See CEQA Guidelines §15125). Y-16

Inclusion of TCD within the Water Forum project for environmental analysis is not permissible under CEQA. The Draft EIR verifies the TCD is not part of the project (pg. 3-23), but within Technical Appendix G of the Draft EIR the TCD is assumed to be in operation for the WFP simulation, and **not** for the Base Condition simulation (pg. 33-36, Tech. App. G). This is not permissible under CEQA. §15126.2 of the CEQA Guidelines states, "in assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published." The TCD would be more appropriately considered in the context of cumulative conditions where other independent actions not yet carried out are considered.

The main body of the Draft EIR does not even address how the TCD was considered in the analyses. A reader must go deep into a Technical Appendix to understand an extremely important assumption related to WFP temperature impacts on the American River. The WFP adverse effects appear to be combined with the beneficial effects of an independent action to arrive at some melded result. If additional significant impacts or an increase in the severity of already significant impacts would result by removing the TCD from the WFP environmental analysis, then CEQA has been violated. The basic purpose of CEQA is to inform public agency decision-makers and the public about the potential significant environmental effect of the project (Guidelines §15121), and the manner in which the TCD was considered frustrates that purpose. The analyses should be performed again without use of the TCD and circulated in a supplemental Draft EIR for public review.

Y-16

Mitigation - Habitat Management Element

The definitiveness and enforceability of the mitigation measures for fishery impacts are inadequate to the extent such measures rely on an as yet to be defined measures to be developed through the Habitat Management Program and actions by others.

1. Particular components of the Habitat Management Program are identified as mitigation for flow-related impacts to Lower American Chinook Salmon, Impact No. 4.5-5 Mitigation. However, the Habitat Management Program is discussed as a yet to be formed program directed by a multi-agency steering committee who will oversee its development and identify priorities, time lines, budgets and funding sources for environmental restoration and enhancement (pg. 3-22). An agency decision-maker cannot certify that environmental impacts will be mitigated when all of these important factors are up in the air. Additionally, the involvement of federal agencies requires NEPA documentation and no certainty is provided about the specifics of their participation.

Y-17

2. One indefinite mitigation measure is labeled Dry Year Flow Augmentation, which states, "the primary source of water for augmenting flows would be the purchase of American River water from upstream reservoirs (i.e. pg. 4-5-79)." However, these flows are contingent on approval by PG&E and PCWA (pg. 3-15), including

"PCWA's determination that it has sufficient water in its reservoirs to make the additional releases to mitigate conditions in dry years without jeopardizing the supply for PCWA's customers." Such an unquantified, uncertain condition casts a cloud over this measure and a decision-maker could not enforce this measure as currently written. A substitute or alternative measure should be proposed to ensure that impacts are mitigated if this measure is not implemented in the driest of years.

3. The Flow Fluctuation Criteria states, "develop and implement (i.e. ramping) criteria for the operation of Folsom and Nimbus dams that would reduce the frequency with which rapid flow fluctuations occur in the river (i.e. pg. 4.5-79)." This measure is clearly beyond the control of the WFP participants and rests with the Bureau. Additionally, the ramping isn't even quantified under the performance criteria The measure is not enforceable and lacks certainty as written.

4. The Wetland/Slough Complex Restoration/Maintenance measure calls for restoring areas between river channels, shoreline and upland habitats (i.e. pg. 4.5-79). Again, no quantification is provided and these actions are subject to federal permit approval. The measure is not enforceable and lacks certainty as written.

Y-17

5. The Instream Cover measure (i.e. pg. 4.5-79) specifically states that "[m]ost large woody debris has been and continues to be removed from the Lower American River by the U.S. Army Corps of Engineers (Corps) to reduce potential hazards to recreationists." There is no certainty provided that the Corps would discontinue this activity in selected reaches. The measure is not enforceable and lacks certainty as written.

6. The Shaded Riverine Aquatic Habitat Protection/Management measure (i.e. pg. 4.5-80) also requires improvements within the high water mark and is subject to federal regulatory approval. The measure is not enforceable and lacks certainty as written.

7. Spawning Habitat Management/Maintenance measure (i.e. pg. 4.5-80) includes improvements in the riverbed and is subject to federal regulatory approval. The measure is not enforceable and lacks certainty as written

Collectively, as written the Mitigation Measures are speculative and desirable rather than firm commitments to reducing adverse effects. Specific binding agreements, enforceable by the lead agencies, are needed to ensure that the mitigation will definitely be carried out (CEQA Guidelines § 15126.4(a)(2)). Lastly, if the masking effects of the TCD are eliminated as discussed earlier, additional mitigation beyond that specified may be required.

Conservation, Water Reclamation and Demand Management

EBMUD supports inclusion of the Water Conservation Element in the WFP. Demand management is an important and necessary component of modern water supply programs.

Y-18

However, in the context of water management practices extensively employed in California, the WFP does not go far enough. In light of the fact that the Draft EIR identifies unavoidable impacts, the document needs to demonstrate that more aggressive demand management measures are not feasible (CEQA Guidelines §15091-93). Increased water conservation, reclamation, and rationing during droughts are measures which could avoid or substantially lessen the significant environmental impacts.

Increased water conservation was addressed in Chapter 5, Alternatives. However, this alternative was eliminated from detailed consideration in the DEIR (pg. 5-8). Greater detail is necessary to support its elimination. This alternative also provides a means to avoid or lessen significant impacts and must be thoroughly addressed. For the information included in WFP Water Conservation Element, more justification is needed to confirm how a conservation level of 25.6% can be attained. This kind of detail must be provided to allow the reviewer to determine the relative impact of each of the BMPs and to assess whether these assumptions are realistic. In its current form, the Alternatives analysis is incomplete and must be supplemented and circulated in a revised draft EIR for public review.

EBMUD understands that the City Charter has a provision prohibiting mandatory residential meters. However, the City's surface water diversions account for a substantial portion of the total for Water Forum members (34% in 1995 and 31% in the driest years with 2030 demands). Consequently, basing customer billings on metered consumption in the City of Sacramento would be a responsible water management action and would result in a significant reduction in surface water diversions, thereby reducing the impact of the WFP. Y-18

By way of comparison, all of EBMUD's over 360,000 accounts are already metered, the meters are read regularly, and the information is used to implement tiered water pricing where unit charges for water increase as consumption increases. Tiered pricing cannot be implemented without metering. EBMUD currently spends approximately $4.50/capita annually for its customer-targeted water conservation programs, more than any other member of the California Urban Water Agencies. EBMUD incurs substantial additional costs for leak detection, meter reading, and its substantial water reclamation program.

The Water Conservation BMPs described in Appendix D are outdated. This listing should be updated to reflect the most recent version of Best Management Practices issued by the Urban Water Conservation Council. For example, clothing washer rebates should be included.

The WFP should also consider mandatory rationing during critical droughts. This likely will have a substantial effect on surface water impacts during these critical events, potentially avoiding significant impacts on water supply and recreation. EBMUD's Water Supply Management Program, adopted in 1993, calls for customer rationing up to 25% during droughts. This will require single family residents to reduce their normal water consumption by an even greater amount.

Water Quality

The Draft EIR does not evaluate water quality impacts closely with regard to impacts of the WFP on the Sacramento Regional Wastewater Treatment Plant (SRWTP). The Sacramento County Regional Sanitation District (SCRSD) has previously suggested what type of analysis is necessary for EIR analyses. The March 3, 1998 letter is attached hereto (Exhibit 5) and incorporated herein. Since the lead agencies for the WFP are members of SCRSD the issues covered in the March 3, 1998 letter should be addressed in the WFP Draft EIR.

WFP actions will decrease Sacramento River flow available for dilution of SRWTP discharges while increasing the volume of those wastewater discharges. This potentially will require more frequent usage of the SWRTP emergency storage basins, thereby complicating treatment and increasing operational costs. Also, background concentrations of constituents in the Sacramento River would increase due to reduced dilution flows from the American River, possibly requiring more stringent effluent limitations for the SRWTP. Potential temperature-related impacts on the SRWTP and the State Thermal Plan are not addressed in the in the Draft EIR. These are among the concerns expressed by the Sacramento Regional County Sanitation District (SRCSD) related to EBMUD's Supplemental Water Supply Project, which would have smaller surface water diversions and would not increase SRWTP wastewater flows and loadings. Y-19

Conjunctive Use and Groundwater Management

EBMUD supports efforts by the Water Forum members to promote conjunctive use of groundwater and surface water resources within Sacramento County. Effective integration of surface water use and groundwater use will increase the sustainable water supply and reduce surface water impacts during dry years.

EBMUD continues to be interested in exploring potential conjunctive use opportunities within Sacramento County, particularly in the South Sacramento Area and the Galt Area, defined in Chapter 4.2 of the WFP EIR. EBMUD's draft amendatory CVP water service contract includes provisions that keep open the opportunities for future conjunctive use projects, subject to USBR approval and completion of supplemental environmental compliance (CEQA, NEPA, Endangered Species Act). Y-20

As discussed in the WFP (Element VI), the development of a groundwater management plan and creation of groundwater management governance is essential to protect the viability of the groundwater resources in the study area. It is also a prerequisite to implementing conjunctive use projects. The Water Forum recognizes that "the groundwater management governance structure should facilitate participation by water agencies with specific and relevant interest in the groundwater governance structure outside of Sacramento County and encourage cooperation and collaboration with such agencies (WFP, pg. 91)." EBMUD is such an agency, as discussed above, and would be interested in discussing the feasibility of such efforts.

Cumulative Impacts

The scenario for cumulative conditions presented in the Draft EIR (pg. 6-1) is described as the WFP and three other reasonably foreseeable probable future actions, that could be quantified, including:

1. Increased Trinity River Flows – 750,000 AF in wet years to 390,000 AF in dry years.

2. EBMUD Supplemental Water Supply Project – up to 112,000 AF per year of American River water subject to CVP deficiencies.

3. Increased water demands by State Water Project (SWP) contractors, Central Valley Project (CVP) contractors and other Sacramento Valley water users. (Quantitative information is not provided, but Table 4.1-1 shows an increase from 3.6 Million AF (Base) to 4.2 Million AF (Cumulative) for variable SWP demand.

Earlier these comments stated that the temperature control device is not part of the WFP project description or a part of the physical baseline and should be included in the cumulative analysis. Since it is a reasonably foreseeable probable future action for which quantitative information it belongs in the cumulative case. Including in the project level comparison is inappropriate as discussed earlier in these comments. Y-21

The EBMUD deliveries are not modeled in accordance with the draft Bureau amendatory contract. An EBMUD storage threshold and a three-year drought delivery cap of 165 TAF limit water delivery under the Joint Project concept. Including the contract terms in the modeling would show EBMUD taking delivery of less water. EBMUD continues to believe the Joint Project should be modeled as part of the WFP and not the cumulative case, but wherever it is analyzed in the Water Forum DEIR, it should be modeled consistent with the terms of the draft EBMUD amendatory contract.

The increased SWP demand and decreased imports from the Trinity Basin dominate the changed environment in the cumulative case. The EBMUD deliveries are comparatively small and do not cause significant impacts. Further, the beneficial effect of the TCD belongs in the cumulative case, not in the WFP project analysis.

List of Exhibits

1. Why the Original Joint Project is Infeasible for Sacramento Parties, January 28, 1999.

2. 70 year spreadsheet – Effects on Nimbus releases due to EBMUD at Joint Project.

3. 70 year spreadsheet – Effects on X2 location due to EBMUD at Joint Project.

4. Letter from Kurt Ladensack, EBMUD to Jonas Minton, Office of Metropolitan Water Planning, March 31, 1999.

5. Letter from Sacramento Regional County Sanitation District to Kurt Ladensack, EBMUD, regarding DEIR/EIS for the EBMUD Supplemental Supply Project, dated March 3, 1998.

6. Letter from Jonas Minton, Office of Metropolitan Water Planning, to Kurt Ladensack, EBMUD April 1, 1999.

7. Letter from Jonas Minton, Office of Metropolitan Water Planning, to Kurt Ladensack, EBMUD April 2, 1999

Exhibit 1

WHY THE SACRAMENTO PARTIES BELIEVE THE ORIGINAL JOINT PROJECT IS INFEASIBLE

1. **IMPACTS ON FISHERIES.**

   A. **American River.** After parties began working to develop the Joint Project, the Water Forum Draft EIR identified impacts of flow reductions on the availability of spawning habitat for fall-run chinook salmon. Reduced flows result in a reduction in the amount of area available for spawning. This causes redd superimposition (i.e. spawning salmon creating new nests by disturbing existing nests). That directly reduces the strength of the year class. Diversions by EBMUD in drier years would result in less water available for release during the fall spawning periods. This could also result in increased temperatures.

   B. **Sacramento River and Bay Delta.** Based on preliminary model runs using the Bureau of Reclamation's PROSIM model, work on the Joint Project began with a belief that dry year diversions would not have unacceptable impacts on the Sacramento River and the Bay Delta. Subsequently, it was discovered that the PROSIM model contained significant inaccuracies. Correction to PROSIM revealed that the water system is drier than previously believed.

   Dry year diversions by EBMUD would reduce flows and increase temperatures in the Sacramento River. They would also move the X-2 standard upstream. This could affect species listed under the Endangered Species Act including winter-run salmon, Delta smelt as well as fall-run salmon which is proposed for listing.

2. **DISRUPTION OF DOWNTOWN CITY STREETS.** Engineering studies done as part of development of the Joint Project have identified unexpectedly large impacts on downtown City streets that would be caused by installation of the pipeline from the proposed diversion to the Fairbairn Water Treatment Plant.

3. **CITY LANDFILL LIABILITY.** Routing of the pipeline through the City landfill raises concerns about liability. No mutually satisfactory resolution of these concerns has been identified.

4. **DOWNSTREAM PURVEYORS.** Downtown purveyors have declared opposition to joint project.

5. **COSTS.** Costs have escalated to a point that the project is no longer affordable for the County.

Effects on Nimbus Releases due to EBMUD at Joint Project

EXHIBIT 2

Difference Table: Alt. 3 (EBMUD-only) minus Alt. 1(No-Action Alt. from DEIR/EIS)
Modeling Based on 12/16/98 Draft Contract (EBMUD & U.S. Bureau of Reclamation)
Delta Outflow (cfs)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
1922	0	0	0	0	0	0	0	0	0	0	0	0	0
1923	0	0	0	0	0	0	0	0	0	0	0	0	0
1924	-162.6	-130.1	0	0	0	0	0	0	0	0	-0.3	0	0
1925	0	0	0	750	-534.1	44.4	-45.8	0	0	0.2	0.2	0	
1926	0.2	0.1	0	0	0	0	0	0.1	0.3	0.3	0	0	
1927	0	0	0	0	-1.1	0	0	0	0	0	0	-0.1	
1928	0	0	0	0	0	0	0	0	0	0	0	0	
1929	0	0	0	0	0	0	0	0	0	0	0	0	
1930	0	0	0	0	0	0	0	0	0	0	0	0	
1931	0	0	0	0	0	0	0	0	0	0	0	0	
1932	0	0	0	0	0	0	0	0	0	0	0	0.1	
1933	0	0	0	0	0	0	0	0	0	0	0	0	
1934	0	0	0	0	0	0	0	0	0	0	0	0	
1935	0	0	0	0	0	0	0.1	0	0	-12.1	1.1	-35.2	
1936	-36.9	-54.5	-69.5	-55.6	286.7	0	0	0	0	0.1	0.5	0.1	
1937	0.2	-13.5	-18.4	-14.7	-11.7	0	57.4	0	0	1.1	0.2	0.1	
1938	0.1	0.1	-1.8	0	0	0	0	0	0	0	0	0	
1939	0	0	0	0	0	0	0	0	0	0	0	0	
1940	0.1	0.1	0	0	-0.2	0	0	0	0	0	0	0	
1941	0	0	0	0	0	0	0	0	0	0	0	0	
1942	0	0	0	0	0	0	0	0	0	0	0	0	
1943	0	0	0	0	0	0	0	0	0	0	0	0	
1944	0	0	0	0	0	0	0	0	0	0	0	0	
1945	0	0	0	0	0	0	0	0	0	0	0	0	
1946	0	0	0	0	0	0	0	0	0	0	0	0	
1947	0	0	0	0	0	0	0	0	0	0	0	0	
1948	0	0	0	0	0	0	0	0	0	0	0	0	
1949	0	0	0	0	0	0	0	0	0	0	0	0	
1950	0	0	0	0	0	0	0	0	0	0	0	0	
1951	0	0	0	0	0	0	0	0	0	0	0	0	
1952	0	0	0	0	0	0	0	0	0	0	0	0	
1953	0	0	0	0	0	0	0	0	0	0	0	0	
1954	0	0	0	0	0	0	0	0	0	0	0	0	
1955	0	0	0	0	0	0	0	0	0	0	0	0	
1956	0	0	0	0	0	0	0	0	0	0	0	0	
1957	0	0	0	0	0	0	0	0	0	0	0	0	
1958	0	0	0	0	0	0	0	0	0	0	0	0	
1959	0	0	0	0	0	0	0	0	0	0	0	0	
1960	-139.4	-16.8	-41.1	-32.9	-26.4	0	0	250	0	-39.8	35.6	0	
1961	32.5	0	0	0	0	0	0	0	0	0	0.8	0	
1962	0	0	0	0	0	0	0	0	0	-27.3	0	0	
1963	0	0	0	0	0	0	0	0	0	0.1	0	-0.1	
1964	0	0	0	0	0	0	0	0	0	0	0	0	
1965	0	0	0	0	0	0	0	0	0	0	0	0	
1966	0	0	0	0	0	0	0	0	0	0	0	0	
1967	-38.9	0	0	38.7	0	0	0	0	0	0	0	0	
1968	0	0	0	0	0	0	0	0	0	0	0	0	
1969	0	0	0	0	0	0	0	0	0	0	0	0	
1970	0	0	0	0	0	0	0	0	0	0	0	0	
1971	0	0	0	0	0	0	0	0	0	0	0	0	
1972	0	0	0	0	0	0	0	0	0	0	0	0	
1973	0	0	0	0	0	0	0	0	0	0	0	0	
1974	0	0	0	0	0	0	0	0	0	0	0	0	
1975	0	0	0	0	0	0	0	0	0	0	0	0	
1976	0	0	0	0	0	0	0	0	0	0	0	0	
1977	0	0	0	0	0	0	0	0	0	0	0	0	
1978	0	0	0	0	0	0	0	0	0	89.2	-14.8	-250	
1979	0	0	0	0	0	0	250	0	0	-74.5	1.2	-1.2	
1980	0	0	0	0	0	0	0	0	0	0	-3.1	3.2	
1981	0	0	0	0	0	0	0	0	0	-0.8	0	0	
1982	0	0.6	0	0	0	0	0	0	0	0	0	0	
1983	0	0	0	0	0	0	0	0	0	0	0	0	
1984	0	0	0	0	0	0	0	0	0	0	0	0	
1985	0	0	0	0	0	0	0	0	0	0	0	0	
1986	0	0	0	0	0	0	0	0	0	0	0	0	
1987	0	0	0	0	0	0	0	0	0	0	0	0	
1988	0	0	0	0	0	0	0	0	0	0	0	0	
1989	0	0	0	0	0	0	0	0	0	0	0	0	
1990	0	0	0	0	0	0	0	0	0	0	0	0	
1991	0	0	0	0	0	0	0	0	0	0	0	0	
Avg.	0.5	1.8	-2.4	-0.4	5.4	-0.3	3.5	-0.3	-0.2	0	-0.1	-1.5	

PROSIM 99 Modleing

April, 1999

Effects on X2 Location due to EBMUD at Joint Project

EXHIBIT 3

Difference Table: Alt. 3 (EBMUD-only) minus Alt. 1 (No-Action Alt. from DEIR/EIS)
Modeling Based on 12/16/98 Draft Contract (EBMUD & U.S. Bureau of Reclamation)
X2 Position

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
1922	0	0	0	0	0	0	0	0	0	0	0	0	0
1923	0	0	0	0	0	0	0	0	0	0	0	0	0
1924	0	0	0	0	0	0	0	0	0	0	0	0	0
1925	0	0	0	-0.2	-0.1	0	0	0	0	0	0	0	0
1926	0	0	0	0	0	0	0	0	0	0	0	0	0
1927	0	0	0	0.1	0	0	0	0	0	0	0	0	0
1928	0	0	0	0	0	0	0	0	0	0	0	0	0
1929	0	0	0	0	0	0	0	0	0	0	0	0	0
1930	0	0	0	0	0	0	0	0	0	0	0	0	0
1931	0	0	0	0	0	0	0	0	0	0	0	0	0
1932	0	0	0	0	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	0	0	0	0	0	0
1938	0	0	0	0	0	0	0	0	0	0	0	0	0
1939	0	0	0	0	0	0	0	0	0	0	0	0	0
1940	0	0	0	0	0	0	0	0	0	0	0	0	0
1941	0	0	0	0	0	0	0	0	0	0	0	0	0
1942	0	0	0	0	0	0	0	0	0	0	0	0	0
1943	0	0	0	0	0	0	0	0	0	0	0	0	0
1944	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	0	0	0	0	0	0	0	0	0	0	0	0
1951	0	0	0	0	0	0	0	0	0	0	0	0	0
1952	0	0	0	0	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0	0	0	0	0.2
1961	0.1	-0.2	0	0	0.1	0	0	0.1	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	-0.2	-0.1	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	-0.1	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	-0.1	-0.1	0	0	0	0	0
1980	0	0	0	0	0	0.1	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0
Ave.	0.00	0.00	0.02	-0.05	-0.05	0.01	-0.05	-0.05	0.00	0.04	-0.05	0.00	

PROSIM 99 Modeling

April 1999

EXHIBIT 4

EAST BAY
MUNICIPAL UTILITY DISTRICT

March 31, 1999

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Office of Metropolitan Water Planning
5770 Freeport Boulevard, Suite 200
Sacramento, CA 95822

SUBJECT: Water Forum DEIR Computer Modeling Public Records Act Request

I am in receipt of your letter dated March 30, 1999 responding to the EBMUD public records request for computer modeling assumptions and data relied on by the CCOMP in the preparation of the Water Forum Draft EIR. While we are still working our way through the information sent us on March 18, it will be some time before we can definitively confirm that its inclusive of/responsive to what we requested. Our examination thus far suggests that it is not complete.

Further, the extension for comments to be submitted on the Water Forum DEIR until April 5 is not adequate for us to prepare complete and informed comments on the modeling which underlies the impact analyses.

During the USBR information meeting on the EBMUD Draft Amendatory Contract held last night, Keith DeVore of the Sacramento County Water Agency, among other Water Forum stakeholders, commented that he would like to understand why there are differences between the Water Forum modeling and the modeling done in the EBMUD document. We would like to have such an understanding ourselves. Perhaps, a more effective and efficient way for Sacramento County, the Water Forum stakeholders and EBMUD to get there would be to authorize our respective modelers to have a working session(s) to enable arriving at such an understanding. To do so would seem to help all of our objectives and enhance the understanding of interested stakeholders and the public as to the nature and significance of any differences. Absent such a cooperative disclosure we are again requesting an additional 60-90 day extension to the comment period on the Water Forum DEIR.

I look forward to your favorable reply. Please contact me at (510) 287-1066 if you have any questions regarding these requests.

Sincerely,

Kurt G. Ladensack
Manager
Water Supply Improvements Division

375 ELEVENTH STREET . OAKLAND . CA 94607-4240 . FAX (510) 287-1275
P.O. BOX 24055 . OAKLAND . CA 94623-1055

KGL:kgl

cc: SWRI
Rod Hall, USBR
Joe Robinson, CCOMWP Counsel

EXHIBIT 5

SRCSD

Wastewater Treatment

March 3, 1998

Mr. Kurt Ladensack
Water Supply Improvements Division
EBMUD, MS #305
P.O. Box 24055
Oakland, CA 94623

Dear Mr. Ladensack:

Subject: **Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS) for the East Bay Municipal Utilities District (EBMUD) Supplemental Water Supply Project**

The Sacramento Regional County Sanitation District (SRCSD) appreciates the opportunity to comment on the DEIR/EIS for the EBMUD Supplemental Water Supply Project dated October 1997. The EBMUD/USBR DEIR/EIS water supply project proposes to divert up to 150,000 acre-feet of American River water annually to supplement the East Bay's water supply.

The SRCSD is a publicly owned wastewater agency serving over one million people by providing wastewater conveyance and treatment for the major Sacramento Metropolitan Area. The SRCSD owns the Sacramento Regional Wastewater Treatment Plant (SRWTP) and is responsible for its operation. The plant currently treats a seasonal dry weather flow in excess of 150 million gallons per day (mgd) and has a permitted capacity to treat up to 181 mgd. It is anticipated that the plant site will reach its 360 mgd buildout capacity around the year 2027. Treated wastewater that is discharged into the Sacramento River at a point below the town of Freeport must comply with strict water quality limits that are specified in a discharge permit issued by the Central Valley Regional Water Quality Control Board (CVRWQCB). The discharge permit specifies significant fines and criminal penalties that can be levied if the discharge is not in compliance with the permit.

The District is concerned that the subject DEIR/EIS does not adequately evaluate the impacts of the proposed project on the SRWTP operations and costs, and on the Sacramento River water quality. The EIR/EIS should address the extent to which the proposed project will:

- Reduce allowable SRWTP discharge periods, increase cost of treatment, and adversely impact effluent quality.

- Increase background concentrations of constituents of concern in the receiving water and thus result in more stringent effluent limits.

- Impact discharge compliance with the State Thermal Plan.

- Increase the concentration of water purveyor constituents of concern, specifically salts, total organic carbon (TOC) and pathogens (giardia and *Cryptosporidium*).

These areas of concern are described in more detail below.

Reduced discharge periods.
River flow dictates when effluent discharge is allowed, and is strongly influenced by upstream water releases and diversions, and downstream ocean tides. The SRWTP discharge permit specifies a minimum dilution ratio of 14:1 (river:effluent) that must be maintained at all times during discharge to the river. Effluent flow is stopped when river flow does not provide adequate dilution and flow is diverted to onsite emergency storage basins where effluent is temporarily stored until the 14:1 dilution ratio can be met.

Stored effluent must be retreated and can substantially increase plant flows and treatment costs. Increased return rates in turn can stress plant process and may result in degradation of effluent quality. The procedure for returning flow to the river is very complicated and is subject to human and mechanical error and provides opportunities for technical permit violations. Establishing proper chemical balance to meet water quality standards prior to resuming discharge to the river is complex. Each time effluent is returned to the river, there is a potential for a chlorine and/or pH permit violation. Also, stored wastewater must be discharged to the river in a 24-hour period to ensure that there is adequate storage for subsequent diversions.

Low river flow periods in particular create problems. For example, in 1988 there were a total of 366 diversions including 96 consecutive days of diversions from August through November. Multiple diversions occurring on consecutive days, weeks, months complicate plant operation, stress plant processes during the return period, and threaten river water quality. The proposed decreases in river flow will compound this problem. The EIR/EIS needs to address this impact.

Increased Background Concentrations.
On January 23, 1998 the CVRWQCB adopted the 1998 Clean Water Act Section 303(d) list of impaired water bodies and Total Maximum Daily Load (TMDL) priority list for the Central Valley. Water bodies listed are not expected to meet water quality standards even if point sources are regulated to comply with the current level of treatment technology required by law. Constituents of concern listed for the Sacramento River from Red Bluff to the Delta include diazinon, chlorpyrifos, mercury (Hg), "unknown toxicity" and organochlorine pesticides.

The Sacramento River notably has very high background concentrations of pollutants including mercury and diazinon. Proposed reductions in American River flows that typically provide substantial volumes of high quality water will adversely impact Sacramento River water quality. The farther upstream the water is diverted out of the American River, the poorer the water quality flowing into the Sacramento River. Because it has a much higher water quality, the American River reduces the concentration of pollutants in the Sacramento River. This is critical since receiving water concentrations are used in calculating effluent limits. Thus, if the Sacramento River is degraded due to diversion of American River water, the SRWTP permit may include more stringent effluent limitations (particularly for metals and organics) that would require costly advanced treatment.

The EIR needs to evaluate the impact of the proposed project on the concentrations of these pollutants in the Sacramento River and on SRWTP compliance costs.

Compliance with State Thermal Plan.

The SRWTP discharge must comply with three temperature limits in the SWRCB Water Quality Control Plan for Control of Temperatures in Coastal Waters and Enclosed Bays and Estuaries of California (Thermal Plan). Because there are periods of time when SRWTP discharge cannot comply with two of the temperature limits due to fluctuations in river quantity and/or temperature, the SWRCB adopted resolutions that provide temporary exceptions to these limits. The District has been working with federal, State and local regulatory agencies for more than ten years to resolve this. The State Board will be conducting a triennial review of the Thermal Plan fiscal year 1998-99 and reevaluating the problem.

As noted on page 5-26 of the EIR, under the full use scenario, temperature increases of more than 1° at the mouth of the American River would occur. Sacramento River water temperatures are of great concern due to the sensitive fishery. Because of the concern for even small increments in river temperature, SRWTP river temperature compliance monitoring is recorded to a tenth of a degree.

The EIR needs to address the impact of the project on the Sacramento River temperature and on SRWTP compliance with the State Thermal Plan.

Increased Salts, TOC and Pathogens

Salts, TOC and pathogens are of concern to water purveyors directly, and to wastewater treatment agencies indirectly. Downstream water purveyors have expressed significant concerns on the District's proposal to increase discharge to accommodate future growth. They believe that any increase above the current concentration of these constituents is considered a significant impact on their water treatment costs and must be mitigated. A reduction in flows from the American River will increase the concentrations of salts, TOC and pathogens in the Sacramento River and will thus impact future SRWTP discharges. These impacts need to be addressed in this EIR/EIS.

In summary, the SRCSD is very concerned that the proposed project, particularly Alternative 2, could adversely impact the SRCSD operation, threaten river water quality, and substantially increase operation and capitol costs due to reduced discharge periods and imposition of more stringent discharge limits. The SRCSD requests that the issues raised in this letter be adequately addressed in the Final EIR/EIS. If you have any questions regarding this letter, please contact Mary James at (916) 875-9120.

Sincerely,

Robert Shanks
District Engineer

RFS:jag *(distengr/ebmudeircomments1.doc)*

cc: W. Kido
S. Dean
K. DeVore
D. Dean
M. James
R. Caikoski
L. Walker
P. Simmons
S. McDonald

EXHIBIT 6

Metropolitan Water Planning

April 1, 1999

Sacramento City-County
Office of Metropolitan
Water Planning

5770 Freeport Boulevard
Suite 200
Sacramento, CA 95822

Phone: 916-433-6276
FAX: 916-433-6295

Kurt Ladensack, Manager
Water Supply Improvements Division
East Bay Municipal Utility District
P. O. Box 24055
Oakland, CA 94623-1055

SUBJECT: Water Forum DEIR Computer Modeling Public Records Act Request

Dear Mr. Ladensack:

This letter is in response to your letter dated March 31, 1999 requesting a working session of modelers from the Water Forum, the County of Sacramento, and EBMUD and an additional 60-90 day extension to the comment period on the Water Forum Draft Environmental Impact Report (DEIR).

You have previously received the Water Forum DEIR which included assumptions used for the Water Forum DEIR modeling. In addition, you also received Appendix H to the Water Forum DEIR, a CD-ROM that included the PROSIM Model, the Temperature Model, and the Salmon Mortality Model.

At your request, on March 18, 1999 we provided EBMUD the following supplemental material:

1. Basis for EBMUD Demand;
2. Water Forum Demands;
3. ONEVAR post-processor – recompiled to include the Lahey DOS Extender "TNT.EXE";
4. The American River watershed model analysis of the American River, upstream of Folsom;
5. Spreadsheets used to develop the Water Forum demands on the American River;
6. Groundwater seepage estimates for the American River basin; and
7. Assumptions and time series for Eastside streams.

We concur with your suggestion to have a joint session of the Water Forum and EBMUD consultants/modelers. We are willing to compensate the Water Forum DEIR consultants/modelers for their attendance at a four (4) hour working session with the EBMUD modelers to answer questions about the Water Forum DEIR computer modeling assumptions and data relied on by the Sacramento City-County Office of Metropolitan Planning in the preparation of the Water Forum DEIR. Please let us know the times EBMUD modelers are available so we can schedule the working session for the earliest date when all parties can meet.

Regarding your request for an additional 60 – 90 day extension of time to comment on the Water Forum DEIR, section 15087 (c) of the California Environmental Quality Act allows a minimum review period of 45 days. The Water Forum DEIR was initially circulated for a 62-day period. At EBMUD's earlier request we extended the Water Forum DEIR comment period an additional fourteen days to close on April 5, 1999 at 5:00 p.m. We do not believe that the circumstances set forth in your letter of March 31, 1999 justify further extension of the comment period.

If you have any questions, please contact me at 916-433-6288.

Sincerely,

Jonas Minton

Jonas M. Minton
Executive Director

Cc: SWRI
Rod Hall, USBR
Joe Robinson, CCOMWP Counsel

EXHIBIT 7

Metropolitan Water Planning

April 2, 1999

Sacramento City-County
Office of Metropolitan
Water Planning
5770 Freeport Boulevard
Suite 200
Sacramento, CA 95822
Phone: 916-433-6276
FAX: 916-433-6295

Kurt Ladensack, Manager
Water Supply Improvements Division
East Bay Municipal Utility District
P. O. Box 24055
Oakland, CA 94623-1055

SUBJECT: Your Email of April 1, 1999

Dear Mr. Ladensack:

This letter is in response to your Email dated April 1, 1999 to Susan Davidson regarding our letter to you dated April 1, 1999. In your Email you requested clarification regarding whether EBMUD would have some time after a working session of Water Forum and EBMUD modelers to comment on the Water Forum Draft Environmental Impact Report (DEIR).

As a recap, you have previously received the Water Forum DEIR which included assumptions used for the Water Forum DEIR modeling. In addition, you also received Appendix H to the Water Forum DEIR, a CD-ROM that included the PROSIM Model, the Temperature Model, and the Salmon Mortality Model. Also, at your request, on March 18, 1999 we provided EBMUD the following supplemental material:

1. Basis for EBMUD Demand;
2. Water Forum Demands;
3. ONEVAR post-processor – recompiled to include the Lahey DOS Extender "TNT.EXE";
4. The American River watershed model analysis of the American River, upstream of Folsom;
5. Spreadsheets used to develop the Water Forum demands on the American River;
6. Groundwater seepage estimates for the American River basin; and
7. Assumptions and time series for Eastside streams.

The Water Forum DEIR was initially circulated for a 62-day period. At EBMUD's earlier request we extended the Water Forum DEIR comment period an additional fourteen days to close on April 5, 1999 at 5:00 p.m. We do not believe that the circumstances set forth in your Email of April 1, 1999 justify further extension of the comment period.

If you have any questions, please contact me at 916-433-6288.

Sincerely,

Jonas Minton

Jonas M. Minton
Executive Director

Cc: SWRI
Rod Hall, USBR
Joe Robinson, CCOMWP Counsel

East Bay Municipal Utility District
Kurt Ladensack
April 5, 1999

Y-1 Comment noted.

Y-2 See response to comment C-9.

Y-3 See response to comments Y-6 through Y-21.

Y-4 See response to comment C-9.

Y-5 See response to comment C-5.

Y-6 See responses to comments C-2 and C-3. With respect to diversion impacts near the mouth of the American River, note that this is no longer being considered by the City. This change is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR. This does not alter the conclusions of the WF Draft EIR.

The second full paragraph on page 3-18, under the City of Sacramento heading, is revised as follows:

During periods when the Lower American River flows are sufficient (i.e. above the "Hodge" standard), the City could fully use its increased diversion capacity at FWTP. In drier periods when the Lower American River flows are not sufficient (i.e. below the "Hodge" standard), the City could ~~divert from a new diversion site near the mouth of the American River and pump the water back to FWTP for treatment,~~ use groundwater, or divert and use water from the Sacramento River.

Y-7 The comment correctly notes that the WFP relies upon many federal actions. It is recognized that without the approval and implementation of certain federal actions, the WFP, as defined, cannot be implemented.

With regard to the inclusion of federal and other agencies in the HMP, such participation would require the approval of each agency. The following agencies have indicated in writing their intention to be participate in development of a multi-agency ecosystem plan for the Lower American River:

County of Sacramento
City of Sacramento
California Department of Fish and Game
State Reclamation Board
U.S. Fish and Wildlife Service

continued ...

U.S. Bureau of Reclamation
Save the American River Association
Sierra Club
American River Natural History Association
California State University, Sacramento
California Exposition and State Fair
Building Industry Association of Superior California
Sacramento County Taxpayers League
Sacramento Municipal Utility District
Natomas Mutual Water District
Sacramento Metropolitan Water Authority
San Juan Water District
Fair Oaks Water District
U.S. Army Corps of Engineers
American River Parkway Foundation

To the extent that federal actions could result in environmental effects, the federal agency participating in, or approving the action will have to comply with the National Environmental Policy Act and seek approval through other applicable processes, including federal ESA and FWCA.

Because the HMP is conceptual at this stage, its ultimate form cannot be known and its feasibility and effectiveness is uncertain. Therefore, the WFP Draft EIR appropriately identifies certain fisheries and aquatic habitat impacts as significant or potentially significant after mitigation.

With regard to an Updated American River Flow Standard, it should be noted that both the USBR and the U.S. Fish and Wildlife Service have designated staff to work with the Water Forum in cooperatively developing this new standard.

With regard to the need for specific diversion agreements with USBR, the fact that none currently exist would not compromise the reductions agreed to by the Water Forum participants as part of the WFP's dry-year diversion restrictions. Agreed upon restrictions have already been included as commitments in project-specific EIRs for water projects serving City of Roseville, City of Folsom, San Juan Water District, Orange Vale Water District, Citrus Heights Water District, Fair Oaks Water District, and Northridge Water District. As project-specific EIRs are completed for the remainder of the projects in the Water Forum Proposal, commitments for dry year actions will be included.

From the perspective of system operations, particularly minimum flow releases, modeling used in the WFP Draft EIR is based on the AFRP for the American River. This operation has been in place since 1996 and represents current USBR practice in maintaining minimum flow releases. Should USBR choose to operate differently in the future, it would

be necessary to assess the effect and magnitude of these changes on the previously disclosed environmental impacts, if the WFP Draft EIR is to be relied upon as an appropriate tiering document.

See also response to comment K-3.

Y-8 CEQA imposes environmental analysis and disclosure requirements for proposed projects. It does not compel parties to explain why the project (in this case the WFP) does not include agreement to support additional diversions by EBMUD.

Y-9 Comment noted.

Y-10 It is acknowledged that the implementation of the WFP as defined would require several federal actions, which will be subject to compliance with the National Environmental Policy Act, as well as other federal laws (i.e., ESA, FWCA, and NHPA). Execution of the WFP among its numerous participants, however, can proceed independently. The WFP Draft EIR will be a resource available to federal agencies as they proceed with their own federal compliance related to the overall implementation of the WFP.

Y-11 In describing SCWA water entitlements, 'firm' entitlements of 45,000 AF refer to 15,000 AF of water delivered under SCWA's P.L. 101-514 CVP water supply contract and two anticipated, but not yet authorized, assignments of 15,000 AF of water each from SMUD's CVP contract. These supplies would be subject to CVP M&I shortage provisions.

Y-12 See response to comment C-9. With respect to the TCD, see response to comment C-8. The modeling approach used in the WFP Draft EIR was developed in concert with USBR and USFWS staff. As is noted in the comment letter from the USBR (comment letter DD), "We appreciate the close coordination of the Water Forum staff with Reclamation in the preparation of this document and that coordination is apparent in the EIR."

Y-13 It is impossible to predict with certainty what would happen if there was not a Water Forum Agreement. Therefore, the WFP Draft EIR includes three "no project" alternatives: No Project Alternative—Independent Actions; No Project Alternative—Constrained Surface Water and Groundwater; and No Project Alternative—Constrained Surface Water and Unconstrained Groundwater. The first No Project Alternative analyzes what would happen if water purveyors were successful in increasing diversions without any of the obligations in the Water Form Agreement.

The second No Project Alternative describes what the impacts would be if purveyors were unsuccessful in obtaining approvals for increased surface water diversions or increased groundwater pumping in excess of current entitlements or physical capacity, whichever is less. The third No Project Alternative describes the impacts if purveyors' use of surface

water were constrained by existing entitlements or capacity, whichever is less, but use of groundwater was unconstrained.

The WFP Draft EIR is correct in noting that environmental impacts under the WFP would be less than what they would be if the purveyors were successful in asserting their individual rights under the area of origin provisions of state and federal law. That is because the WFP contains several elements that will serve to reduce impacts of future diversions. These include: Actions to Meet Customers' Needs While Reducing Diversion Impacts on the Lower American River in Drier Years, Support for an Improved Pattern of Fishery Flow Releases from Folsom Reservoir, Lower American River Habitat Management Element, Water Conservation Element, and the Groundwater Management Element.

Y-14 See responses to comments Y-7 and N-16.

Y-15 The WFP includes for each purveyor, as set out in individual purveyor-specific agreements, the various commitments intended to reduce or otherwise mitigate, where possible, the significant impacts of the project. Within the WFP Draft EIR analysis, demand reduction was incorporated into the diversion restrictions for each water purveyor. The implementation of the BMPs is assumed in the WFP Draft EIR (see Appendix D, Water Forum Best Management Practices (BMP) Implementation Criteria; see also Section 5 of the Water Forum Action Plan, Specific Agreements and Mutual Commitments). As indicated in the WFP Draft EIR (see page 5-9), more aggressive water conservation measures are not feasible at this time without risking the integrity of the project's coequal objectives (see page 5-9 of the WFP Draft EIR). However, the WFP Draft EIR also recognizes that nothing would prohibit the Water Forum participants from implementing more aggressive conservation measures in the future as these become available and, therefore, feasible. In fact, the Water Forum envisions that during times of prolonged or critical water shortages, significant rationing (up to 50%) would be required. This commitment has already been codified in State law as contained in the requirements set out in Drought Contingency Plans.

The WFP Draft EIR is correct in noting that development of additional supplies by the SWP and CVP would offset impacts. However, such development is unduly speculative and is beyond the authority of the Water Forum. Therefore, the WFP Draft EIR finds that impacts to SWP and CVP water supplies would be significant.

Regarding the comment suggesting the further pursuit of water reclamation, the WFP Draft EIR considered water reclamation as an alternative (see Alternative 3 - Increased Water Reclamation, pages 5-18 through 5-24) and concluded that the numerous constraints to water reclamation, especially the required scale of implementation, make it an uncertain proposition at this time. Moreover, water reclamation on a reasonable scale of implementation could not entirely substitute for any element of the WFP.

Y-16 See response to comment C-8. Additionally, with regard to the comment relating to how the TCD was addressed in the WFP Draft EIR, please refer to Table 4.1-1 (on page 4.1-6 of the WFP Draft EIR), which identifies the modeling scenarios that included an assumption for the Folsom Reservoir TCD. The Fisheries and Aquatic Habitat section (see page 4.5-34) provides reasons for the TCD's inclusion in the Water Forum simulation (i.e., with project model run) as opposed to the Base Condition.

Y-17 The comment notes that there exists uncertainty regarding the assuredness and levels of commitment associated with the identified mitigation measures in the WFP Draft EIR. This uncertainty is acknowledged in the WFP Draft EIR (see page 4.5-82). Moreover, it is because of this uncertainty that many potential impacts were assessed as remaining significant even after adoption of mitigation.

The comment also notes that many of the proposed mitigation measures (e.g., items 3 through 7 articulated in the comment) represent actions that are appropriately the responsibility of other agencies, which would need to take their own independent discretionary actions in order to implement or approve these mitigation measures. At this point in the project, there is no feasible means or mechanism available within the control of the Water Forum participants that would provide the level of assurance necessary to guarantee implementation of these mitigation measures. Accordingly, for some of these proposed mitigation measures, the level of uncertainty regarding jurisdictional, land ownership, and funding assurances prohibits the precise definition of the level of physical habitat improvements actually required.

Regarding the likelihood of a multi-agency habitat management program, it should be noted that the following agencies have indicated in writing their intent to participate or support in such a program:

County of Sacramento
City of Sacramento
California Department of Fish and Game
State Reclamation Board
U.S. Fish and Wildlife Service
U.S. Bureau of Reclamation
Save the American River Association
Sierra Club
American River Natural History Association
California State University, Sacramento
California Exposition and State Fair
Building Industry Association of Superior California
Sacramento County Taxpayers League
Sacramento Municipal Utility District
Natomas Mutual Water District

Sacramento Metropolitan Water Authority
San Juan Water District
Fair Oaks Water District
U.S. Army Corps of Engineers
American River Parkway Foundation

Notwithstanding this acknowledged level of uncertainty, certain mitigation measures are deemed to be reasonable and feasible. For example, the dry-year flow augmentation mitigation measure is considered feasible and, therefore, reasonable for inclusion as a proposed mitigation measure. This particular measure was included in the modeling conducted for the WFP Draft EIR. The following factors confirm the feasibility of this measure.

- Acknowledged USFWS interest in paying PCWA to make additional water releases from the Middle Fork Project on the upper American River;
- Acknowledged State Water Project Contractors' interest in paying PCWA to release additional water from the Middle Fork Project on the upper American River;
- Acknowledgment of PCWA's willingness to release additional water from the Middle Fork Project on the upper American River to the AFRP through USFWS and USBR;
- Acknowledgment of PCWA's willingness to release additional water from the Middle Fork Project on the upper American River as part of the ERPP as identified by CALFED; and
- The City of Roseville's commitment to enter into an agreement with PCWA for the replacement of up to 20,000 acre-feet of water to the Lower American River from the re-operation of PCWA's Middle Fork Project reservoirs.

Y-18 The WFP, as defined, includes numerous elements designed to reduce overall impacts to the environment. Each of the seven elements are intended, in part, to contribute to the effective multi-use management of the water resources of the lower American and Sacramento rivers. Specific to water conservation, the WFP has set a regional urban water demand reduction target goal of approximately 25.6%, based on the implementation of water conservation measures (BMPs) by the year 2030. Under such a scenario, Sacramento County-wide total demand (i.e., urban and agricultural) reductions would amount to approximately 116,000 acre-feet per year, relative to what they would be with only partial implementation of the BMPs. A full discussion of how the water conservation factors were developed within the context of establishing the 2030 demands is provided in Appendix B - Methodology and Assumptions Used to Assess 2030 Demand, Water Forum Action Plan.

Regarding mandatory water rationing, it is already acknowledged that under State law, all water purveyors are required to have a Drought Contingency Plan prepared which calls for

up to 50% rationing during critical water shortage periods. The WFP acknowledges these periods, identifying them as "conference years". Conference years are defined as those years when the projected March through November inflow to Folsom Reservoir is less than 400,000 acre-feet. "In conference years water purveyors agree to implement the highest level of conservation/rationing in their drought contingency plans." (Water Forum Action Plan page 125).

Appendix D of the WFP Draft EIR presents the Water Forum Best Management Practices (BMPs) Implementation Criteria negotiated and agreed upon July 28, 1997. Since that time, the California Urban Water Conservation Council has released new BMPs. Two of the new BMPs are not included in the Water Forum BMP Implementation Criteria presented in Appendix D. Those BMPs are the Wholesale Agency Assistance Programs and High-Efficiency Washing Machine Rebate Program. The WFP provides that the Water Forum Successor Effort shall "Monitor changes in the state MOU for Water Conservation Best Management Practices" and "facilitate changed conditions negotiations among stakeholders to modify conservation elements of the Water Forum Agreement if required by new federal or state regulations. (See Water Forum Action Plan, page 114.) Consistent with these principles, the EIR has been revised to recommend adoption of the two BMPs as mitigation for significant and potentially significant impacts to resources affected by the water diversions. These include impacts to water supply, water quality, fisheries resources and aquatic habitat, power supply, recreation, and cultural resources

EBMUD's current metering and tiered pricing efforts are noted.

Y-19 The comment notes various effects of the WFP on the SRWTP. Operational implications of WFP implementation are acknowledged and are discussed in the WFP Draft EIR as described below.

With respect to increased background concentrations in SRWTP receiving waters , the WFP Draft EIR (page 4.4-14) indicated that reduced Lower American and Sacramento River flows during some months of some years, combined with increased effluent discharge from the Sacramento Regional WTP and other sources, could further degrade Sacramento River water quality. Future water quality regulations, standards, and policies, as well as future CVP/SWP operations (affecting river flows), may dictate the need for additional treatment at the SRWTP in the future.

With respect to compliance with the State Thermal Plan, the WFP Draft EIR discusses factors that may affect the ability of SRWTP to comply with the State Thermal Plan requirements. It is acknowledged that the SRWTP may need to change its operations in the future to address continuing concerns over temperatures in the Sacramento River. The WFP Draft EIR identifies potentially significant cumulative impacts on Sacramento River water quality, including "… additional warming in various reaches of the Sacramento River, relative to higher flow conditions, when ambient air temperatures are high (i.e.,

continued ...

during the summer and fall months" (WFP Draft EIR page 6-9). Through the SRCSD's ongoing Master Planning process, as well as the 5-year renewals of the plant's NPDES permit, information has been brought forward to indicate that temperature requirements for the SRWTP may indeed change in the future, relative to those that exist today.

With respect to increased salts, TOC, and pathogens, the impacts of reductions in American River flows to downstream water quality were modeled in a water quality analysis discussed in response to comment AA-1.

It also should be noted that the full diversions defined in the WFP would not occur for 20-30 years. As such, there is sufficient time for the SRCSD's SRWTP master planning process to develop and implement specific strategies (e.g., upgraded treatment, increased reclamation, source control, etc.) to minimize or prevent further degradation of Sacramento River and Delta water quality. Specific measures required to adequately implement these strategies to address water quality issues in the future would be expected to be paid for, in part, by ratepayers within Water Forum purveyor jurisdictions that are situated in the SRCSD service area. This could occur through the collection of new and/or increased connection fees and increased household sewer rates.

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It is not implied that SRCSD should mitigate for the adverse water quality impacts of the WFP. However, the SRCSD's Master Planning process and future 2020 Master Plan EIR will address increased needs for wastewater treatment and disposal associated with regional growth. Moreover, it is anticipated that the WFA signatories and SRCSD will work together to identify the most cost effective strategies for protecting water quality.

Y-20 Comment noted.

Y-21 Comment noted. The TCD is included in the future cumulative condition analyses. A discussion explaining the justification for including the TCD in the "with-project" condition (i.e., Water Forum Proposal) is provided in response to comment C-8.

With regard to the EBMUD contract, see responses to comments C-5, C-6, and C-8.

LETTER
Z

WaterForum

Subject: WaterForum
Date: Mon, 5 Apr 1999 17:35:15 -0400 (EDT)
From: AnyForm Form <sdavidson@sacto.org>, lisa@tmsonline.com
To: sdavidson@sacto.org, lisa@tmsonline.com

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APR 0 5 1999
CCOMUP

AnyForm User: u0201-p02.dialin.csus.edu (130.86.23.2)
AnyForm Document: http://www.waterforum.org/comment.html
AnyForm Server: www.uky.edu (/cgi-bin/cgiwrap/johnr/AnyForm.cgi)

name = Harold Kerster
title =
org =
address = 2372 Rogue River Drive
phone = 916-363-7837
fax =
E-Mail: = kersterhw@ccvax4.ccs.csus.edu
section = Draft EIR
sectnum =
COMMENTS = p. 1-1, sec 1.1, last words in para are "coequal objectives"
The wording occurs in the same context at several later
places in the DEIR. The first of the objectives is economic
health and planned development; the second is preservation
of the fishery, wildlife, recreational, and aesthetic values
of the Lower American River. The second objective
includes public trust values that are not coequal to the
first objective, but are instead superior.

Z-1

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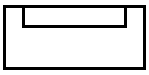
AnyForm HTML Form Processor Version 3.2



Harold Kenster
April 5, 1999

Z-1 The commentor's opinion as to the coequal objectives is noted.

LETTER
AA

CONTRA COSTA
WATER DISTRICT

1331 Concord Avenue
P.O. Box H2O
Concord, CA 94524
(925) 688-8000 FAX (925) 688-8122

RECEIVED
APR 05 1999
CCMWP

April 5, 1999

Ms. Susan Davidson
Sacramento City-County Office of Metropolitan Water Planning
5770 Freeport Boulevard, Suite 200
Sacramento, CA 95822

Subject: CCWD Comments on Draft EIR for the Water Forum Proposal

Dear Ms. Davidson:

This letter contains the comments of Contra Costa Water District ("CCWD") to the Draft Environmental Impact Report ("EIR") for the Water Forum Proposal, dated January 1999. CCWD has previously submitted comments on the Draft Water Forum recommendations (letter from Greg Gartrell dated May 19, 1997). CCWD's major concerns with the Draft EIR are the incomplete water quality analysis that was performed in the Draft EIR and the failure to discuss the Proposal's impacts to in-Delta water users, such as CCWD. Also, for your information, attached to this letter as Appendix A is a description of the operations and facilities of Contra Costa Water District.

Inadequate Water Quality Analysis

The Draft EIR does not analyze and disclose the impacts that implementing the Proposal could have to the more than 20 million people that rely on the Delta for their drinking water supply. The implementation of the Water Forum Proposal has the potential to significantly impact the water quality at CCWD intakes and at the state and federal export facilities in the South Delta. Changes in the amount and timing of Delta outflow, changes in the quantity and quality of the Sacramento River inflow, or changes in the pattern of Delta export pumping can affect water quality near District and export intakes. Detailed hydrodynamic and salinity transport modeling is necessary to adequately evaluate and disclose the impacts of such actions. It is not acceptable to simply state that reduced Sacramento River flows could have a "*potentially significant impact*" on Delta water quality. Without a detailed water quality analysis at urban drinking water intakes, the Draft EIR is inadequate. The Final EIR should also discuss the anticipated future drinking water quality regulations and discuss the ability CCWD and other municipal users of Delta water to meet these future regulations under the Water Forum Proposal.

AA-1

CCWD's has several Delta intakes that could be affected by the Water Forum Proposal. CCWD diverts drinking water at Rock Slough, Old River and Mallard Slough, and CCWD's raw water customers have their own Delta diversions. To effectively determine the impacts of the project to CCWD, a full water quality analysis, along the lines of those presented in the State Board's Draft EIR for Implementation of the 1995 Water Quality Control Plan or the CALFED Draft Programmatic EIS/EIR must be included in the Final Water Forum Proposal EIR. The complexity of the Delta can result in significant changes in water quality at municipal intakes for small changes in American River operations and flow. The water quality impacts of the Water Forum Proposal must be clearly described and disclosed in the Final EIR. AA-1

Impacts to CCWD's Los Vaqueros Project not Analyzed

In 1998, CCWD completed the $450 million Los Vaqueros Project. The main purpose of the project is to improve the delivered water quality to CCWD's 400,000 customers and to provide emergency supply reliability. The Project works by filling Los Vaqueros Reservoir when the Delta is lower in salinity to later blend with Delta water when Delta salinity increases. If the Delta has fewer times when there is sufficiently good water quality, CCWD will be able to refill Los Vaqueros Reservoir less often. This condition would result in CCWD meeting its water quality delivery goals less often and reduce the emergency supply reliability. The Draft EIR should analyze the potential impacts of the Water Forum Proposal on the operation and effectiveness of the Los Vaqueros Project to meet its intended goals. AA-2

Area of Origin Provisions does not Ensure Access to New Water Supplies

Although the members of the Water Forum are located within the area of origin for American River, the area of origin provisions do not necessarily guarantee access to new water supplies. Area of origin water users do not have a priority to water over the CVP and SWP unless those users apply to the State Water Resources Control Board for a water right under the area of origin statutes and the SWRCB issues a water right. It is likely that the State Board would require the water users to enter into a memorandum of understanding indicating compliance with urban best management practices. Additionally, area of origin provisions do not provide for access to previously stored water that is augmenting natural flows. When the CVP is releasing water from Folsom Reservoir for downsteam purposes, the area of origin provisions do not allow for diversion of such water. The Final EIR must differentiate between diversions of natural runoff versus previously stored water and ensure that no Water Forum diversions are begin made for which the Water Forum users are not entitled and for which the CVP has not been compensated. AA-3

PROSIM Model Used Incorrect Demands for CCWD

For the base condition PROSIM model runs, the Draft EIR assumes that the annual demand for CCWD is 145,000 acre-feet (Page 32, Appendix G). This is a valid assumption for representing the AA-4

current level of demand for CCWD. For the 2030 level of development, however, the Draft EIR assumes that the annual demand for CCWD remains at 145,000 acre-feet. (Page 36, Appendix G). This assumption is incorrect and inconsistent the CCWD's Future Water Supply Implementation EIR. CCWD's annual normalized demand is expected to be about 215,000 acre-feet in 2030. This amount exceeds CCWD's existing CVP water supply contract for 195,000 acre-feet, and the balance will likely be made up through water transfers, conservation, and reclamation. For the PROSIM model runs at the 2030 level of development, the Final EIR should assume CCWD's CVP are at the 195,000 annual acre-foot level and total Delta demands are at 205,000 acre-feet annually. If CCWD's demands had been modeled correctly at the higher level of demand for the Water Forum Proposal, the PROSIM model output may have shown different water supply impacts than is shown in the Draft EIR. AA-4

EBMUD American River Demands Incorrectly Modeled

At the 2030 level of development, EBMUD's annual demands are assumed to be 112,000 acre-feet (page30, Appendix G). PROSIM considers EBMUD diversions to the East Bay made at this study are "in-basin" diversions. As such, the impacts of reduced inflow to the Delta caused by EBMUD diversions as modeled by PROSIM would be shared between the State Water Project and the Central Valley Project.

According to the Coordinated Operations Agreement ("COA"), however, any EBMUD diversions to its service area appear to be considered as an export. Article 16 on page 25 of the COA states:

> *Any yield created by the construction of a new facility (not presently existing) by either party shall be attributed to the party constructing the new facility, and will require a review as provided for in Article 14. To the extent that water is exported outside the drainage of the Sacramento, Mokelumne, and Calaveras Rivers, the facilities used to convey such water shall be considered as export facilities for the purposes of Article 5.*

AA-5

If EBMUD diversions were indeed considered to be an export under the COA, then the impacts of American River diversions would be completely borne by other CVP contractors and would not impact the SWP. In the Final EIR, the Water Forum Proposal should be modeled under the assumption that all EBMUD diversions to the East Bay are considered exports under the COA. Under this assumption, the impacts of the Water Forum Proposal to CVP water users would likely be different.

Draft EIR Does Not Describe Impacts to In-Delta Water Users

Increased diversions on the American River would impact inflows to the Delta. During certain times the Delta outflow would be decreased and the availability of surplus water would also be reduced. These circumstances would impact the operations of CCWD and its Los Vaqueros Project. The Water Forum Proposal would likely result in reduced opportunities for CCWD to use its existing Los Vaqueros water right. CCWD lies within the legal Delta, diverts from and returns water to the Delta, AA-6

uses water within the legal Delta, and is protected by the Delta Protection Act. The Draft EIR does not address the impacts of the Water Forum Proposal on CCWD and other in-Delta water users.

The county and watershed of origin statutes assign temporal water rights priorities to areas upstream of the Delta meaning that their water rights are always deemed senior in time to the water rights of the CVP and SWP. The Delta Protection Act establishes statutory priority for Delta water users in addition to the temporal water rights priorities already provided by the county of origin and watershed of origin statutes.

In enacting the Delta Protection Act, the California Legislature added two new substantive measures to protect in-Delta water users. The first measure was salinity control, which was extensively litigated in regard to Decision 1485 and discussed at length in the "Racanelli Decision" (United States v. State Water Resources Control Board (1986) 182 Cal.App.3d 82; see particularly the discussion at pages 138-144). The second substantive protection added to the Water Code by the Delta Protection Act concerns maintenance and provision of "an adequate water supply" for in-Delta users. Section 12202 mandates that:

> Among the functions to be provided by the State Water Resources Development System, in coordination with the activities of the United States in providing salinity control for the Delta through operations of the Federal Central Valley Project, shall be the provision of salinity control and an adequate water supply for the users of water in the Sacramento-San Joaquin Delta (emphasis added).

AA-6

Section 12203 further adds that:

> It is hereby declared to be the policy of the State that no person, corporation or public agency or the State or the United States should divert water from the channels of the Sacramento-San Joaquin Delta to which the users within said Delta are entitled.

Section 12204 adds that:

> In determining the availability of water for export from the Sacramento-San Joaquin Delta no water shall be exported which is necessary to meet the requirements of Sections 12202 and 12203 of this chapter.

The mandate to provide "an adequate water supply" is separate from the salinity control directive. While in-Delta users are subject to the same constitutional, public trust, and public welfare doctrines as other water users, the Delta Protection Act gives them an additional statutory priority which is not available to water users located outside the Delta and should be addressed in analyses of future CVP water supply reliability such as those in the Draft EIR.

The impacts of the Water Forum Proposal to in-Delta users must be analyzed in the EIR to show that the Delta Protection Act is not violated. The Draft EIR is inadequate because it fails to complete this analysis.

Inadequate Mitigation Measures Proposed

While the Draft EIR recognizes that there would be significant impacts to CVP and SWP water supplies and that there would be potentially significant impacts to Delta water quality, no effective mitigation measures are proposed. On Page 4.3-9 of the Draft EIR, the only mitigation measure described for reduced CVP water supplies is "Development of additional water supplies could mitigate the effects on CVP and SWP deliveries". The CVP has already lost supplies because of endangered species protection that it cannot make up now. It is not reasonable to conclude that it can develop even more supplies to offset new impacts. The Final EIR should consider ways that the Water Forum Proposal could operate while minimizing impacts to CVP deliveries. Those unavoidable impacts should then be followed by reasonable and quantifiable mitigation measures. AA-7

Additionally, the Draft EIR suggests mitigation measures for water quality impacts on Page 4.4-15 as follows: "Water quality mitigation measures will be developed for specific projects as they occur in the future." Although the EIR is analyzing impacts at a programmatic level, it is not sufficient to postpone analyzing water quality mitigation measures. There are a number of actions that can be done mitigate the impacts of the Water Forum Proposal actions. Mitigation measures can include land retirement in drainage areas tributary to the Delta and relocation of drains away form urban intakes. The Final EIR should list and analyze possible mitigation measures to offset water quality impacts from the Water Forum Proposal.

We appreciate the opportunity to provide comments on the Water Forum Proposal Draft EIR. If you have any questions about the enclosed comments, please contact me at (925) 688-8187.

Sincerely,

Richard A. Denton
Water Resources Manager

RAD/WJH

Attachment: CCWD Operations and Facilities

CCWD OPERATIONS AND FACILITIES

The Contra Costa Water District ("CCWD") serves approximately 400,000 people throughout north-central and east Contra Costa County. Its clients also include 10 major industries, 36 smaller industries and businesses, and 50 agricultural users. CCWD operates raw water distribution facilities, water treatment plants, and treated water distribution facilities. CCWD supplies raw water to the cities of Antioch, Pittsburg and Martinez, and to the Southern California Water Company (serving Bay Point), and the Diablo Water District (serving Oakley). CCWD supplies treated water to Concord, Clayton, Clyde, Pacheco and Port Costa, and parts of Pleasant Hill and Walnut Creek. CCWD is also currently treating, on an interim basis, a small amount of water (currently less than 500 acre-feet per year) for the City of Brentwood.

CCWD owns and operates the Bollman Water Treatment Plant in Concord. Bollman is a 75-MGD conventional plant and has been upgraded to include intermediate ozonation, which will be on-line in 1999. CCWD and Diablo Water District ("DWD") jointly own the Randall-Bold Water Treatment Plant in Oakley. Randall-Bold is a 40-MGD direct/deep-bed filtration plant and utilizes both pre- and post-ozonation.

CCWD is entirely dependent on the Delta for its water supply. The Contra Costa Canal and the recently completed Los Vaqueros Project make up CCWD's principal water conveyance system. CCWD diverts unregulated flows and regulated flows from storage releases from Shasta, Folsom, and Clair Engle reservoirs into the Sacramento River as a contractor of the United States Bureau of Reclamation's ("Bureau") Central Valley Project ("CVP"). Under Water Service Contract I75r-3401 (amended) with the Bureau, CCWD can divert and re-divert up to 195,000 acre-feet annually ("AFA") of water from Rock Slough and the new Old River intake. Currently, CCWD uses between 100,000 and 140,000 AFA. CCWD can also divert up to 26,780 AFA of water from Mallard Slough under its own water rights (Water Rights License No. 3167 and Permit No. 19856); however, this source is not reliable due to salinity intrusion and less than half this amount is diverted on average. When diversions under the Mallard Slough water rights are made, diversions from other sources, including the CVP, are reduced. The City of Antioch and Gaylord Container, both customers of the District, also have water rights to divert water from the Delta.

CCWD has obtained its water supply from the Delta since 1940. Delta water is subject to large variations in salinity and mineral concentrations and this water supply has made CCWD and its customers vulnerable to any man-made or natural sources that could degrade Delta water quality. Water quality changes in Delta water are noticeable to those who drink the water or use the water for commercial and industrial processes. Degradation in water quality is objectionable to many CCWD customers, costly to all residential and industrial users, and a health risk for some individuals. The most recent federal drinking water regulations promulgated in December 1998 impose stringent limits on disinfection by-products in treated water. To ensure that the bromate and the total trihalomethanes (the principal disinfection by-products) standards are met, municipal

water agencies need to minimize the bromide level in source water. Bromide level is directly proportional to the chloride concentration in Delta water. Degradation of Delta water quality impairs the beneficial uses of water supplied by CCWD to its customers.

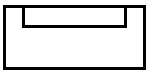
Contra Costa Water District is committed to supplying its customers with the highest quality water practicable and providing all reasonable protection of the supply from any known or potential source of hazardous contamination. CCWD Resolution No. 88-45 states in part that:

> "CCWD is committed to reducing the concentration of sodium and chloride in the District's water, thereby reducing household and landscape irrigation concerns and industrial and manufacturing costs caused by the fluctuating sodium and chloride level of CCWD's Delta source...."

In May 1987, CCWD's Board of Directors adopted water quality objectives for water distributed within its service area. The acceptable concentration levels for sodium and chloride were established at 50 milligrams per liter (mg/l) and 65 mg/l, respectively. In 1988, the voter-constituents of CCWD approved the issuance of bonds to finance a $450 million water quality and reliability project known as the Los Vaqueros Project. The primary purposes of the Los Vaqueros Project are to improve the quality of water supplied to CCWD customers and minimize seasonal quality changes, and to improve the reliability of the emergency water supply available to CCWD. The Los Vaqueros Project consists of 100,000 acre-feet of storage, a new point of diversion (at Old River south of the Highway 4 crossing) which operates in conjunction with the current Rock Slough diversion point, associated water conveyance and delivery facilities, pumping plants, fish screens, and other facilities. As discussed in the Los Vaqueros Final EIR/EIS, the Project is designed and operated in a way to provide net benefits to Delta fisheries, including listed species, at the anticipated 2025 level of demand compared to CCWD's 1990 level of demand.

On June 2, 1994, the State Water Resources Control Board issued Water Rights Decision 1629 that gives CCWD additional rights to divert and store water for beneficial uses. The State Board subsequently issued Water Rights Permits No. 20749 and 20750 for filling Los Vaqueros Reservoir from the new intake at Old River near Highway 4 and diversion and storage of the water of Kellogg Creek. These rights are in addition to the contractual rights to divert and store water furnished through the CVP. Construction of the reservoir began in September 1994 and was completed in January 1998. Diversion from the Old River intake for delivery to CCWD's service area began in the summer of 1997. Up to 95,850 AFA may be diverted for storage between November 1 of each year to June 30 of the succeeding year under Water Rights Permit No. 20749. On January 28, 1999, the Los Vaqueros Reservoir was filled to 100,000 acre-feet for the first time. In February 1999, CCWD released water from the reservoir for the first time for use in the District's service area. These releases were scheduled to allow CCWD to cease all diversions from the Delta and provide benefits to Delta fisheries.

A key to successful performance of the Los Vaqueros Project is the District's ability to fill and continue to refill the reservoir from Old River with high quality water, and to use that water for blending when salinity at the District's Delta intakes exceed the 65 mg/L chloride goal. Any increase in Delta salinity caused by new Bay-Delta projects will increase the demand on blending water from the reservoir while at the same time reducing the availability of high quality water for refilling. The District and its 400,000 customers will be impacted through higher pumping costs to replace the extra blending water that is released and through the additional treatment costs, increased corrosion and health effects of delivering higher salinity water.



Richard A. Denton, Water Resources Manager
Contra Costa Water District
April 5, 1999

AA-1 The WFP Draft EIR discussed a range of factors contributing to water availability in the Delta and elsewhere. The WFP Draft EIR concluded that although the WFP would not be expected to cause exceedances of state or federal water quality criteria, there would remain some potential for water quality degradation. As requested by Contra Costa Water District (CCWD), the analysis in the WFP Draft EIR has been refined by modeling the seasonal effects of the Water Forum Proposal (WFP) (i.e., additional water diversions from the lower American and Sacramento rivers) on salinity at various locations within the Delta. Modeling was performed using the Fischer Delta Model (FDM) (Flow Science Incorporated 1999). As requested by CCWD, the modeling was conducted along the lines of that conducted by CALFED for its Programmatic EIS/EIR (CALFED 1999).

As discussed in the WFP Draft EIR, the two primary factors influenced by the WFP that could affect Delta salinity are: 1) decreased lower American and Sacramento river flows resulting from increased diversions (i.e., hydrologic effects); and 2) increased loading of salts via wastewater treatment plant discharges (i.e., return flows associated with increased diversions). For modeling purposes, total dissolved solid (TDS) concentrations were used as an indicator for salinity. This was done because historic and future-projected TDS data are available for the Sacramento and American rivers and key wastewater discharges, whereas salinity data are not. A brief description of the modeling approach and findings is provided below. A more detailed discussion is provided, along with modeling output, in Appendix M.

The FDM was used to simulate the potential effects of the WFP on Delta TDS concentrations at three Delta locations: 1) Rock Slough; 2) Old River at the Los Vaqueros intake; and 3) adjacent to the inlet to Clifton Court Forebay. The PROSIM simulations conducted for the WFP DraftEIR provided hydrologic input to the FDM on a monthly time-step. The FDM simulations provided estimates of the fraction of the flow from each major water source (e.g., Sacramento River, San Joaquin River, Ocean intrusion, etc.) to the above Delta locations. Based on the proportion of flow contributed by the Sacramento River to the three Delta locations and Sacramento River TDS level under the Base Condition and the WFP simulations, the amount of TDS contributed by the Sacramento River to the three Delta locations for the Base Condition and WFP was then determined.

Two scenarios were modeled for the WFP, which are defined below.

1) Base + WFP ("Scenario 1"): Utilized the Base + WFP hydrology, current CVP operating criteria, and assumed that there would be no net increase in the total TDS load discharged from the SRWTP, as a result of future treatment upgrades. This was done by assuming that

continued ...

the concentration of TDS in the SRWTP effluent would decrease in proportion to the projected increase in wastewater flow so that the TDS "load" from the SRWTP would be the same as it is now. The load for the Roseville WWTP was allowed to increase, based on future projected effluent TDS and flow levels, because upgrades to decrease TDS levels for this plant are not anticipated in the future.

2) Base + WFP ("Scenario 2"): This simulation used the FDM flow fractions calculated using the Base + WFP hydrology, current CVP operating criteria, and projected TDS concentrations. It also assumed that the SRWTP effluent water quality (i.e., TDS) would be approximately the same in the future as it is now (i.e., no upgrade in the treatment process); this would result in increased loading to the river.

Based on the three modeling simulations performed, the hydrologic or flow effects of the WFP on the Sacramento River's contribution to Delta TDS levels at the three locations modeled can be approximated by comparing the probability distributions for the Base Condition to those calculated for the Base + WFP ("Scenario 1"). In addition, the overall effect of the WFP, that is effects due to both hydrology and potential increases in TDS loading from the SRWTP and Roseville WWTPs, can be approximated by comparing the Base Condition to the Base + WFP ("Scenario 2"). Hence, a total of three water quality simulations were performed.

Modeling results for the three water quality simulations performed at the three Delta locations identified above are summarized graphically in Appendix M. A probability distribution of TDS (mg/l) that is contributed by the Sacramento River is provided annually and monthly for each of the three locations. As depicted by these probability distributions, the relative contribution of the Sacramento River to TDS levels at Rock Slough, Old River, and Clifton Court Forebay varies greatly by month and year. Note that the TDS concentrations given in the figures of Appendix M are not the total concentrations at a given location but rather the concentration of TDS that will "arrive" from or be contributed by the Sacramento River.

As stated above, the relative effects of the WFP on Delta TDS (hence salinity) levels can be approximated by comparing the probability distributions plotted for each simulated condition. For example, in October at Rock Slough, the Sacramento River typically contributes about 70-85 mg/l TDS to this site under the Base Condition (Appendix M). About 8% of the time, the Sacramento River's TDS contribution is less than 70 mg/l (as low as about 30 mg/l), and the river's highest TDS contribution at this site, based on modeled output, approached 90 mg/l in October.

Based on TDS levels calculated from measured electrical conductivity data (EC x 0.58) (CALFED 1999) collected at this site in October for the period 1990 through 1998 (IEP 1999), TDS concentrations at Rock Slough averaged about 304 mg/l during October. However, it should be noted that measured TDS levels (calculated from EC data) during

October ranged from 523 mg/l to 103 mg/l) (Table 1). Hence, on the average, the Sacramento River typically contributes about 20%-30% of the TDS concentration at Rock Slough in October. It should be further noted that the range for the Sacramento River's contribution is highly variable for October, and other months of the year, and can approach both zero (see plots for November through July) and 100% during some periods of some years.

The hydrologic effect alone of the WFP on Rock Slough TDS levels during October is approximated by the difference between the probability distributions for the Base Condition and the Base + WFP ("Scenario 1"), because TDS loading from the SRWTP was held constant. As shown by the October probability distribution for Rock Slough (Appendix M), the hydrologic effect of the WFP during October is deminimus. Although somewhat greater during other months, this effect remains rather small (averaging 1-2 mg/l TDS or less) during all months (Appendix M). The overall effect of the WFP (both hydrologic and associated increases in effluent discharges) on Rock Slough TDS levels would be somewhat greater (up to about 4 mg/l TDS in some years for September), based on the probability distributions (Appendix M).

It should be noted that direct daily comparisons cannot be made from the probability distributions because the daily data are ranked prior to plotting. Based on a direct comparison of un-ranked, daily values calculated for the 70-year period of record modeled, the largest one-day TDS increase at Rock Slough, Los Vaqueros, and Clifton Court Forebay caused by changes in Sacramento and American river flows attributable to the WFP (i.e., hydrologic effects) was about 6 mg/l, 7 mg/l, and 11 mg/l, respectively. When effects of increased TDS loading from the SRWTP (under the Base + WFP ("Scenario 2") are combined with Sacramento and American river flow changes, the largest one-day increase modeled for Rock Slough, Los Vaqueros, and Clifton Court Forebay TDS was about 9 mg/l, 9 mg/l, and 12 mg/l, respectively.

Table AA-1. Summary of historic total dissolved solid (TDS) concentrations at Rock Slough, calculated from measured electrical conductivity data. Data presented are for the period January 1, 1990 through December 31, 1998 (IEP 1999).

Month	Avg. TDS *	Max TDS *	Min TDS *
Jan	361	571	184
Feb	367	803	177
Mar	346	715	136
Apr	288	565	150
May	250	450	162

June	227	561	92
July	222	512	81
Aug	236	534	79
Sep	266	560	85
Oct	304	523	103
Nov	369	670	113
Dec	394	761	121
* Calculated by multiplying EC by 0.58 (CALFED 1999).			

Based on the FDM performed, the WFP could contribute, albeit typically minimally, to increased salinity at Rock Slough, Old River at the Los Vaqueros intake, and the inlet to Clifton Court Forebay (Appendix M). As such, this additional information supports the potentially significant determination for Delta water quality stated in the WFP Draft EIR.

As indicated by the modeling performed, there is a direct relationship between the WFP and the Sacramento Regional County Sanitation District's (SRCSD) 2020 Master Planning process. The WFP will affect hydrology due to increased diversions. Simultaneously, the SRCSD can be expected to accommodate additional urban development expected under existing General Plans by expanding the SRWTP, as necessary. The SRCSD is presently conducting a series of stakeholder workshops to gain stakeholder input into its 2020 Master planning process, including stakeholder views on future level of treatment. CCWD is participating in this process, within which it can express its desires regarding future level of treatment for the SRWTP.

The specific effects of the WFP on the ability of CCWD and other municipal users of Delta water to meet future drinking water regulations cannot be accurately addressed at this time due to uncertainty regarding future regulations, CVP operating criteria, and future land use patterns and agricultural practices.

Significant uncertainty exists regarding future drinking water regulations to be met by CCWD and others. EPA has periodically revised its rules for surface water treatment for drinking water protection, and is expected to continue to do so, as evidenced by its actions during the past 10 years and its schedule for implementing additional rules. The Federal Surface Water Treatment Rule (SWTR), promulgated on June 29, 1989, required all public water systems using surface water supplies or groundwater supplies under the influence of surface water to filter and disinfect for protection against Giardia lamblia, Legionella, viruses, and heterotrophic bacteria. The systems must ensure at least 99.9 percent reduction of Giardia lamblia cysts, and 99.99 percent removal of viruses. The Interim Enhanced Surface Water Treatment Rule (IESWTR), promulgated on December 16, 1998,

amended the SWTR to include treatment requirements for Cryptosporidium in addition to meeting existing requirements for Giardia lamblia and viruses. The Stage 1 Disinfectants and Disinfection Byproducts Rule (D/DBPR), also promulgated on December 16, 1998, updates and supersedes the 1979 regulations for total trihalomethanes. The rule establishes maximum residual disinfectant level goals and maximum residual disinfectant levels for three chemical disinfectants - chlorine, chloramine, and chlorine dioxide. It also establishes maximum contaminant level goals and maximum contaminant levels for total trihalomethanes, haloacetic acids, chlorite, and bromate. The Safe Water Drinking Act, as amended in 1996, requires EPA to finalize a Stage 2 D/DBPR by May 2002. EPA plans to finalize a Long Term 2 ESWTR at the same time. The intent of these rules is to provide additional public health protection, if needed, from disinfection by-products and microbial pathogens. However, final numeric requirements to be met by CCWD and others remain undefined at this time.

In addition to the changing regulatory environment, CALFED is putting significant efforts forward to improve Delta water quality. The relative success of CALFED's ongoing and future efforts is currently uncertain. Hence, future salinity or TDS levels at Rock Slough and other Delta locations cannot be accurately predicted at this time.

Considerable uncertainty also exists regarding future land uses within the Sacramento River watershed and the agricultural practices/regulations that will be in-place in the future. For example, future TDS loading to the Sacramento River and Delta from agricultural return flows is presently uncertain.

Finally, future level of treatment by the SRWTP and other wastewater treatment plants ultimately discharging to the Sacramento River is undefined today.

Based on these numerous and significant uncertainties, the effects of the WFP on the ability of CCWD and other municipal users of Delta water to meet future drinking water regulations are too speculative to ascertain at this time. This additional information supports the potentially significant impact determination stated in the WFP Draft EIR.

References cited in the above response:

CALFED 1999. Draft Programmatic Environmental Impact Statement/Environmental Impact Report. June 1999.

Flow Science Incorporated. 1999. Fischer Delta Modeling Data and Graphics. Electronic files transmitted to Surface Water Resources, Inc. by Flow Science Incorporated on August 23, 1999.

IEP (Interagency Ecological Program). 1999. HEC-DSS time series data for station SLRCK005, Rock Slough at Contra Costa Intake. January 1, 1990 through December 31, 1998.

AA-2 As noted in the response to comment AA-1, additional modeling of Sacramento TDS contributions to the Delta has been conducted for the Base and with project (i.e., Water Forum) conditions. From the graphical data (Appendix M), it is clear that the Sacramento River does influence TDS levels at the Old River intake to Los Vaqueros Reservoir. Regardless of the water quality criteria set by CCWD as the standard for which Los Vaquero Reservoir is permitted to fill, the data support the conclusion in the WFP Draft EIR that the Water Forum would have an incremental contribution to Delta salinity. The largest one-day TDS increase at Old River resulting from flow changes in the Sacramento River attributable to the Water Forum was approximately 7 mg/l. When the effects of increased salinity loading from the SRWTP are combined with these flow changes in the Sacramento River, the largest one-day increase in TDS at Old River would be approximately 9 mg/l.

However, as explained in the response to comment AA-1, numerous factors influence salinity measurable at any one time at the intake for Los Vaqueros Reservoir. These include contributions from the San Joaquin River, tidal influences, and agricultural run-off in the Delta. The additional modeling conducted addressed only the contributions from the Sacramento River including the amounts contributed by the SRWTP on the Sacramento River. When taken together with all of the other potential contributing factors, the incremental contribution of the Water Forum (maximum daily contribution of 7 to 9 mg/l), would be small. Nonetheless, the analysis reconfirms the potential incremental contribution to Delta salinity as a result of the Water Forum project and, therefore, reaffirms the potentially significant impact determination to Sacramento River water quality.

With respect to water supply reliability, the reliability of water for monthly deliveries to CCWD would be identical with or without the WFP, based on PROSIM modeling.

AA-3 The majority of the water to be developed under the WFP is subject to existing entitlements, including water rights and CVP water service contracts. To the extent additional entitlements (including water rights) are required, they would have to be obtained prior to diversion of that water. Thus, the WFP Draft EIR's discussion of area-of-origin priority is based on rights that have already been perfected or that will be perfected prior to diversion. See WFP Draft EIR at 4.3-9.

The commentor's opinion that the State Board would require compliance with urban best management practices (BMPs) is noted. As described in the EIR's project description (at page 3-25), the Water Conservation Element of the Water Forum Action Plan incorporates measures similar to the BMPs included in the statewide Memorandum of Understanding

Regarding Urban Water Conservation. Appendix D of the WFP Draft EIR presents the Water Forum Best Management Practices (BMPs) Implementation Criteria negotiated and agreed upon July 28, 1997. Since that time, the California Urban Water Conservation Council has released new BMPs. Two of the new BMPs are not included in the Water Forum BMP Implementation Criteria presented in Appendix D. Those BMPs are the Wholesale Agency Assistance Programs and High-Efficiency Washing Machine Rebate Program. The WFP provides that the Water Forum Successor Effort shall "Monitor changes in the state MOU for Water Conservation Best Management Practices" and "facilitate changed conditions negotiations among stakeholders to modify conservation elements of the Water Forum Agreement if required by new federal or state regulations. (See Water Forum Action Plan, page 114.) Consistent with these principles, the EIR has been revised to recommend adoption of the two BMPs as mitigation for significant and potentially significant impacts to resources affected by the water diversions. These include impacts to water supply, water quality, fisheries resources and aquatic habitat, power supply, recreation, and cultural resources.

The commentor requests that the Final EIR differentiate between diversions of natural runoff and previously stored water. However, this is not necessary because, as noted above, the WFP does not allow diversions of water to which the user is not entitled. Project-level environmental review and appropriate regulatory approvals would be required for any additional entitlements obtained by any Water Forum purveyor.

Please see responses to comments N-16, N-17, and N-18.

AA-4 The commentor notes that the 145,000 acre-feet per annum demand for CCWD in the year 2030 used in the WFP Draft EIR was incorrect, and that for the PROSIM model runs conducted at the 2030 level of development for the WFP Draft EIR, Contra Costa Water District's (CCWD) CVP contract at 195,000 acre-feet per annum and total Delta demands at 205,000 acre-feet per annum should be modeled. In response to comments on the WFP Draft EIR, a supplemental cumulative impacts analysis has been prepared including the CCWD delta demand of 205,000 per year in the year 2030. This change does not change the conclusions of the WFP Draft EIR. Please refer to Section 6, Supplemental Cumulative Impacts Analysis, of this document.

AA-5 Article 5b of the COA (page 8) lists the export facilities as including the Contra Costa Pumping Plant #1, Tracy Pumping Plant, and the Harvey O. Banks Delta Pumping Plant (including the Clifton Court Forebay). It does not identify the Folsom South Canal as an export facility. As defined under Article 3f of the COA (page 6), "export" means diversions by the United States and the State through export facilities specified above. Accordingly, the EBMUD diversions in the WFP Draft EIR and the supplemental cumulative impacts analysis in this Response to Comments volume were not treated as an export defined under the COA.

It should also be noted that CALFED's recently released Bay-Delta Program Programmatic Draft EIR (June 1999) also did not treat EBMUD diversions as an export defined under COA.

AA-6 The commentor suggests that the WFP Draft EIR did not examine impacts to Delta water users. However, the WFP's potential impacts on water supply were explicitly examined in Section 4.3 of the WFP Draft EIR. The analysis in that section concluded that water supply impacts to CVP and SWP customers in the Delta would be significant and unavoidable despite WFP's inclusion of features that lessen these impacts. (See WFP Draft EIR at 4.3-5 to 4.3-12.) The commentor also suggests that the EIR should show that the Delta Protection Act, which prohibits diversion of water from the Delta to which Delta users are entitled. The WFP Draft EIR explains that Water Forum service areas generally have superior entitlements to Delta water users under the area of origin statutes. (See WFP Draft EIR at 4.3-9 to 4.3-11.) Therefore, mere implementation of the WFP will not result in diversion of water to which Delta users are entitled.

AA-7 The WFP itself includes features intended to lessen potential environmental impacts. Such features include water conservation, dry year diversion restrictions, conjunctive use of groundwater and surface water, and the Lower American River Habitat Management Element. The commentor is correct in noting that development of new supplies is speculative. As such this mitigation measure could not be relied upon to reduce impacts to less than significant levels. Therefore, water supply impacts were determined to be significant.

The WFP includes reasonable and feasible measures to reduce water quality impacts on other areas, including dry-year alternatives, water conservation, and conjunctive use. These measures minimize the extent to which diversions under the WFP will reduce the dilution capacity of the lower Sacramento River. Nonetheless, such reduction in dilution capacity is expected to occur, leading to some degree of increase in pollutants in Sacramento River and portions of the Delta. The WFP Draft EIR does not take into account SRCSD's update of its regional wastewater treatment plan, which can be expected to require measures that will further offset water quality impacts.

Identification of more detailed water quality mitigation measures such as land retirement and drain relocation is not feasible because the nature, extent, location, and timing of water quality impacts, as well as the available technology to address such impacts, remain uncertain at this time. For example, as the commentor notes, development of additional water supplies to further minimize the reduction in dilution capacity is speculative. It is noted that SRCSD is undertaking a comprehensive regional study.

As more specific information regarding the nature, extent, location, and timing of water quality impacts associated with WFP

actions becomes available, Water Forum signatories will be able to examine the feasibility of measures to mitigate those impacts. That information will be included as part of environmental review of specific projects implementing the WFP. It is anticipated that Water Forum signatories will participate in programs to address water quality where it is feasible to do so. Such programs could include those coordinated by SRCSD, as described in the WFP Draft EIR at pages 4.4-11 and 4.4-15. Public agencies receiving treatment services from SRCSD are also Water Forum signatories. In addition, it is anticipated that other Water Forum signatories will also participate in programs to address water quality with their sanitation service providers.

LETTER
BB

Richard H. Sears, Jr.
921 La Sierra Drive
Sacramento, Ca. 95864

April 5, 1999

Sacramento City - County Office of Metropolitan
Water Planning
Attn. Ms. Susan Davidson
5770 Freeport Boulevard, Suite 200
Sacramento, Ca. 95822

Re. Comments Water Forum Proposal EIR

Dear Ms. Davidson,

As a private citizen I am taking this opportunity to express my comments on the **Water Forum Proposal EIR.**

1. I would urge the city and county to exercise every legal recourse to have EBMUD's American River diversion occur at the confluence of the Sacramento River and not at Nimbus. Political and public relation efforts should be mounted to that end and to urge the BuRec to honor the environmental protections expressed in the Hodge Decision. BB-1

2. The Federal and State agencies need to commit to the instillation of a temperature control device to assure cold water flows drawn from Folsom Lake to sustain the American River fishery. A firm agreement i.e. legal contract, needs to be in place as a condition precedent for the final approval of the EIR. BB-2

3. Urban growth inducing water diversions, for example, Northridge Water District's project to import 29,000 acre feet of American River water from Placer County should be recognized and evaluated for what it is "not a ground water stabilization project" but a water service expansion plan which BB-3

stimulate new development which will ultimately exacerbate the ground water and water supply problems. BB-3

4. Regional water supply infrastructure planning must be coordinated with metropolitan wide land use planning efforts. A continuous educational effort must be mounted to inform the public at large and more specifically elected officials of the impact of land use decisions on water supply demands. The Urban Services Boundary line should not viewed as an elastic boundary that can be moved at will without evaluating adverse impacts which risk the destruction of long term water supply planning efforts at great public cost. Without land use coordination the best water supply plan will fail. The Water Forum Action Plan needs to be elevated to the legal status afforded that of the General Plan. BB-4

Your consideration of my comments is appreciated.

Very Truly Yours,

Richard H. Sears, Jr.

Richard H. Sears
April 5, 1999

BB-1 Comment noted.

BB-2 As noted on page 3-23 of the WFP Draft EIR, implementation of the TCD is essential for implementation of the Water Forum Agreement. The TCD at the urban water supply intake at Folsom Dam was one of several proposed actions by USBR in the EIS/EIR prepared for the Central Valley Project Contracts under Section 206 of Public Law 101-514. This EIS/EIR was completed in December 1998 and a Record of Decision issued by USBR early in 1999. The TCD, therefore, has received all necessary environmental approvals for its implementation and recently has also received Congressional authorization and funding is included in the proposed year 2000 federal budget. USBR anticipates awarding a construction contract by the end of 1999.

BB-3 The commentor's opinion regarding the Northridge Water District project is noted. It should also be noted that the agreement which Water Forum stakeholders reached for additional surface water to meet the water demand for the planned growth within the NWD service area required that diversion of the PCWA water by the Northridge Water District be subject to the restrictions of the Hodge decision. For a discussion of the restrictions imposed by this decision, please see the Water Forum Action Plan, Appendix C, at page 298. This conjunctive use principal generally has lesser impacts on the environment than diverting surface water in all year types.

The Water Forum Action Plan set forth purveyor specific agreements which establish surface water diversions allowed under different hydrologic conditions. For instance, after the first 10 years, Northridge will be able to divert PCWA water only in years when the projected March through November unimpaired inflow into Folsom Reservoir is greater than 1,600,000 AF.

BB-4 See response to comment F-7.

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LETTER
CC

SAVE THE AMERICAN

SAVE THE AMERICAN RIVER ASSOCIATION, INC.

P.O. BOX 277638 - SACRAMENTO, CA 95827-7638 - (916) 387-1763

March 30, 1999

RECEIVED
APR 0 6 1999
CCompP

Ms. Susan Davidson
Sacramento City/County Office of Metropolitan Water Planning
5770 Freeport Blvd., Suite 200
Sacramento, CA 95822

Re: SARA Response to Sacramento Area Water Forum DEIR, dated January 20, 1999.

Dear Ms. Davidson:

The Water Forum stakeholders and others have expended a considerable effort in the preparation of the Water Forum DEIR. The two coequal objectives are very appropriate for this complex Water Forum program. The DEIR is one of the most comprehensive we have ever seen. In the DEIR a few things become very clear, as noted below:

1. The impacts to Folsom Reservoir fish and recreational uses and opportunities are more related to the increased diversions from the reservoir by urban water suppliers than by releases to meet downstream fish and recreational uses and those to help protect water quality.

2. There will be impacts to anadromous fish species such as Chinook salmon and steelhead. Impacts to American shad and striped bass should be minor if occurring at all. Impacts to Chinook salmon and steelhead, both native fishes of California, will be most difficult to offset given the capacity and configuration of the reservoir and the increasing diversions from Folsom reservoir by water suppliers.

3. There will be impacts from the Water Forum program which extend to the Delta, impacting water supply, renewable resources, uses and water quality.

CC-1

In the DEIR document, the Anadromous Fish Restoration Plan (AFRP) flows are indicated as being about equal to the Water Forum (WF) developed Hodge physical solution flows. While the flows may be nearly the same, the way each is figured is different. The AFRP flows are a flow pattern based on reservoir storage and anticipated inflow with Bureau of Reclamation imposed reductions in less than normal runoff years. The Hodge physical solution is a flow standard based on the average annual runoff for the American River with reductions from such flows when anticipated runoff is not expected to meet the Hodge standard. This Hodge flow standard is the flow one would expect to see in the river at various times of the year. It is an integrated flow solution and should be considered a baseline against which any future diversion or appropriation is to be measured, and which should serve as the model for revision of the AFRP methodology. (See page 3 of the Hodge decision).

CC-2

In addition, the Hodge physical solution also involves providing the water temperature necessary for holding and spawning of Chinook salmon, incubation of eggs and the rearing of young Chinook salmon and steelhead. Estimates are that a minimum of a 300,000 af cool water pool in Folsom Reservoir is needed. According to the DEIR document, intensive management and control of the Folsom Reservoir pool of cool water will be required to accomplish such needs. The extent of this cool water pool on a yearly basis depends on several factors including reservoir inflow, timing and temperature of that inflow, total storage during the water year, diversions from Folsom Reservoir and the temperature of the water released for meeting downstream ecological, water quality and export needs.

CC-3

The FEIR should stipulate that any new reservoir diversion points must be fitted with a temperature control facility, such as the authorized TCD on the suburban intake site. The WF participation in the coordination, implementation, and monitoring of all devices should be described, including how the divertors will share in any non-Federal funding requirements. CC-4

Comments and questions:

1. What is the cumulative impact on the American River when EBMUD's diversions at Nimbus (as described in Article 3 of the EBMUD Draft Amendatory Contract) are incorporated in the WF model? This condition should be modeled, to augment data in the DEIR, and should include any negative findings in the Lower Sacramento River and Delta water quality parameters of concern. Some assessment of potential remedies for any significant new impacts needs to be included in the FEIR, and should include consideration of further dry-year diversion cutbacks or suggested strategies for preventing EBMUD's ability to divert American River water above the confluence area. CC-5

2. Has the Water Forum developed a DRAFT flow standard based on the Hodge physical solution to be incorporated into the State Board Order for the Water Forum program? What does it look like? A copy of the suggested Hodge Flow standard should be added to the FEIR as a part of the program. CC-6

3. No mitigation measures are defined to offset or minimize any increased temperature or degraded water quality in downstream areas during low runoff years when the Hodge flow standard can not be attained. The FEIR should address this condition. CC-7

4. Mitigation measures to help offset negative impacts to the recreational impacts at Folsom Reservoir and along the Lower American River should be more specific. CC-8

Without the cooperation of the stakeholders to meet the coequal objectives of the Water Forum Program, the condition of the resources, uses and opportunities of the Lower American River, the Sacramento River and the Delta would be much worse in 2030 than if everyone went their own way. Also, the American River Basin communities and environmental organizations would be burdened with lawsuits fraught with uncertainty for the river, its resources, uses and values, as well as a reliable water supply. The DEIR illustrates that the Water Forum program as defined, (assuming a "Final Agreement" is signed by the stakeholders) is certainly much better for the river, and the people who use and enjoy it, than we would experience if no such program were adopted. CC-9

SARA has been fortunate to have been a participant in the Water Forum process and we congratulate the staff and consultants for the excellent job they have done in preparing the DEIR. We look forward to your response to the above questions and comments and will continue to work with all stakeholders and staff to resolve any outstanding issues/concerns.

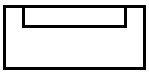
Sincerely,

Alan A. Wade

Alan Wade, President
Save the American River Assn., Inc

Residence: 2916 - 25th Street
Sacramento, CA 95818
Phone: 455-7083

cc: Water Forum Environmental Caucus Members
SARA Board of Directors



Alan Wade, President
Save the American River Association
March 30, 1999

CC-1 The commentor's acknowledgment as to the comprehensiveness of the WFP Draft EIR is noted. With regard to items 1 through 3, specific responses are as follows:

1. The WFP Draft EIR did not differentiate between the degree of impact associated with diversions from Folsom Reservoir for water supplies and releases to meet downstream fish and recreational uses.

2. Please note that no significant impacts to steelhead were identified in the WFP Draft EIR.

3. The commentor is correct in that the WFP Draft EIR identified impacts to Delta water supplies, renewable resources, and water quality.

CC-2 Hodge decision flow conditions were developed as constraints restricting potential EBMUD diversions from Folsom South Canal. For an explanation of the restrictions imposed on EBMUD under the Hodge decision, see Appendix C of the Water Forum Action Plan, at page 298. Due to hydrologic conditions, operational constraints, and AFRP flows, minimum Hodge flow standards would not necessarily be observed in the Lower American River as flows may in fact be higher or lower than the Hodge flows. Conversely, the AFRP flow/storage relationship is designed to accomplish the objectives of the AFRP, which are to double the population levels of anadromous species. The AFRP flow conditions take into account all hydrologic conditions and diversion patterns, not just the diversions of EBMUD. AFRP flows require higher flows than "Hodge flows" during wet years.

CC-3 Hodge physical flow solutions do not address water temperatures. They merely stipulate minimum flow regimes constraining EBMUD diversions, including during the summer period. In fact, water temperatures coincident with Hodge flows oftentimes are detrimental to juvenile steelhead rearing, as well as fall-run chinook salmon spawning, incubation and rearing success. Furthermore, without consideration of cold-water pool management and the TCD, summer flows of 1,750 cfs, as stipulated by Hodge flows, do not provide sufficiently cool summer water temperatures for juvenile steelhead rearing.

The value of 300,000 AF of cool water suggested by the commentor is not certain. However, intensive management of Folsom Reservoir's cold-water pool is needed to maximize preferred Lower American River temperature conditions.

continued ...

CC-4 As discussed in the WFP Draft EIR, the Water Forum Agreement is contingent upon implementation of a TCD at the urban water intake structure at Folsom Dam, from which water is currently delivered to San Juan Water District, City of Roseville, City of Folsom, Northridge Water District ("215" water), and Folsom State Prison. In addition, any new facilities necessary to implement diversions assessed in the WFP Draft EIR require project-specific environmental documentation. The coordination, implementation, monitoring and funding for such projects would be documented at that time.

CC-5 See responses to comments C-5 and C-6.

CC-6 The Water Forum Successor Effort will pursue an updated Lower American River Flow Standard with the State Water Resources Control Board, as described on pages 121-125 of the Water Forum Action Plan. In addition, the Hodge flow criteria is included as a diversion condition for Northridge Water District, the City of Sacramento, and South County agricultural diverters.

CC-7 As described on page 3-23 of the WFP Draft EIR, the Temperature Control Device (TCD) is essential for implementation of the Water Forum Agreement. The TCD will offset increased temperatures in all years including low runoff years. Water Forum signatories were instrumental in securing federal authorization for the TCD, which will have the greatest effect on minimizing temperature impacts. In addition, the primary mitigation measures developed to minimize or avoid increased water temperatures or degraded water quality in downstream areas during low runoff years, when the Hodge flow cannot be attained, have been incorporated into the elements of the WFP. For example, the following is stated under Element II (dry-year diversion reductions) on page 3-20 of the WFP Draft EIR:

"In drier years the river is already stressed. The health of the fishery would be expected to degrade if diversions from the Lower American River were increased by these amounts [amounts defined for average and wetter years] in drier years.

To avoid these impacts suppliers will develop actions to meet their customers' needs in drier and driest years. Such actions include: conjunctive use of groundwater basins consistent with the sustainable yield objectives; utilizing other surface water resources; reoperation of reservoirs on the Middle Fork of the American River; increased conservation during drier and driest years; and reclamation. Each supplier's dry year diversions are described in Section 3.4.1 and Table 3-1. "

In addition, Element III (Support for an Improved Fishery Flow Pattern), Element IV (Lower American River Habitat Management Element), Element V (Water Conservation), Element VI (Groundwater Management), and Element VII (Water Forum Successor Effort) of the WFP would all contribute to minimizing or avoiding increased temperature and degraded water quality in downstream areas in drier years.

CC-8 See response to comment O-4. Mitigation for impacts on the Lower American River will be implemented in consultation with the State of California, Resources Agency, Department of Parks and Recreation, and other stakeholders, including SARA.

CC-9 Comment noted.

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LETTER
DD

United States Department of the Interior

BUREAU OF RECLAMATION
Central California Area Office
7794 Folsom Dam Road
Folsom, California 95630-1799

IN REPLY REFER TO:

APR - 5 1999

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APR 06 1999
ccomwp

Susan Davidson
City-County Office of Metropolitan Water Planning
5770 Freeport Boulevard, Suite 200
Sacramento, California 95822

Dear Ms. Davidson:

Enclosed are Reclamation's comments on the Draft Environmental Impact Report for the Water Forum Proposal, dated January 1999. We appreciate the close coordination of the Water Forum staff with Reclamation in the preparation of this document and that coordination is apparent in the EIR.

Please contact Rod Hall, of my staff, at (916) 989-7279 (TDD 989-7285) for further information.

Sincerely,

Thomas J. Aiken
Area Manager

Enclosure

Bureau of Reclamation Comments
Draft Environmental Impact Report For the Water Forum Proposal

Pages 2-13 through 2-58, Tables 2-1 and 2-2: Define the terms "less than significant", "potentially significant", "significant", and "economically significant." DD-1

Page 2-8, paragraph 6: Explain the relationship between "Improved Pattern of Fishery Flow releases" and Anadromous Fish Restoration Program (AFRP) flows. DD-2

Page 2-61, paragraph 3: Reduced Shasta storage and reduced Keswick release over the study period are added to represent a total annual deficit. This is not necessarily the case. If storage is reduced in the first year of a given period, this "reduction" may carry through for multiple years until the reservoir refills or enters flood control operations. These two values are not necessarily additive. The annual deficits are overstated and should be recalculated. DD-3

Page 2-61, paragraph 5: It is stated that CVP/SWP water delivery deficits could exceed 400,000 AF on an average annual basis over the 70 year period of record and that CVP/SWP deficits average "nearly" 400,000 AF per year for the 1928 to 1934 dry period. Explain how the annual average deficit over the period of record, which includes numerous wet years, can be the same or higher than the dry period average. DD-4

Page 3-10, and elsewhere: The entitlements for the water being discussed needs to be made clear throughout the document, including any reductions in diversions or exchanges. DD-5

Page 3-20, last paragraph: Explain what is meant by "utilizing other surface water resources." Will use of these other surface water resources result in a transfer of impacts to someone else in drier periods? DD-6

Page 3-31, last paragraph: Update the status of the joint project in the final EIR. DD-7

PROSIM COMMENTS

While the PROSIM runs could be more refined, for purposes of a Programmatic EIR, they appear adequate to discuss impacts in a comparative manner. If additional modeling is done between the draft and final Environmental Impact Report, the following comments should be incorporated into the modeling.

Page 4.1-6, Table 4-1-1: A preliminary set of allocation guidelines provided by Reclamation for use in planning studies was used in the modeling. Reclamation has since modified these guidelines. While these modifications are not expected to result in a significant change in the comparative analysis done by the Water Forum, it is unclear from the information presented in the EIR if a change in allocation guidelines would affect how shortages are shared during dry years on the American River. Further explanation is needed regarding how shortages will be shared between water right holders and contractors regardless of the CVP allocation. DD-8

In general the PROSIM model runs appear to include AFRP actions discussed in the EIR. One area of concern is the input files show a zeroing out of minimum flow requirements at node 5 (Red Bluff) and node 6 (Sacramento River near Ord Ferry) in the PROSIM input files. Page 15 of the existing Biological Opinion states that "pursuant to Water Rights Order 90-5, Reclamation maintains a minimum of 3,250 cfs at Keswick Dam and Red Bluff Diversion Dam from September 1 through the end of February in all years expect critically dry years." While the AFRP flows at Keswick may result in these flows being maintained incidentally, it is unclear that the flows in the Biologic Opinion were maintained. Were these minimum flows maintained?

The PROSIM model results show several years in which it is assumed that borrowing between the CVP and SWP occur in San Luis reservoir. The overall minimum combined State/Federal storage of 90 TAF is not maintained in 1970. There appears to be enough flexibility in the simulations that the occurrences of low points in San Luis can be reduced beyond what is shown in the runs. An explanation of assumptions relative to use of and sharing of water in San Luis between the CVP/SWP should be included.

The SWP's Oroville reservoir minimum power pool of 852 is violated several times. Oroville did not go below the minimum power pool in actual operations in 1977. Is it realistic to assume Oroville storage will go this low and does this affect the comparative results shown in the EIR? DD-8

The Navigation Control Point (NCP) flow drops to below a monthly average of 4000 cfs while the allocation to agricultural contractors is 35-40%. If possible, this should not be allowed to occur in a simulation model until allocation to agricultural contractors drops to 5 percent. The assumption used in the Water Forum runs may result in Shasta storages being higher than if NCP flows were maintained at a higher level. All the Water Forum studies are similar in their treatment of NCP flows. Does this affect the comparative results shown in the EIR?

At least one cumulative impact analysis should assume that EBMUD's diversion is from the Folsom South Canal.

CVP water allocation for agriculture should range from 100% to zero and for refuges 100% to 75%.

Instream flow requirements for Trinity River should be 360,000/815,000 afa for the cumulative impact analysis.

Page 4.2-2, paragraph 4: Explain why the statistics for the groundwater cones of depression given for 1990, when the groundwater map in Exhibit 4.2-1 gives the data for fall 1996. Are the data for 1990 given in this paragraph for spring or fall 1990? DD-9

Page 4.2-5, paragraphs 1, 2, 3: Define the terms "minimum groundwater elevation" and where or what the range indicates. An increased groundwater depression in South Sacramento north of the Consumnes River will cause increased groundwater movement to the north. This in turn will DD-10

cause recharge water from the Consumnes River to the north away from the Galt area. Therefore, the groundwater basin south of the Consumnes (the Galt area) would not be independent from the basin to the north (the South Sacramento area). DD-10

Page 4.2-5, paragraph 4, sentence 3: While it is true that after 1970 groundwater levels declined in Sacramento County, this decline continued only until about 1983. Since then, groundwater levels have been mostly static, indicating a new sustainable yield equilibrium has been attained between 1983 and 1998 (see graph below based showing Sacramento Municipal Utility District's semiannual well measurement's average). The last sentence in paragraph 4 about groundwater recharge being unable to maintain an equilibrium with recharge is untrue. The changes in elevations of the cone of depressions between 1990 and fall 1996 (Exhibit 4.2-1, page 4.2-3) partially supports equilibrium. DD-11

Page 4.2-8, last bullet: The groundwater level need not decline below the pump opening (pump intake) to cause a decrease in well yield and efficiency. Declining heads and/or the dewatering of the aquifer(s) yielding water to the well is the main cause of decreased yield and efficiency. Also, the probability of shallow wells (mostly probably domestic wells) going dry (no well yield) due to groundwater level declines should be mentioned here. DD-12

Page 4.2-12, last sentence: Are the two assumptions given in this sentence (no change in water demands and no change in water supplies in San Joaquin County) supported by the County General Plan or DWR Bulletin 160-98? This is repeated in paragraph 4 on page 4.2-13. DD-13

Page 4.2-15, paragraph 1, sentence 3: The statement: ". . . groundwater recharge from streams . . . increases in response to the lowered groundwater levels . . ." contradicts the statement on page 4.2-12, paragraph 1, last sentence, that ". . . there is no significant difference in recharge from rivers . . ." under different streamflow projections. If the recharge from the rivers is free falling from the river bed to the water table, as is shown by no change in recharge due to streamflow amounts, recharge will not change no matter how much lower the groundwater levels' decline. DD-14

Page 4.2-18, Exhibit 4.2-2: The title of the figure concerns water quality decline, but the map legend shows water level decline. Is the water quality decline only associated with a groundwater level decline of over 80 feet from pre-development conditions? DD-15

Page 4.2-20, Impact 4.2-4 should be rated significant. An estimated 394 wells requiring deepening shows that 394 wells will either have decreased yields or go dry. The costs of just deepening the domestic wells would be greater than $1,000,000. Many of the 350 domestic wells would have to have a new replacement well drilled, either because the existing well's casing is too old or the well has too small a diameter to deepen (many domestic wells are often only six to eight inches in diameter). The 30 or so agricultural/municipal wells would be very expensive to deepen or replace. The increased electrical cost of pumping because of declining groundwater levels should be discussed. DD-16

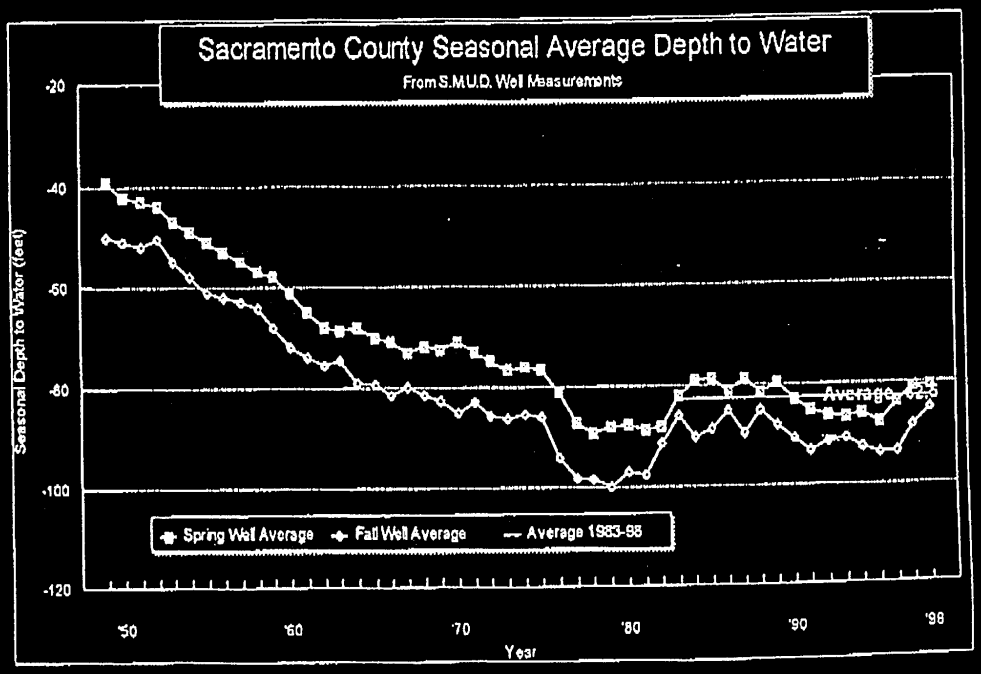
Page 4.2-21: If Impact 4.2-4 is considered significant, mitigation should be developed. DD-17

Page 4.3-6, last paragraph - Explain the basis for "To the extent that some of the identified DD-18

impacts to CVP deliveries can be characterized as a reallocation of supply among CVP contractors, the WFP should not be held accountable for cause." DD-18

Page 4.3, section 4.3.3: The impacts to CVP deliveries to refuges should be discussed. DD-19

Page 6-2, paragraph 3: In the period indicated the "Restoration Fund" alone has expended $238 million. If other local, State, and Federal agency's funding on "restoration projects" are added, the value would be substantially higher. DD-20



Thomas J. Aiken, Area Manager
Bureau of Reclamation
April 5, 1999

DD-1 The thresholds used to determine level of significance for each issue area are defined in each section of the WFP Draft EIR addressing potential impacts. Definitions of significance terms are provided below:

less than significant - an increment of impact resulting from implementation of the WFP (or cumulative scenario, as appropriate) that falls below threshold levels defined in each technical chapter of the WFP Draft EIR.

potentially significant - a degree of impact that is uncertain, but which may be significant, or which is significant but for which mitigation effectiveness is uncertain.

significant - an increment of impact resulting from implementation of the WFP (or cumulative scenario, as appropriate) that exceeds threshold levels defined in each technical chapter of the WFP Draft EIR.

economically significant - a substantial fiscal, as opposed to environmental impact.

While CEQA does not require discussion of economic impacts, these are included in the WFP Draft EIR's discussion of power supply for the purposes of public disclosure.

DD-2 AFRP flows represent an improved pattern of fishery flow release. As explained on page 3-21, paragraph 5, "For purposes of the *Water Forum Proposal*, the Improved Pattern of Fishery Flow Releases is defined as the AFRP flow objective for the Lower American River as set forth in the November 20, 1997 'Department of the Interior Final Administrative Proposal on the Management of Section 3406(b)(2) Water.'"

DD-3 The comment is correct in that the annual deficits shown on page 2-61, paragraph 3 of the WFP Draft EIR are overestimated. They have been recalculated. These revised paragraph is provided below and is incorporated into Section 5, Corrections and Revisions to the Draft EIR, in this document. This does not alter the conclusions of the WFP Draft EIR.

continued ...

"… Over the simulated 70-year hydrologic period Shasta Reservoir carryover storage was reduced by about ~~75,000~~ 45,000 AF and flow below Keswick Dam was reduced by about 30,000 AF on an average annual basis. Combined, this represents an approximate average annual deficit of ~~105,000~~ 75,000 AF, relative to the Base Condition. During the 1928 to 1934 critical period, Shasta Reservoir declined an average of ~~75,000~~ 70,000 AF per year, resulting in a total critical period storage deficit of nearly one-half million AF. As a consequence of lower storage, the future cumulative simulation prescribes an average annual reduction in flow volume below Keswick Dam of about 15,000 AF, or about 100,000 AF over the critical period. Combined, the decrease in Shasta Reservoir storage and reduction in flow volume below Keswick Dam represent an annual average water deficit of about ~~90,000~~ 85,000 AF and a total deficit approximating ~~600,000~~ 550,000 AF for the future cumulative critical period, relative to the Base Condition."

DD-4 A portion of paragraph 5 on page 2-61 of the WFP Draft EIR has been revised and is incorporated into Section 5, Corrections and Revisions to the Draft EIR, in this document. It should read as follows. This does not alter the conclusions of the WFP Draft EIR.

CVP and SWP contract demands associated with future development will be higher than current demands. Even under the Base Condition full demands frequently are not met. One method to generally illustrate the water supply deficit to water contractors under the future cumulative condition is to estimate the amount of water associated with future delivery deficiencies if the same percentage of full demand was delivered in the future as was delivered under the Base Condition. This estimation indicates that during the 70-year hydrologic period simulated, combined CVP/SWP water delivery deficits could exceed 400,000 AF on an annual basis. ~~This estimation indicates that over the 70-year hydrologic period simulated, combined CVP/SWP water delivery deficits could exceed 400,000 AF on an average annual basis.~~ During the 1928 to 1934 critical period, combined CVP/SWP water delivery deficits approach an average of nearly 400,000 AF per year, representing a total critical period deficit of nearly 2½ million AF.

DD-5 The model assumptions can be met through existing entitlements and reasonably expected future entitlements. In some cases, it will be necessary for a purveyor to obtain an entitlement prior to being able to divert the water assumed in the model.

Included in Chapter 3, Project Description, is a discussion of each of the seven elements of the Water Forum. Section 3.4.1 contains information for the Increased Surface Water Diversions needed to meet projected water demands at year 2030. This section also includes Tables 3-1a and 1b that include the model diversion assumptions for each purveyor in the region. These Tables, including footnotes, provide the basis for Baseline diversions, 2030 diversions in wet/average years, and 2030 diversions in drier and driest years. This section also provides a summary of each purveyor's proposed increased diversion and the reductions assumed for the drier and driest years (see pages 3-8 through 3-20).

There are several other locations where this information is available: 1) Summary Table 4.1-1, page 4.1-6, which indicates the assumptions used in the model for each of the purveyors

in the region, 2) Modeling Technical Appendix G and 3) Appendix H, PROSIM Model, Temperature Model, Salmon Mortality Model.

DD-6 The reference to "utilizing other surface water resources" is meant to capture the full range of options available to purveyors and includes water transfers and/or purchases, diversion from other locations (specifically, diversion of City of Sacramento, Sacramento County Water Agency, and PCWA supplies from the Sacramento River), and may also include other offsetting water supplies such as increased use of reclaimed water, groundwater, or increased water savings through intensified water conservation practices. Use of "other surface water resources" within this context, would not necessarily result in a transfer of impacts to other purveyors in dry periods.

DD-7 The City of Sacramento, Sacramento County and the Water Forum Environmental Caucus presented the East Bay Municipal Utility District a Modified Proposal for an American River diversion by EBMUD. This proposal was rejected by the East Bay Municipal Utility District Board of Directors on June 22, 1999.

DD-8 It is noted that the U.S. Bureau of Reclamation concurs that the application and use of PROSIM for purposes of a programmatic EIR appears adequate in its discussion of impacts in a comparative manner.

Since completion of the WFP Draft EIR, supplemental cumulative impacts analyses have been conducted. This supplemental modeling effort for the future cumulative condition utilized the U.S. Bureau of Reclamation's revised allocation guidelines. Responses to specific comments are provided below:

Paragraph 1: The allocation guidelines used in the modeling effort for the WFP Draft EIR were determined following extensive consultation with the USBR and USFWS. The allocation guidelines were mutually agreed upon by U.S. Bureau of Reclamation's Division of Planning and the Water Forum. The changes in allocation guidelines will not affect water rights deliveries but could affect CVP contract deliveries. The supplemental cumulative impacts analysis relied upon the recently revised U.S. Bureau of Reclamation allocation guidelines. That analysis reflected no substantial change in the conclusions of the WFP Draft EIR.

Paragraph 2: The minimum flow release of 3,250 cfs at Keswick Dam was maintained within the modeling runs.

Paragraph 3: Within the PROSIM modeling, no attempt was made to maximize the use of San Luis Reservoir storage by sharing water from the CVP or SWP. Such sharing or borrowing of water supplies, however, is only assumed to exist when either the CVP or SWP falls below its minimum share of San Luis storage, and the total storage of San Luis is greater than the absolute minimum.

Paragraph 4: The SWP is operated by DWR. Lake Oroville modeling was consistent with DWR planning simulations of the SWP. It was assumed that Lake Oroville would be affected as described in the WFP Draft EIR.

Paragraph 5: The assumption of Navigation Control Point (NCP) flows dropping below 4,000 cfs while the allocation to agricultural contractors of 35-40% is consistent with the official Reclamation PROSIM 99 release. Since the simulations contain the same NCP criteria, the comparative results shown in the WFP Draft EIR are appropriate.

Paragraph 6: A supplemental cumulative impacts analysis with an EBMUD diversion at the Folsom South Canal is included in the Final EIR. Impacts identified in the supplemental cumulative impact analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Paragraph 7: The allocation guidelines provided by Reclamation and available at the time of the WFP Draft EIR release were used for the WFP Draft EIR. The recently available revised Reclamation allocation guidelines were used in the supplemental cumulative impacts analysis.

Paragraph 8: Please refer to the discussion in Section 6.1.2, Consistent Hydrologic Modeling Assumptions, of this document.

DD-9 The data are for Fall 1990. This clarification is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR. This clarification does not affect the conclusions of the WFP Draft EIR.

To clarify, the text on page 4.2-2 is revised as follows:

The aquifer system in Sacramento County is recharged naturally through three primary processes: 1) deep percolation, 2) stream recharge, and 3) boundary flows. Deep percolation consists of rainfall and irrigation water percolating into unconsolidated substrata. Stream recharge consists of water percolating into the streambed under positive head differences and recharging the underlying aquifer. Boundary flows occur when local and regional groundwater migrate along the gradient of total potential. In Sacramento County, based on a 1990 investigative hydrologic modeling study, the average annual recharge to the groundwater system was approximately 474,000 AF. Of this amount, it was estimated that approximately 45% of the groundwater recharge occurred through river and stream recharge. Deep percolation contributes approximately 35% with boundary flows making up the remaining 20% (SCWA, 1995).

The Sacramento County groundwater basin has been divided into three hydraulically continuous subareas by the county' s basin management studies with each area characterized by a cone of depression (SCWA, 1997) (Exhibit 4.2-1):

- Sacramento North Area (north of the American River)
- South Sacramento Area (between the American River and Cosumnes River)
- Galt Area

~~Each area is presently characterized by a cone of depression. Based on 1990 data, the Sacramento North Area has a cone of depression that extends to -60 feet mean sea level (msl), the South Sacramento Area's cone of depression extends to -80 feet msl, and the Galt Area's cone of depression extends to -40 feet msl.~~

To gain more insight into the groundwater conditions in the County, the IGSM was used to simulate the existing conditions that would be present in the basin, if the current (1990) level of land and water use conditions were to continue during a long-term hydrologic condition.

Based on the results of hydrologic modeling investigation, the Fall 1990 simulated groundwater levels show a cone of depression that extends to -80 feet mean sea level (msl) in the Sacramento North Area. The modeling study also indicates that in 1990 the South Sacramento Area' s cone of depression extends to -80 feet msl, and the Galt Area' s cone of depression extends to -40 feet msl.

On the other hand, and in contrast to the simulated groundwater levels, the contours of equal groundwater elevation in the Sacramento County that are developed based on the groundwater level measurements for the Fall 1996 (Exhibit 4.2-1) indicate that the cones of depression in the Sacramento North , South Sacramento, and Galt areas are at –40 feet, -70 feet, and –50 feet (MSL), respectively."

DD-10 The paragraph referenced by the commentor summarizes information presented and explained in more detail in Appendix E, *Baseline Conditions for Groundwater Yield Analysis, Final Report, May, 1997.* Appendix E is included in the WFP Draft EIR in a CD-ROM format as indicated on page vi of the Table of Contents. Appendix E, is also available at the Water Forum Website, www.waterforum.org.

Section 3 of that Report contains the Baseline Model Results. Groundwater levels are discussed on pages 3-1 through 3-7. Hydrographs of the minimum groundwater levels in the Sacramento North, South Sacramento and Galt sub-areas of the groundwater basin are presented in Figures 11, 12, and 13. These figures present the model results for the groundwater levels at the cone of depression within each of the sub-areas for each of the Baseline Conditions, e.g., groundwater elevations representing 1990 pumping amounts over the 70 years of hydrological data. The "minimum groundwater elevation" is the level where stabilization conditions would start, approximately 20 years from the beginning of the 70-year hydrological period. The range represents the highest and lowest elevations during the remaining 50 years of hydrological record.

The IGSM simulations indicates that there is hydraulic connection between the Sacramento North, South Sacramento and the Galt sub-areas. Generally, the groundwater operations in one sub-area would impact conditions in other sub-areas. However, this relationship is not as responsive between sub-areas as it is within a sub-area.

DD-11 The groundwater levels in the Sacramento area, similar to other Central Valley regions, have steadily declined over time. This decline is dependent on the land and water use conditions within hydrologic cycles. During the dry and critically dry hydrologic cycles when the natural recharge conditions are relatively less, the rate of groundwater decline is higher, while during the wet hydrologic cycles, the rate of natural recharge is higher. In some cases the natural rate of recharge may sufficiently replenish the groundwater basin so as to alleviate the stress on the groundwater basin.

The statement in Paragraph 4 page 4.2-5 will be replaced with the following:

Available data indicate that groundwater levels in Sacramento County were fairly stable at an average of 30 feet msl between 1930 and 1940. Between 1941 and 1970, however, the county-wide average groundwater elevations declined to about -5 feet msl (SCWA, 1993). Since 1970, with steadily increasing groundwater pumping, groundwater levels and groundwater storage have declined across Sacramento County and in other counties in the Central Valley. In Sacramento County, starting in the mid-1980s as urban development started replacing agricultural lands, the rate of groundwater decline slowed to the extent that in the wet hydrologic conditions natural recharge was enough to replenish the groundwater pumping. This rate of decline, however, did not hold during the drought of the late 1980s and early 1990s. As the rate of urban expansion increases in the Sacramento Area, the rate of decline in groundwater levels will increase as well. ~~For the Sacramento County groundwater basin, natural groundwater recharge has been unable to maintain equilibrium with pumping; therefore, the basin has not stabilized.~~

This change is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR. This does not affect the WFP Draft EIR conclusions regarding impact significance.

DD-12 The groundwater investigative study performed in 1996 evaluated the impact of changes in groundwater level on the operation of wells based on general information about the depth of wells and general pump setting information. Although the commentator is correct in regards to the details of pump settings and the minimum several feet of head required for proper operation of the pumps, the data on pump settings for each well included in the study were not available to allow a detailed study of well operation impacts.

The shallow private wells were included among domestic wells included in the analysis and described in text referenced by the commentor.

DD-13 The analysis of baseline and WFP groundwater condition in the Sacramento County is performed in conjunction with the future and projected groundwater activities in the southern Sutter, western Placer, and San Joaquin counties. This is accomplished by using a multi-county IGSM model that was developed for the American River Water Resources Investigation (ARWRI) studies. In order to develop the boundary conditions for the Sacramento County model, certain assumptions had to be made as far as projected developments in the adjacent counties.

In San Joaquin County, the assumption was made that the rate of groundwater pumping will remain approximately at the existing level in the northern San Joaquin County area. An inherent assumption is that there will be sufficient surface supplies along with banking and recharge programs to support additional developments in northern San Joaquin County. The San Joaquin County General Plan (July 1992) indicates that the majority of the future development in San Joaquin County will take place in the Stockton and Tracy area. The County General Plan assumes that the countywide population increases by 73 percent between 1990 and 2010. However, in the North County planning areas of Lodi, Lockeford, and Thornton, the population will increase by only 30 percent. The rate of growth in the North County planning areas is less than half of the countywide rate. In fact, while in 1990 the population in these areas was about 16.3 percent of the total County population, it is projected that the population in 2010 for these planning areas would be only 12 percent of the total County. According to the General Plan, most of the urban growth will occur on currently zoned agricultural lands, with some in-fill and some expansion to previously undeveloped land.

Based on these projections, there will be an increase in population in northern San Joaquin County. However, the increase in water use related to the shift in land use from agricultural to urban is not significantly higher. In fact, based on a 1993 DWR Water Demand study for the ARWRI, the northern San Joaquin County area is projected to have a net reduction in groundwater pumping between 1990 and 2030. The study shows that the urban demand is projected to increase by 48.5 TAF and the agricultural demand is projected to decline by 66.6 TAF between 1990 and 2030. This is a net reduction of 18.1 TAF between 1990 and 2030.

The DWR Bulletin 160-98 presents the information on the planning areas by large hydrologic areas. These large planning areas do not represent the conditions in northern San Joaquin County.

DD-14 The commentor is correct. There is a disparity in the WFP Draft EIR between pages 4.2-12 and 4.2-15. The statement on page 4.2-12 stands corrected as noted below. This revision does not change baseline conditions or the conclusions of the analysis.

This change is reflected in Section 5, Corrections and Revisions to the WFP Draft EIR.

wed ...

With respect to hydrologic condition assumptions, streamflow projections were developed from USBR operations models utilizing the 2020 level of development over the historical 1922-91 hydrologic period. These streamflow projections are based on the projected levels of demands and river diversions in the Sacramento and American rivers. Streamflows in the Sacramento and American rivers are dependent on the operations of the upstream reservoirs, level of water diverted, return flows to the rivers and the ~~operations of upstream reservoirs~~ groundwater accretions along the rivers. On the other hand, ~~T t~~he groundwater levels in large portions of Sacramento County are generally highly dependent on the recharge rates from the rivers (and tributaries), the rivers' stages, and groundwater pumping rates in these areas. ~~As such, if the groundwater pumping does not change substantially, the changes in diversion rates from the rivers will not significantly affect the groundwater. A sensitivity analysis indicated that there is no significant difference in recharge from rivers utilizing the different streamflow projections for the American and Sacramento rivers.~~

DD-15 Comment noted. To clarify, the caption on Figure 4.2-2 is revised as follows:

Integrated Groundwater-Surface Water Model (IGSM) Results, showing Areas of Groundwater Level Decline that Induce Groundwater Quality Degradation under the Water Forum Proposal

This change is reflected in Section 4, Corrections and Revisions to the WFP Draft EIR. This revision does not alter any of the WFP Draft EIRs conclusions.

The map shows groundwater level decline because, in the South and Galt Areas, groundwater quality is closely linked to groundwater levels. This is explained in Section 4.2-4 and shown in Exhibit 4.2-2 (at page 4.2-18) of the WFP Draft EIR and also in Appendix E (at pages 11 and 12 of Section 3).

Historically, analysis of the groundwater quality data has indicated that a groundwater level decline of over 80 feet from pre-development conditions results in average manganese concentrations (and iron in the Galt area) that exceed the secondary Maximum Contaminant Level (MCL) for these constituents. In addition, this level of decline also results in average arsenic levels which exceed the proposed MCL of 5 ug/L for arsenic. Although groundwater quality degradation can occur at other levels of groundwater decline, the 80 feet decline from pre-development conditions is used as the threshold for this analysis.

DD-16 The commentor states that Impact 4.2-4, Efficiency of Wells, should be rated significant and that mitigation should be developed for that impact. However, the threshold of significance for this impact, set forth on page 4.2-8 of the WFP Draft EIR, is a decrease of both the yield and efficiency of a *substantial percentage* of municipal, agricultural, or rural domestic wells. The WFP Draft EIR did not find that a substantial percentage of such wells would experience a decrease of both yield and efficiency as a result of the project. For example, the 394 wells potentially affected by declining water levels until the groundwater

table stabilizes represents only 4% of the total 9, 763 wells in Sacramento County. Moreover, the cost associated with deepening these wells is not an environmental impact. For public information and disclosure purposes, the Water Forum has provided an economic analysis of increased costs due to lowered groundwater elevations in Appendix E. However, no mitigation measures are necessary for this less-than-significant environmental impact.

DD-17 See response to comment D-16.

DD-18 Characterization as a reallocation of water supply among CVP contractors is meant to describe the utilization of a finite CVP water supply. In other words, total CVP deliveries may not change, but the distribution of that volume varies among individual CVP contracts. Because of increased deliveries to CVP contractors within the Water Forum, less water could be available to other contractors.

DD-19 Under the WFP, CVP deliveries to refuges will not change. Supplemental modeling of the future cumulative condition uses Reclamation's latest water delivery allocation guidelines. Under these guidelines, refuge deliveries are solely dependent upon unimpaired runoff as determined by the Sacramento Valley 40-30-30 Water Year Hydrologic Classification Index. Because this index is independent of water project operations, modeled deliveries to refuges are identical regardless of simulation.

DD-20 Comment noted.

JOHN T. DOOLITTLE
4TH DISTRICT, CALIFORNIA

DEPUTY WHIP

COMMITTEES:
AGRICULTURE

RESOURCES
CHAIRMAN—SUBCOMMITTEE ON WATER AND POWER

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LETTER
EE

Congress of the United States

House of Representatives

April 5, 1999

Mr. Dennis Yeast
Sacramento Water Forum
827 7th Street Room 220
Sacramento, CA 95814

Dear Mr. Yeast:

I have reviewed the Water Forum Proposal Draft Environmental Impact Report (DEIR) and am writing to express my serious concerns over its potential impact to summer recreation at Folsom Reservoir.

As you know, Folsom Reservoir is the most heavily utilized State Recreation Area in California and currently provides the Sacramento region with a multitude of water-based recreational opportunities including swimming, boating, windsurfing and jet skiing. Because of Folsom Reservoir's frequent use during the summer months, any impact to water levels at the lake would result in a loss of revenue to the California Department of Parks and Recreation (CDPR) as well as severely impact the economies of those communities within my district that surround the lake.

Subsequent to the release of your DEIR, several concerns have been raised by the CDPR which I believe to be of such serious nature that they deserve your immediate attention. Specifically, CDPR's concerns suggest that the implementation of your plan could have an adverse impact on summer recreation at Folsom Lake above and beyond what would be realized if the additional diversions identified in the DEIR took place outside of the Water Forum agreement. For your review, I have included a copy of CDPR's letter that outlines its concerns. EE-1

Because of the potential impact the Water Forum Agreement may have on my constituents, I would appreciate your immediate attention to this matter by making any modification to your agreement necessary to address the CDPR's expressed concerns.

Furthermore, especially considering that neither the CDPR nor any other interest group representing recreation at Folsom Lake were included in the Water Forum's stakeholder group or consulted with prior to the release of your DEIR, I find it incumbent upon the Water Forum to address these issues as soon as possible.

Sincerely,

John T. Doolittle

JOHN T. DOOLITTLE
U.S. Representative

STATE OF CALIFORNIA - RESOURCES AGENCY
Gray Davis, Governor
DEPARTMENT OF PARKS AND RECREATION
AMERICAN RIVER DISTRICT
7806 FOLSOM-AUBURN ROAD
FOLSOM, CA 95630-1797
(916) 988-0205

April 1, 1999

Mr. Dennis Yeast
Sacramento Water Forum
827 7th Street, Room 220
Sacramento, CA 95814

Re: State Clearinghouse # 95082041
Water Forum Proposal Draft Environmental Impact Report

Dear Mr. Yeast:

The California Department of Parks and Recreation (CDPR) has reviewed the above document (DEIR) and submits the following comments:

- A project of this magnitude has many potential stakeholders beyond those listed as signatories in the document; with the many effects to Folsom Lake listed in the DEIR, it would seem that the Water Forum should have included the many Folsom Lake interests, including CDPR, as part of the stakeholder group. Earlier direct dialogue would have proven of value in the analysis and identification of issues and potential resolutions.
- An excerpt from the Water Forum's objective, "Preserve the fishery, wildlife, recreational, and aesthetic values of the Lower American River", raises the question of the Water Forum's commitment to Folsom Lake. Given the degree of impacts to Folsom Lake found in the DEIR, it would appear that the lake has been a low preservation-protection priority.
- As evident from lake elevation/recreation use data, relatively inelastic recreation demands exist at Folsom Lake; the formulation of a plan that directly exacerbates lake elevation fluctuations appears to be a deliberate action that discounts the importance and value of Folsom Lake's natural, cultural, and recreational resources.
- All Folsom Lake related mitigation measures need to be agreed upon, finalized, and included as part of the final project EIR – not to be identified in a follow-up or successor effort.
- The modeled period of record data needs to be accompanied by a 'real time" historic record that would allow for more meaningful comparison of effects of the Water Forum proposal. Inclusion of Temperature Control Device related weighted data furthers the perception of biased data.

- Swimming beach-related data arbitrarily defined 420'-455' as the "usable" beach zone; effects were derived using this definition. Through analysis and operating experience, CDPR has found that lake elevation range 440'-high pool is the "usable" or optimal beach range for this recreational use. Attendance and revenue figures drop significantly as lake elevations go below this range. The data and conclusions need to be remodeled based upon this zone range.
- Exhibit 4.9-6c, "Lower American River Flows Compared to Recreation Thresholds in July", is formatted in a manner that would allow for its use as an effective means to show break points for Folsom Lake launch ramps at given lake elevations. Inclusion of such an exhibit would aid the information analysis process.
- Project Impact 4.5-2, "Impacts to Folsom Reservoir's Warmwater Fisheries", provides a range of mitigation measures that will require an active monitoring program to accomplish. CDPR should be funded as the lead agency to perform these tasks.
- Project Impact 4.8-6, "Special Status Species of Riparian and Open Water Habitats", has no supporting analysis of the actual potential effects to the known wintering Bald Eagle population of Folsom Lake. Further analysis needs to be provided on this species; should a long-term monitoring plan be deemed necessary, CDPR should be funded as the lead agency for this task.
- Project Impact 4.9-3, '"Reduced Folsom Reservoir Boating Opportunities", it is unclear why other non-Water Forum related agencies should be relied upon to fund Water Forum based impacts. Mitigation actions are to be developed as a part of a follow-up Habitat Management Plan or other successor effort; processes and procedures regarding such an endeavor are not provided. All Folsom Lake identified impacts need to be negotiated directly with CDPR prior to issuance of a final EIR. Folsom Marina area improvements are not specified; it is not possible to evaluate impact significance reduction without specified measures - again such details must be included in the final EIR.
- Project Impact 4.9-4, "Reduced Availability of Folsom Reservoir Swimming Beaches", in addition to the earlier comments regarding the defined "usable" swimming beaches, it is unclear why other non Water Forum related agencies should be relied upon to fund Water Forum based impacts. Mitigation actions are to be developed as a part of a follow-up Habitat Management Plan or other successor effort; processes and procedures regarding such an endeavor are not provided. All Folsom Lake identified impacts need to be negotiated directly with CDPR prior to issuance of a final EIR. Folsom Point needs to be included as an impact mitigation study site.
- A General Plan Amendment or updated General Plan for Folsom Lake State Recreation Area must be performed prior to the implementation of any major recreation facility change not indicated in the current unit General Plan. Such a General Plan action will need to be funded by the Water Forum or its successor entity.
- Project Impact 4.12-1, "Effect of Varying Water Levels on Cultural Resources in Folsom Reservoir", CDPR staff believes that a vehicular management program can be developed to lessen cultural resource impacts within the reservoir fluctuation zone. Development and implementation of such a program needs to be included as a mitigation measure in the final EIR.

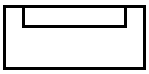
- All cumulative impact discussions require the same measures as called for above.
- CDPR reserves its rights for further comment pending ongoing discussions between CDPR staff and Water Forum representatives.

Thank you for the opportunity to comment on this document. Please call me at (916) 988-0205 if you have further questions.

Sincerely,

Rick LeFlore
District Planner

Cc: Bruce Kranz, ARD District Superintendent
Projects Coordinator, Resources Agency, Nadell Gayou
Richard G. Rayburn, Chief, Resource Management Division



John T. Doolittle
U.S. Representative, 4th District
April 5, 1999

EE-1 The comment requests consultation and additional detail regarding mitigation measures related to Folsom Reservoir. A letter from Rick LeFlore, District Planner, is also attached to the comment letter. The letter is included as Comment Letter O in this document.

Since receipt of the Draft EIR comments, Water Forum staff and purveyors have had several meetings with representatives of the California Department of Parks and Recreation (CDPR) and staff to Congressman Doolittle. During these meetings the CDPR has clarified that its comments relate to recreation, particularly the anticipated loss of visitor days. An approach for mitigation has been developed during these meetings that responds to this comment and also addresses comments B-1, O-4, O-8, O-10, and O-11.

Summary

Water Forum signatories will work with their elected officials, CDPR and other agencies that have an interest in reservoir levels, such as Congress, USBR, California Department of Boating and Waterways and the Sacramento Area Flood Control Agency, to obtain at least $3,000,000 of new funding for improvements to Folsom Reservoir recreation facilities.[1]

Background

Historically, many Water Forum purveyors secured water rights prior to the construction of the Folsom Reservoir. After construction of the reservoir, USBR assumed responsibility for operating the reservoir to store and manage water for the operation of the CVP, among other purposes. The reservoir has historically held and released to CVP customers water that Water Forum purveyors were entitled to but had not diverted. As purveyors increase diversions in accordance with historic entitlements, the manner in which USBR operates the reservoir together with flood control operations will influence reservoir levels. For these reasons and because CEQA defines "impacts" and "effects" as "direct or primary effects which are *caused* by the project" (14 Cal. Code Regs. § 15358), some purveyors believe that reservoir declines are properly viewed as being caused by the lack of replacement water supplies for the Central Valley Project as senior water rights are exercised and CVP yield is required to be used for environmental purposes. Accordingly, these purveyors believe that CEQA mitigation for reservoir impacts is not a legally required purveyor responsibility. As described below, however, the Water Forum project will

[1] New funding means funding Water Forum signatories are instrumental in obtaining that was not authorized, appropriated, or requested as of January 1, 2000.

continued ...

include measures that will tend to lessen the effect of the reduction in Folsom Reservoir levels that would occur in the future.

As noted in the DEIR, the Water Forum project includes measures that limit the extent of reservoir reductions by restricting diversions in dry years and imposing more extensive water conservation measures than would occur in the absence of the Water Forum Agreement. To help offset the effects of reservoir reductions that do occur, the Water Forum will work with other agencies that have an interest in reservoir levels, such as Congress, USBR, California Department of Boating and Waterways, and Sacramento Area Flood Control Agency, to obtain at least $3,000,000 of new funds for improvements to Folsom Reservoir recreation facilities. The CDPR is the agency responsible for managing the resources of Folsom Reservoir. Therefore, it is the appropriate agency to receive these funds and manage the recreational improvement projects.

The CDPR will develop a list of potential recreation improvement projects as part of the funding request. One type of project could be "mini-dikes," i.e., sculpted embankments within the lake bed to impound water for swimming use when reservoir levels are low. The design of the recreational improvements in the lake would also include design features for improving warm water fishery habitat, such as structural complexity for fish on the lake side of the mini-dike embankment, which would also support recreational fishing. Other projects could include, but not be limited to, those identified in the Draft EIR. The improvements are intended to help mitigate the anticipated loss of visitor days.

The USBR will contribute separate funding for an update by CDPR of the Folsom Lake State Recreation Area General Plan.

5. CORRECTIONS AND REVISIONS TO THE DRAFT EIR

This chapter contains text changes to the WFP Draft EIR subsequent to its publication and public review. The changes are presented in the order in which they appear in the original WFP Draft EIR and are identified by WFP Draft EIR page number. Text deletions are shown in strikeout (~~strikeout~~) and text additions are shown in underline (underline).

Section 2, EXECUTIVE SUMMARY

Page 2-61, paragraph 3 is revised as follows:

"… Over the simulated 70-year hydrologic period Shasta Reservoir carryover storage was reduced by about ~~75,000~~ 45,000 AF and flow below Keswick Dam was reduced by about 30,000 AF on an average annual basis. Combined, this represents an approximate average annual deficit of ~~105,000~~ 75,000 AF, relative to the Base Condition. During the 1928 to 1934 critical period, Shasta Reservoir declined an average of ~~75,000~~ 70,000 AF per year, resulting in a total critical period storage deficit of nearly one-half million AF. As a consequence of lower storage, the future cumulative simulation prescribes an average annual reduction in flow volume below Keswick Dam of about 15,000 AF, or about 100,000 AF over the critical period. Combined, the decrease in Shasta Reservoir storage and reduction in flow volume below Keswick Dam represent an annual average water deficit of about ~~90,000~~ 85,000 AF and a total deficit approximating ~~600,000~~ 550,000 AF for the future cumulative critical period, relative to the Base Condition."

Page 2-61, paragraph 4 is revised as follows:

CVP and SWP contract demands associated with future development will be higher than current demands. Even under the Base Condition full demands frequently are not met. One method to generally illustrate the water supply deficit to water contractors under the future cumulative condition is to estimate the amount of water associated with future delivery deficiencies if the same percentage of full demand was delivered in the future as was delivered under the Base Condition. This estimation indicates that during the 70-year hydrologic period simulated, combined CVP/SWP water delivery deficits could exceed 400,000 AF on an annual basis. ~~This estimation indicates that over the 70-year hydrologic period simulated, combined CVP/SWP water delivery deficits could exceed 400,000 AF on an average annual basis.~~ During the 1928 to 1934 critical period, combined CVP/SWP water delivery deficits approach an average of nearly 400,000 AF per year, representing a total critical period deficit of nearly 2½ million AF.

Section 3, PROJECT DESCRIPTION

Page 3-13, Table 3-1b is revised as shown on the following page.

Page 3-18, under the City of Sacramento heading, the second full paragraph on is revised as follows:

During periods when the Lower American River flows are sufficient (i.e. above the "Hodge" standard), the City could fully use its increased diversion capacity at FWTP. In drier periods when the Lower American River flows are not sufficient (i.e. below the "Hodge" standard), the City could ~~divert from a new diversion site near the mouth of the American River and pump the water back to FWTP for treatment,~~ use groundwater, or divert and use water from the Sacramento River.

Page 3-33, the following paragraphs are revised as follows:

3.6.13 Roseville/USBR Pumping Plant Expansion

The City of Roseville is proposing the expansion of its raw water pumping plant from 240 cfs (153 mgd) to 400 cfs (259 mgd). ~~Approval of this project is contingent upon USBR approval for the use of federal facilities to convey non-Central Valley Project water.~~ The USBR issued a categorical exemption for the proposed project over a year ago and const-ruction is complete. Currently the facility is in its final testing phase. The USBR contract includes a provision which allows the expanded facility to supply water at a higher rate - CVP water or non-project water. ~~The project is currently in the environmental review phase.~~

3.6.14 Long-term Warren Act Contract, Roseville/USBR

The City of Roseville is negotiating with the USBR for the use of federal facilities to convey non-Central Valley Project water. ~~The City is planning to increase current water purchases under an existing contract with the Placer County Water Agency from approximately 20,000 AF/Yr to approximately 30,000 AF/Yr over a 25-year period. This project is currently in the environmental review phase.~~

Page 3-34, Section 3.6.18 is added as follows:

3.6.18 Project 184

The El Dorado Irrigation District acquired 17,000 AF of water rights via Applications Nos. 29919A, 29920A, 29921A, and 2922A and petition for partial assignment of state-filed Application 5645 before the State Water Resources Control Board. This acquisition is also known as Project 184. Project 184, a hydroelectric facility and system, includes the Forebay Reservoir near Pollock Pines, four mountain lakes (Lake Aloha, Echo Lake, Silver Lake and Caples Lake), the 22-mile El Dorado Canal and the 21-megawatt El Dorado Power Plant in the American River Canyon.

Table 3-1b
1995 and Proposed Year 2030 Surface Water Diversions for Purveyors That Have Not Concluded Their Negotiations

Water Purveyor	1995 Baseline [1]	2030 Diversion (wet/average years)	2030 Diversion (drier years)	2030 Diversion [2] (driest years)
Arcade WD	3,500 AF	11,200 AF	11,200 AF	~~20,000~~ 3,500 AF
Arden Cordova Water Service	3,500 AF	5,000 AF [3]	5,000 AF [4]	5,000 AF
El Dorado ID	20,000 AF	48,400 AF [3]	Decreasing from 48,400 to 38,900 AF [4]	38,900 AF
Georgetown Divide PUD [5]	10,000 AF	18,700 AF [3]	Decreasing from 18,700 to 12,500 AF [4]	12,500 AF
Rancho Murieta CSD	0 AF	1,500 AF [6]	1,500 AF [6]	0 AF

Note: Assumptions included in these footnotes are for Draft EIR modeling purposes only. Modeling these diversions does not imply there is agreement on these assumptions:

1. Baseline: As it applies to these diversions, Baseline means the historic maximum amount of water that suppliers diverted annually from the American River through the year 1995. Clarifications pertaining to the San Juan Water District, SMUD, and the City of Folsom are noted in footnotes 8, 11, and 19.
2. Driest Years (i.e., Conference Years): Defined as follows: Years when the projected March through November Unimpaired Inflow to Folsom Reservoir is less than 400,000 acre-feet. Conference years are those years which require diverters and others to meet and confer on how best to meet demands and protect the American River.
3. Wet/Average Years: As it applies to these diverters, Wet/Average Years is defined as follows: Years when the projected March through November Unimpaired Inflow to Folsom Reservoir is greater than 950,000 acre-feet.
4. Drier Years: As it applies to these diverters, Drier Years is defined as follows: Years when the projected March through November Unimpaired Inflow to Folsom Reservoir is less than 950,000 acre-feet.
5. For this supplier, some or all of their water supply diverted from the American River or Folsom Reservoir in the drier and driest years could be replaced with water released from PCWA's Middle Fork Project Reservoirs by reoperating those reservoirs.
6. As it applies to this diversion, water in Wet/Average and Drier Years is diverted at the mouth of the American River or from the Sacramento River.

Source: CCOMWP 1998.

Page 3-25, the following item is added to the end of Section 3.4.5, Element V: Water Conservation Element:

F. Additional Recommended Best Management Practices. Since preparation of the proposed Water Conservation Element, the California Urban Water Conservation Council has adopted new Best Management Practices which have been incorporated into the statewide Memorandum of Understanding Regarding Urban Water Conservation. The Water Conservation Element is consistent with the new BMPs but does not include new BMPs calling for Wholesale Agency Assistance Programs and High-Efficiency Washing Machine Rebate Programs. It is recommended that in order to mitigate significant and potentially significant impacts related to increased water diversions (see impacts 4.3-1, 4.3-2, 4.4-2, 4.5-2, 4.5-5, 4.5-7, 4.9-1, 4.9-3, 4.9-4, 4.12-1, 6.3-1, 6.3-2, 6.4-2, 6.5-2, 6.5-5, 6.5-7, 6.5-12, 6.513, 6.5-16, 6.5-17, 6.7-1, 6.9-1, 6.9-2, and 6.12-1) these new BMPs will be adopted by Water Forum purveyors as follows:

- Water Forum Purveyors shall implement High-Efficiency Washing Machine Rebate Programs in a manner consistent with Best Management Practice 6 (High-Efficiency Washing Machine Rebate Programs) adopted by the Urban water Conservation Council Effective April 8, 1998. These programs call for establishment of rebate programs where it is cost-effective to do so and where the maximum amount of a cost-effective rebate is not less than $50.

- Water forum Purveyors shall implement Wholesale Agency Assistance Programs in a manner consistent with Best Management Practice 10 (Wholesale Agency Assistance Programs) adopted by the Urban Water Conservation Council effective April 8, 1998. These programs call upon wholesale water suppliers to provide their retail customers with varying forms of financial, technical, and programmatic support for water conservation programs.

In 1997 and 1998 several purveyors in the Water Forum participated through the Sacramento Area Water Works Association (SAWWA) in a joint two-year rebate pilot program with the Sacramento Municipal Utility District (SMUD). Under this program SMUD provided $75 to $150 per washer and SAWWA provided an additional $40 per washer. This study concluded that the rebate program did not meet the cost-effectiveness criteria established by the BMP. Accordingly, it may not be feasible to implement rebate programs within the service areas of the purveyors included in the SAWWA study. Pursuant to the recommended mitigation, however, other purveyors not included in the SAWWA study would investigate cost-effectiveness in accordance with the procedure set forth in Urban Water Conservation Council BMP 6 and would implement the rebate programs if cost-effective to do so.

With respect to the Wholesale Agency Assistance Programs, WFP signatories are already committed to supporting only those wholesale deliveries to other purveyors whose customers are already receiving the services provided under each of the Water forum BMPs. For instance, each of the three purveyors receiving wholesale water from the San Juan Water District each have separately committed to implementing all of the Water Forum Best Management Practices.

The recommended mitigation is incorporated by this reference into the mitigation discussions for impacts 4.3-1, 4.3-2, 4.4-2, 4.5-2, 4.5-5, 4.5-7, 4.9-1, 4.9-3, 4.9-4, 4.12-1, 6.3-1, 6.3-2, 6.4-2, 6.5-2, 6.5-5, 6.5-7, 6.5-12, 6.513, 6.5-16, 6.5-17, 6.7-1, 6.9-1, 6.9-2, and 6.12-1.

Section 4.2, GROUNDWATER RESOURCES

Page 4.2-2, the text is revised as follows:

The aquifer system in Sacramento County is recharged naturally through three primary processes: 1) deep percolation, 2) stream recharge, and 3) boundary flows. Deep percolation consists of rainfall and irrigation water percolating into unconsolidated substrata. Stream recharge consists of water percolating into the streambed under positive head differences and recharging the underlying aquifer. Boundary flows occur when local and regional groundwater migrate along the gradient of total potential. In Sacramento County, based on a 1990 investigative hydrologic modeling study, the average annual recharge to this groundwater system was approximately 474,000 AF. Of this amount, it was estimated that approximately 45% of the groundwater recharge occurred through river and stream recharge. Deep percolation contributes approximately 35% with boundary flows making up the remaining 20% (SCWA, 1995).

The Sacramento County groundwater basin has been divided into three hydraulically continuous subareas by the county's basin management studies with each area characterized by a cone of depression (SCWA, 1997) (Exhibit 4.2-1):

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~~Each area is presently characterized by a cone of depression. Based on 1990 data, the Sacramento North Area has a cone of depression that extends to -60 feet mean sea level (msl), the South Sacramento Area's cone of depression extends to -80 feet msl, and the Galt Area's cone of depression extends to -40 feet msl.~~

To gain more insight into the groundwater conditions in the County, the IGSM was used to simulate the exiting conditions that would be present in the basin, if the current (1990) level of land and water use conditions were to continue during a long-term hydrologic condition.

Based on the results of hydrologic modeling investigation, the Fall 1990 simulated groundwater levels show a cone of depression that extends to -80 feet mean sea level (msl) in the Sacramento North Area. The modeling study also indicates that in 1990 the South Sacramento Area's cone of depression extends to -80 feet MSL, and the Galt Areas's cone of depression extends to -40 feet msl.

On the other hand, and in contrast to the simulated groundwater levels, the contours of equal groundwater elevation in the Sacramento County are developed based on the groundwater level measurements for the Fall 1996 (Exhibit 4.2-1) indicate that the cones of depression in the Sacramento North, South Sacramento, and Galt areas are at -40 feet, -70 feet, and -50 feet msl, respectively.

Page 4.2-5, the first paragraph under the heading **GROUNDWATER LEVEL DECLINE** ***is revised as follows:***

Available data indicate that groundwater levels in Sacramento County were fairly stable at an average of 30 feet msl between 1930 and 1940. Between 1941 and 1970, however, the county-wide average groundwater elevations declined to about -5 feet msl (SCWA, 1993). Since 1970, with steadily increasing groundwater pumping, groundwater levels and groundwater storage have declined across Sacramento County and in other counties in the Central Valley. In Sacramento County, starting in the mid-1980s as urban development started replacing agricultural lands, the rate of groundwater decline slowed to the extent that in the wet hydrologic conditions natural recharge was enough to replenish the groundwater pumping. This rate of decline, however, did not hold during the drought of the late 1980s and early 1990s. As the rate of urban expansion increases in the Sacramento Area, the rate of decline in groundwater levels will increase as well. ~~For the Sacramento County groundwater basin, natural groundwater recharge has been unable to maintain equilibrium with pumping; therefore, the basin has not stabilized.~~

Page 4.2-12, the first paragraph is revised as follows:

With respect to hydrologic condition assumptions, streamflow projections were developed from USBR operations models utilizing the 2020 level of development over the historical 1922-91 hydrologic period. These streamflow projections are based on the projected levels of demands and river diversions in the Sacramento and American rivers. Streamflows in the Sacramento and American rivers are dependent on the operations of the upstream reservoirs, level of water diverted, return flows to the rivers and the ~~operations of upstream reservoirs~~ groundwater accretions along the rivers. On the other hand, ~~T t~~he groundwater levels in large portions of Sacramento County are generally highly dependent on the recharge rates from the rivers (and tributaries), the rivers' stages, and groundwater pumping rates in these areas. ~~As such, if the groundwater pumping does not change substantially, the changes in diversion rates from the rivers will not significantly affect the groundwater. A sensitivity analysis indicated that there is no significant difference in recharge from rivers utilizing the different streamflow projections for the American and Sacramento rivers.~~

Page 4.2-18, the caption on Exhibit 4.2-2 is revised as follows;

Integrated Groundwater - Surface Water Model (IGSM) Results, Showing Areas of Groundwater Level Decline that Induce Groundwater Quality Degradation ~~Impacted by Water Quality Decline~~ Under the Water Forum Proposal

Section 4.4, WATER QUALITY

Page 4.4-4, the second paragraph is revised as follows:

Past monitoring studies have occasionally shown certain priority pollutants (e.g., trace metals, pesticides) to be at concentrations above State water quality objectives in portions of the Sacramento River (City of Sacramento and City of West Sacramento, 1995). Despite the seasonal variability of many constituents, a recent study revealed that monitored water quality parameters in the vicinity of Freeport (immediately upstream of the SRW~~W~~TP's point of discharge) typically met water quality objectives specified in the former Inland Surface Waters Plan (described below), except for some metals (SWRCB, 1994). The principal source of trace metal loading to the Sacramento River is believed to be the Iron Mountain Mine complex, which discharges to the Sacramento River via Spring Creek and Keswick Reservoir. The complex is thought to contribute approximately one-half of the metals loading attributable to mine drainage.

Page 4.4-5, the third paragraph is revised as follows:

Agricultural drainage constituents of concern include nutrients, pesticides/herbicides, suspended solids, dissolved solids and organic carbon (City of Sacramento, 1993). In the 1980s, rice pesticides were responsible for fish kills in agricultural drains ~~and also for taste and odor problems in the water treated at the SRWTP~~. The major fish kills in the Colusa Basin Drain have since been eliminated as a result of the multi-agency rice pesticide control program (City of Sacramento and City of West Sacramento, 1995).

Page 4.4-11, the last paragraph is revised as follows:

The SRWTP was initiated by the SRCSD for the express purpose of addressing water quality issues that are best addressed on a watershed-wide basis rather than an individual point or non-point source basis. An important early task of the watershed program is to design and implement a water quality monitoring program, which has occurred. ~~SRCSD participation in this program~~ SRCSD is a stakeholder in the SRWTP and as such will contribute to efforts to reduce and control priority pollutant loadings to the Sacramento River and Delta from key point and non-point sources in the watershed.

Page 4.4-14 and page 2-18, Table 2-2, Summary of Project Impacts, Impact 4.4-2 is revised as follows:

Indirect Effect Study Area

Impact **4.4-2** ~~***Sacramento River Water Quality.***~~ ***Seasonal Changes to Sacramento River and Delta Water Quality***. *Implementation of the WFP would result in seasonal reductions in Shasta Reservoir storage and Sacramento River flow during some years. Such hydrologic changes would be expected to cause seasonal elevations in river water temperatures in some years, and could increase concentrations/levels of nutrients, pathogens, TDS, TOC, turbidity, and/or priority pollutants in the Sacramento River due to reduced dilution capacity. Reduced river flows would reduce Delta inflow which, if sufficiently large, could alter various water quality parameters in portions of the Delta. With the possible exception of water temperature (see Section 4.5, Fisheries Resources and Aquatic Habitat, for a discussion of temperature impacts to the Sacramento River), program-level assessments indicated that any direct impacts to Sacramento River or Delta water quality, resulting from seasonal reduction in Sacramento River flow associated with the WFP, would be* ***potentially significant.*** ~~*Sacramento River flows at Freeport in some years, thereby reducing the lower river's dilution capacity. In addition, the amount of treated effluent discharged from the SRWTP into the Sacramento River at Freeport would increase substantially. Urban runoff and stormwater discharges would also increase to some degree. Slightly reduced river dilution capacity, coupled with increased constituent loading from urban runoff and stormwater and wastewater discharges would be expected to increase, to some degree, concentrations/levels of nutrients, pathogens, TDS, TOC, turbidity, and/or priority pollutants in the Sacramento River and portions of the Delta. Project-specific water quality mitigation measures are expected to be implemented as urban growth occurs. Moreover, ongoing water quality management plans and programs are expected to prevent State and federal water quality standards, objectives and criteria from being exceeded on a more frequent basis than currently occurs. However, substantial uncertainty exists with regard to seasonal changes in Sacramento River flow, constituent loading, and the extent and effectiveness of project-level water quality mitigation and management measures in the future, all of which are beyond the control of the Water Forum. Because the potential for degradation of Sacramento River water quality in the future depends on uncertain future policy decisions and actions, this would be*~~ ~~***a potentially significant***~~ ~~*impact.*~~

Section 4.5, FISHERIES RESOURCES AND AQUATIC HABITAT

Page 4.5-12, the first paragraph is revised as follows:

Based on laboratory experiments conducted on American shad incubation, Walburg and Nichols (1967) concluded that temperatures suitable for normal egg development ranged from about 54°F to 70°F. These investigators further reported that eggs hatched in 3 to 5 days at 68°F to 74°F and in 4 to 6 days at temperatures of 59°F to 64.4°F. Egg incubation and hatching are coincident with the primary spawning period (i.e., May through June). A large percentage of the eggs spawned in the Lower American River probably do not hatch until they have drifted down river and entered the Sacramento River (CDFG, 1986). Few juvenile American shad have been collected in the Lower American River ~~(CDFG 1980)~~ (Painter et al

1980). Thus, the presence of American shad in the Lower American River is primarily restricted to adult immigration, spawning, and fry lifestages.

Section 4.7, POWER SUPPLY

Page 4.7-1, the fourth paragraph is revised as follows:

Power produced by the CVP hydropower system is used first for meeting project water pumping loads, which is deemed "project use power," at CVP pumping facilities (Table 4.7-2). Power surplus to project use is "commercial power" and is marketed by the Western Area Power Administration (WAPA) under long-term firm contracts to municipal and government entities (preference customers) at cost-based rates pursuant to Reclamation Law. In an average year, 4,600 gigawatt hours (GWh) of energy and 1,700,000 kW of capacity are marketed to preference customers at rates that recover full cost of production and repayment obligations of project investment with interest. Energy surplus to CVP project use and preference customer power needs is "banked" under WAPA-PG&E Contract 2948A, to be ~~repaid~~ repurchased by WAPA and its customers. The contractual agreements between WAPA and its customers terminate in 2004, and it is unlikely that the contract will be renewed. WAPA is currently in the process of determining how it will market the CVP hydropower resources surplus to project use power needs once the contract has expired.

Page 4.7-3, the first paragraph is revised as follows:

The Folsom power plant has three generating units, with a total release capacity of approximately 8,600 cfs. ~~By design, t~~The facility is operated as a peaking facility. Peaking plants schedule the daily water release volume during the peak electrical demand hours to maximize generation at the time of greatest need. At other hours during the day there may be no release (and no generation) from the plant.

Page 4.7-4, the first paragraph is revised as follows:

PUMPING POWER

~~Impacts to pumping power could result from changes in pumping requirements due to changes in the elevation and timing of available water supplies in Folsom Reservoir under the Water Forum Proposal.~~ Impacts to the amount of pumping power required could result from changes in the elevation and timing of available water supplies in Folsom Reservoir under the Water Forum Proposal. Such impacts would be considered significant if average annual pumping energy requirements for purveyors at Folsom Reservoir were to increase over the Base Condition.

Page 4.7-4, the three paragraphs under the heading* HYDROPOWER IMPACTS FRAMEWORK *are revised as follows:

Potential hydropower impacts are associated with ~~two quantities,~~ the level of electrical capacity and electrical energy as well as the timing of release of, or any bypassing, of the electrical generation. Reductions in one or both could result from the implementation of the Water Forum Agreement but would have economic consequences for CVP power users in the form of a reduction in the amount of surplus capacity/energy sales available. These impacts would not be expected to cause direct environmental effects but would have economic consequences for CVP power users in the form of increased capacity/energy purchases to support preference customer loads, or reduced surplus capacity/energy sales. It is quite possible that thermal

generation resources, which do emit air pollutants, would supply some portion of the replacement energy. Estimating when, where, and how "dirty" the replacement energy might be, would be speculative and is beyond the scope of this report ~~ability~~ to predict, given the complexity of the interconnection of the electric utility generation in the western United States.

CVP powerplants such as Folsom are part of an integrated generation/pumping system for distribution of water supplies to CVP customers. Hydropower prooduction is a function of reservoir storage and water releases through powerplants. Hydropower consumption by Western Customers is dependent on the level of CVP project use power requirements (primarily pumping). The remaining quantity of CVP hydropower production minus CVP project use provides a measure of capacity and energy by which the alternatives can be compared to a base condition.

Hydropower impacts for this analysis were assessed by comparing changes in monthly values of CVP capacity and energy (CVP production minus losses minus project use) ~~CVP capacity and energy~~ under the WFP, relative to the Base Condition. These changes in values were obtained from the power subroutine of PROSIM for each month of the modeled 69-year hydrologic period of record.

Page 4.7-4, the first paragraph under the heading* PUMPING POWER IMPACTS FRAMEWORK *is revised as follows:

~~Pumping power impacts are also associated with electrical capacity and electrical energy.~~ The impacts due to the level of pumping power required can be measured as a change in the need for electrical capacity and electrical energy. Reductions in Folsom Reservoir levels caused by the Water Forum Proposal may increase capacity and energy requirements to pump water at the Folsom Pumping Plant and the EID pumping plant at Folsom Reservoir. These impacts, like those for hydropower, would not be expected to cause direct environmental effects, but would have economic consequences and increase the demand for other sources of power.

Page 4.7-4, the footnote is revised as follows:

> [1] PROSIM simulates the water years 1922-1991; however, power is normally evaluated on a calendar year basis. ~~Thus,~~ Therefore, while 70 water years (1922-1991) are available for some analysis, only 69 years of data (1922-1991) are available for assessment.

Page 4.7-6, the last paragraph is revised as follows:

Changes in Capacity for Preference Customer Use - Net CVP capacity values for each month of the 69-year hydrologic period of record were obtained from the PROSIM simulations of the Base Condition and the WFP. Net CVP capacity is defined as the capacity available at load center and is calculated as the total CVP generated capacity minus transmission losses minus project use requirements. The minimum monthly net CVP capacity that was observed in the Base Condition was 926 megawatts (Mw), occurring during the month of September. Minimum monthly capacity values and selected statistics for the Base Condition simulation are shown in Table 4.7-4.

Page 4.7-8, the second paragraph is revised as follows:

Reduction in Annual Average CVP Energy Production - CVP powerplants produce energy for project use and commercial sales. Energy production could be reduced by the WFP, causing WAPA to either reduce surplus energy sales or increase energy purchases to meet its commitments. In either case, there is a definable economic cost but an ~~unidentifiable~~ undetermined environmental impact. The environmental impact is associated with the replacement energy produced by dirty sources. These dirty sources are generally identified as thermal powerplants burning some form of hydrocarbon fuel. A comparison of annual net CVP energy available at load center was performed using data from the Base Condition and the WFP. The analysis included the development of graphs, Exhibits 4.7-1 and 4.7-2, at the end of the section, showing the annual net CVP energy for each simulation.

Section 4.8, VEGETATION AND WILDLIFE

Pages 4.8-19 and 4.8-20, the footnotes of Tables 4.8-3 and 4.8-4 on are revised as follows:

Page 4.8-19, Table 4.8-3: Revised footnote 3 and 4

[3] Number of years during the 70-year record when the mean monthly river flows below Nimbus Dam are between 3,000 and 4,500 cubic feet per second (cfs), which is considered the range for "reasonable" ~~and "healthy"~~ to "maximum" growth of cottonwoods.

[4] Number of years during the 70-year record when the mean monthly river flows below Nimbus Dam are above 1,765 cfs, which is the minimum flow range for ~~"healthy" growth~~ maintenance of cottonwoods.

Page 4.8-20, Table 4.8-4: Revised footnote 3 and 4..

[3] Number of years during the 70-year record when the mean monthly river flows below the H Street bridge are between 3,000 and 4,500 cubic feet per second (cfs), which is considered the range for "reasonable" ~~and "healthy"~~ to "maximum" growth of cottonwoods.

[4] Number of years during the 70-year record when the mean monthly river flows below the H Street bridge are above 1,765 cfs, which is the minimum flow range for "healthy" growth "maintenance" of cottonwoods.

Table K-1 (flows from Nimbus Dam) and Table K-2 (flows at the H Street Bridge) are added to the Draft EIR.

Table K-1
WFP Impact on Riparian Vegetation in the Lower American River Below Nimbus Dam

Month [1]	Modeled Scenario	Number of Years of 70-year Record Within Specified Ranges [2]		% of Years Above Minimum Flow Range [5]
		# Years in Reasonable to Max Flow Range [3] (3,000-4,500 cfs)	# Years Above Minimum Flow Range [4] (2,000 cfs)	
March	Base	18	57	81%
	WFP	19	54	77%
April	Base	16	60	86%
	WFP	15	57	81%
May	Base	24	60	86%
	WFP	26	59	84%
June	Base	21	57	81%
	WFP	23	54	77%
July	Base	25	50	71%
	WFP	17	44	63%
August	Base	27	49	70%
	WFP	28	43	61%
September	Base	21	39	56%
	WFP	19	31	44%
October	Base	2	46	66%
	WFP	1	43	61%

1 The period from March through October is considered the cottonwood growing season.

2 Number of years during the 70-year record when the mean monthly river flows are within the specified ranges for cottonwoods.

3 Number of years during the 70-year record when the mean monthly river flows below Nimbus Dam are between 3,000 and 4,500 cubic feet per second (cfs), which is considered the range for "reasonable" to "maximum" radial growth of cottonwoods.

4 Number of years during the 70-year record when the mean monthly flows below Nimbus Dam are above 2,000 cfs, which is the minimum flow required to assure some cottonwood growth.

5 Percentage of years during the 70-year record when river flows are above the minimum flow range to assure some cottonwood growth (2,000 cfs).

Base Modeled predictions of 70-year record based on 1998 diversions and operating rules.
WFP Modeled predictions of 70-year record based on WFP conditions.

Source: EDAW, 1999.

Table K-2
WFP Impact on Riparian Vegetation in the Lower American River at H Street Bridge

Month [1]	Modeled Scenario	Number of Years of 70-year Record Within Specified Ranges [2]		% of Years Above Minimum Flow Range [5]
		# Years in Optimal Flow Range [3] (3,000-4,500 cfs)	# Years Above Minimum Flow Range [4] (1,765 cfs)	
March	Base	20	50	71%
	WFP	19	47	67%
April	Base	19	51	72%
	WFP	17	47	67%
May	Base	25	59	84%
	WFP	27	58	83%
June	Base	21	55	79%
	WFP	21	49	70%
July	Base	21	50	71%
	WFP	10	38	54%
August	Base	30	46	66%
	WFP	18	39	56%
September	Base	21	32	46%
	WFP	19	26	37%
October	Base	2	42	60%
	WFP	1	36	51%

[1] The period from March through October is considered the cottonwood growing season.

[2] Number of years during the 70-year record when the mean monthly river flows are within the specified ranges for cottonwoods.

[3] Number of years during the 70-year record when the mean monthly river flows below the H Street bridge are between 3,000 and 4,500 cubic feet per second (cfs), which is considered the range for "reasonable" to maximum" radial growth of cottonwoods.

[4] Number of years during the 70-year record when the mean monthly river flows below the H Street bridge are above 2,000 cfs, which is the minimum flow required to assume some cottonwood growth.

[5] Percentage of years during the 70-year record when river flows are above the minimum flow range to assure some cottonwood growth (2,000 cfs).

Base Modeled predictions of 70-year record based on 1998 diversions and operating rules.
WFP Modeled predictions of 70-year record based on WFP conditions.
n/c No change between Base and WFP conditions.

Source: EDAW, 1999.

Section 4.9, RECREATION

Page 4.9-54, the following information is added to the end of the section.

Summary

Water Forum signatories will work with their elected officials, CDPR and other agencies that have an interest in reservoir levels, such as Congress, USBR, California Department of Boating and Waterways and the Sacramento Area Flood Control Agency, to obtain at least $3,000,000 of new funding for improvements to Folsom Reservoir recreation facilities.[1]

Background

Historically, many Water Forum purveyors secured water rights prior to the construction of the Folsom Reservoir. After construction of the reservoir, USBR assumed responsibility for operating the reservoir to store and manage water for the operation of the CVP, among other purposes. The reservoir has historically held and released to CVP customers water that Water Forum purveyors were entitled to but had not diverted. As purveyors increase diversions in accordance with historic entitlements, the manner in which USBR operates the reservoir together with flood control operations will influence reservoir levels. For these reasons and because CEQA defines "impacts" and "effects" as "direct or primary effects which are *caused* by the project" (14 Cal. Code Regs. § 15358), some purveyors believe that reservoir declines are properly viewed as being caused by the lack of replacement water supplies for the Central Valley Project as senior water rights are exercised and CVP yield is required to be used for environmental purposes. Accordingly, these purveyors believe that CEQA mitigation for reservoir impacts is not a legally required purveyor responsibility. As described below, however, the Water Forum project will include measures that will tend to lessen the effect of the reduction in Folsom Reservoir levels that would occur in the future.

As noted in the DEIR, the Water Forum project includes measures that limit the extent of reservoir reductions by restricting diversions in dry years and imposing more extensive water conservation measures than would occur in the absence of the Water Forum Agreement. To help offset the effects of reservoir reductions that do occur, the Water Forum will work with other agencies that have an interest in reservoir levels, such as Congress, USBR, California Department of Boating and Waterways, and Sacramento Area Flood Control Agency, to obtain at least $3,000,000 of new funds for improvements to Folsom Reservoir recreation facilities. The CDPR is the agency responsible for managing the resources of Folsom Reservoir. Therefore, it is the appropriate agency to receive these funds and manage the recreational improvement projects.

The CDPR will develop a list of potential recreation improvement projects as part of the funding request. One type of project could be "mini-dikes," i.e., sculpted embankments within the lake bed to impound water for swimming use when reservoir levels are low. The design of the recreational improvements in the lake would also include design features for improving warm water fishery habitat, such as structural complexity for fish on the lake side of the mini-dike embankment, which would also support recreational fishing. Other projects could include, but are not limited to, those identified in the Draft EIR. The improvements are intended to help mitigate the anticipated loss of visitor days.

The USBR will contribute separate funding for an update by CDPR of the Folsom Lake State Recreation Area General Plan.

[1] New funding means funding Water Forum signatories are instrumental in obtaining that was not authorized, appropriated, or requested as of January 1, 2000.

Section 4.10, LAND USE AND GROWTH-INDUCING IMPACTS

Page 4.10-28, Table 4.10-4 was omitted from the Draft EIR. The table is revised and is included at the end of this section.

Section 5, ALTERNATIVES

Page 5-6, the first paragraph is revised as follows:

City of Roseville

The City of Roseville has rights to the tertiary treated effluent from the Regional Wastewater Treatment Plant on Booth Road in Roseville. Planned capacity of the treatment plant is 54 million gallons per day (mgd) and a portion of the reclaimed water is currently used in Roseville's existing reclaimed water system. ~~Roseville considered a project to replace its consumptive use of American River water. The project would involve construction of a pumping and conveyance system to transport up to 40,000 AF of reclaimed water upstream to be discharged to the American River at a point upstream of Nimbus Dam (Whitehead, pers. comm., 1997). The Roseville project is inconsistent with existing Regional Water Quality Control Board (RWQCB) standards for the Lower American River, and is considered a low-priority project in the near term (3 to 5 years).~~ Roseville is no longer considering a discharge to the American River.

Section 6, CUMULATIVE IMPACTS

Page 6-32, Impact 6.8-2 and the discussion are revised as follows. The same change is made on page 2-37 of Table 2-2, Summary of Project Impacts.

Impact **6.8-2** ***Special Status Species and Riparian Vegetation Associated with the Sacramento River and Sacramento-San Joaquin Delta.*** *Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that flows in the lower American River would be further reduced. However, during the critical growing season months of ~~April~~ March through July, the number of occurrences in which mean monthly flows of the lower American River would be within the minimum/optimal flow range of 1,300 to 4,000 cfs would vary by 3 or fewer years during the 70-year period of record, in comparison to base conditions. As a result, reduced flows under future cumulative conditions would not result in an adverse effect to the special-status species (including the Valley Elderberry Longhorn Beetle) that are dependent on riparian vegetation and backwater ponds associated with the Lower American River. This would be a* ***less-than-significant*** *future cumulative impact.*

Based on the future cumulative scenario evaluated for 2030, additional diversions and potential CVP operations would result in decreases in Sacramento River mean monthly flows. Compared to base conditions, average mean monthly flows of the Sacramento River would be reduced by approximately 3% (320 cfs), during the critical growing season months (~~April~~ March - July). During the remaining months of the growing season

(August - October) flows would be reduced, on average, by approximately 2% (170 cfs). As a result, mean monthly flows would not be reduced with sufficient magnitude and frequency to significantly alter existing riparian vegetation dependent on Sacramento River flows and Delta inflows. Because riparian vegetation would not be adversely affected and open water (river) habitat would be available, the special-status species dependent on such habitat would not be adversely affected. This would be a less-than-significant future cumulative impact.

Page 6-33, Impact 6.8-3 and the following discussion are revised as follows. The same change is made on page 2-38 of Table 2-2, Summary of Project Impacts

Impact **6.8-3** ***Vegetation Associated with Reservoirs.*** *Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that, in comparison to base conditions, mean monthly surface water elevations at Folsom, Shasta, and Trinity reservoirs would be reduced by less than 1% during the months of the growing season (March-October). Because the draw down zones at these reservoirs are vegetated with non-native plants that do not form a contiguous riparian community, minor fluctuations in surface water elevations would not adversely affect important habitat values at these reservoirs. Consequently, this would be a* ***less-than-significant future cumulative impact****.*

Based on the future cumulative scenario, additional diversions and potential CVP operations would result in more frequent declines in the water surface elevation of Folsom, Shasta, and Trinity reservoirs. However, during the months of the growing season (March-October) mean monthly surface water elevations at Folsom, Shasta, and Trinity reservoirs would be reduced by less than 1%. Compared to base conditions, future month-end surface water elevations would be reduced by approximately ~~3~~ 4 feet at Folsom and Shasta reservoirs and by approximately ~~6~~ 8 feet at Trinity Reservoir. Because the draw down zones at these reservoirs are vegetated with non-native plants that do not form a contiguous riparian community, minor fluctuations in surface water elevations would not adversely affect important habitat values at these reservoirs. In addition, Keswick and Whiskeytown Reservoirs would continue to operate as regulating reservoirs for the larger upstream dams, so their pattern of elevation changes would not change under future cumulative conditions. This would be considered a less-than-significant cumulative impact.

Page 6-34, Impact 6.9-3 and the following discussion are revised as follows. The same change is made on page 2-43 of Table 2-2, Summary of Project Impacts

Impact **6.9-3**

Sacramento River and Sacramento-San Joaquin Delta Recreation Opportunities Under Future Cumulative Conditions. *Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that during the critical ~~growing~~ recreation season months of April through July mean monthly flows in the Sacramento River would be reduced by approximately 3%, in comparison to base conditions. Flows would not be reduced with sufficient magnitude and frequency to adversely affect recreational opportunities associated with the Sacramento River and Sacramento-San Joaquin Delta. This would be a* ***less-than-significant future cumulative impact****.*

Page 6-37, Impact 6.11-1 discussion is revised as follows:

~~Based on the future cumulative scenario evaluated for 2030, additional diversions and potential CVP operations would result in decreases in Lower American River mean monthly flows. Compared to base conditions, the number of occurrences in which mean monthly flows of the Lower American River would be reduced below the minimum threshold necessary for the maintenance of riparian vegetation (1,765 cfs) would increase by approximately 20% or more, during the critical growing season months (April - July). In addition, the number of occurrences in which future mean monthly flows would be reduced below the minimum threshold necessary for backwater pond recharge (1,300 cfs) would increase by more than 30%. Reduced flows under future cumulative conditions could result in an adverse effect to riparian vegetation and backwater ponds within the Lower American River corridor. Because discernible aesthetic impacts along river corridors are primarily associated with adverse impacts to localized vegetation, the aesthetic quality of the Lower American River, under future cumulative conditions, could be adversely affected. Because the WFP would contribute to this cumulative impact, this would be a **significant** future cumulative impact.~~

Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that flows in the lower American River would be further reduced. However, during the critical growing season months of April through July, the number of occurrences in which mean monthly flows of the lower American River would be within the minimum/optimal flow range of 1,300 to 4,000 cfs would vary by 3 or fewer years during the 70-year period of record, in comparison to base conditions. As a result, reduced flows under future cumulative conditions would not result in an adverse effect to the special-status species (including the Valley Elderberry Longhorn Beetle) that are dependent on riparian vegetation and backwater ponds associated with Lower American River. This would be a less-than-significant future cumulative impact.

Section 8, GLOSSARY AND LIST OF ACRONYMS

The following acronym is added to the Draft EIR.

SRCSD.....Sacramento Regional County Sanitation District

Section 9, REFERENCES AND PERSONAL COMMUNICATIONS

The following references are added to the Draft EIR.

CDFG. 1979. Project AFS-17, American Shad Study. Final Report, Job Number 5: American Shad Management Plan for the Sacramento River Drainage. State of California Department of Fish and Game. Anadromous Fish Conservation Act.

Department of Water Resources. 1998. The California Watr Plan Update, Bulletin 160-98. January 1998.

King, Jon R. 1999. Assessment of Wintering Bald Eagles at Folsom Reservoir, California. Point Reyes Bird Observatory

Snider, B., R. Titus and B. Payne. 1998. Lower American River Emigration Survey: October 1995-September 1996. California Department of Fish and Game, Environmental Services Division, Stream Evaluation Program. September 1998.

6. SUPPLEMENTAL CUMULATIVE IMPACTS ANALYSIS

6.1 Introduction to the Supplemental Cumulative Impacts

To ensure consideration and understanding of the full range of potential cumulative impacts associated with the Water Forum Proposal (WFP) and in response to comments on the Draft Environmental Impact Report (Draft EIR), additional modeling has been performed to assess the cumulative effects under an alternative scenario for the WFP cumulative condition. As explained in the WFP Draft EIR, the cumulative impacts analysis considers the combined effects of the proposed project, other past and present projects, and "reasonably foreseeable probable future projects" (State CEQA Guidelines §15130). In the case of the WFP Draft EIR this involved attempting to foresee related projects occurring over the long-term. The Water Forum Proposal would be implemented over the next three decades. During this same time period, it is expected that many other actions will be implemented that will affect the environmental conditions of the project's direct and indirect study areas.

The WFP Draft EIR noted that a large degree of speculation and uncertainty exists when attempting to characterize the study area 30 years into the future, particularly recognizing the dynamic nature of decisions about water supply and resource protection in the Sacramento and San Joaquin River system. Therefore, it is difficult to define any one scenario as the reasonably foreseeable probable future. Nonetheless, to fulfill the requirements of State CEQA Guidelines §15130, to address future cumulative conditions, the programmatic analysis for the WFP used one scenario as a good faith effort to assess future cumulative potential effects. The scenario was developed after a year of extensive discussions between the Water Forum technical consultants and the U.S. Bureau of Reclamation (USBR) and U.S. Fish and Wildlife Service (USFWS). The WFP Draft EIR defined the cumulative condition as the WFP and three other reasonably foreseeable probable future actions or sets of actions that could be quantified, including:

Increased Trinity River Flows. For modeling and analysis purposes, the WFP Draft EIR assumed that Trinity River flows will be increased from existing levels to 390,000 acre-feet per year in drier years to 750,000 acre-feet per year in wetter years, thereby reducing exports to the Sacramento River.

East Bay Municipal Utility District (EBMUD) Supplemental Water Supply Project. For modeling and analysis purposes, diversions of up to 112,000 acre-feet per year of American River water subject to deficiencies imposed by the Central Valley Project (CVP).

Increased Water Demands. For modeling and analysis purposes, the WFP Draft EIR assumed that increased water demands by State Water Project (SWP) contractors, CVP contractors, and other Sacramento Valley water users would occur. Increased demand volumes are based on projections by USBR and the California Department of Water Resources (DWR).

In light of the uncertainty concerning probable future conditions in the Sacramento and San Joaquin River systems and in response to comments on the WFP Draft EIR, an alternative cumulative condition has been prepared and analyzed to provide the reader with additional information regarding the potential cumulative effects of the WFP. While it is impossible to predict whether either set of cumulative conditions will be realized in 2030, the cumulative condition presented in the WFP Draft EIR and the alternative cumulative condition analyzed below both reflect reasonable projections of probable future conditions.

The analysis was conducted with the intent to illustrate the potential impacts collectively associated with the differences between the alternative cumulative condition and the baseline conditions and also to identify differences between the cumulative condition presented in the WFP Draft EIR and the alternative cumulative condition. While the supplemental analysis focused on the evaluation of potential impacts to those resources hydrologically affected by the alternative cumulative conditions, several resources were not affected by them. All resources, however, are addressed in this supplemental analysis.

The impacts to all resources identified in this supplemental cumulative analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

6.1.1 ALTERNATIVE CUMULATIVE CONDITIONS

The alternative future conditions incorporated into the supplemental cumulative analysis included the following:

- a diversion point for East Bay Municipal Utility District (EBMUD) at the Folsom South Canal, instead of the joint project location near the mouth of the Lower American River;
- the application of revised Reclamation allocation guidelines for the CVP; and
- other updates and refinements.

EBMUD DIVERSION

The WFP Draft EIR included a projected 2030 diversion by EBMUD of 112,000 AFA located near the mouth of the Lower American River. This assumption was consistent with the proposed joint project included in the East Bay Municipal Utility District - Supplemental Water Supply Project, Volume 1, Draft Environmental Impact Report/ Environmental Impact Statement (October 1997). At the time, the joint project, so named since it was being developed jointly by EBMUD, Sacramento County, and the City of Sacramento was recognized as an alternative diversion and pumpback option that would permit diversions from the Lower American River near the mouth and conveyance of water to the Fairbairn Water Treatment Plant and to the Folsom South Canal. While reasonable to include as a modeling assumption at the time, it was recognized in the WFP Draft EIR that a number of outstanding issues precluded its certainty.

In response to comments on the WFP Draft EIR and to account for the possibility that a diversion would occur at the Folsom South Canal rather than near the mouth of the American River, an alternative EBMUD diversion was analyzed. For the supplemental cumulative impacts analysis, the alternative diversion point analyzed for EBMUD was the Folsom South Canal. Such diversions by EBMUD would be conditioned upon specified minimum flow criteria, which constrains EBMUD's diversions from the Lower American River based on the 1990 decision of presiding Judge Richard Hodge in the Environmental Defense Fund et al., v. EBMUD (E.D. Cal Case No. 425,955) decision (known as the "Hodge" criteria). The "Hodge" criteria were applied in the simulation modeling as set forth in the decision:

October 15th through February: 2,000 cfs
March through June: 3,000 cfs
July through October 15th: 1,750 cfg

The Hodge Decision limits use of EBMUD's diversion to meeting demands for the District's customers within the district. To simulate this limitation on the diversion, a rule curve representing EBMUD's monthly operation of its Mokelumne River facilities was developed from simulation results provided in the October 1997 EBMUD Draft EIR/EIS. Implementing a rule curve for Total System Storage (TSS) provides a means of estimating EBMUD's American River diversion solely for use within the District's boundary based on simulated Mokelumne River operations without an American River diversion.

The maximum monthly TSS for the simulated period of record was obtained from each of these simulations. These 12 monthly values defined the monthly rule curve. Utilizing the Mokelumne River simulation results for future conditions without an EBMUD diversion as a basis, when water was available for diversion from the American River was limited by the difference between the simulated TSS and the rule curve.

The EBMUD diversion, consistent with its CVP contract for up to 150,000 AFA, was subject to the "Hodge" criteria, CVP M&I allocation guidelines (as discussed below) and EBMUD's available system storage (difference between a total system storage [TSS] Rule Curve and EBMUD's actual total system storage as simulated without an American River diversion). The modeling of this diversion point showed that in about 25% of the years, EBMUD would receive approximately 25,000 AF. In about 40% of the years, EBMUD would not receive any water from the Folsom South Canal. While EBMUD could receive a maximum of about 100,000 AF, on an average annual basis they would receive about 17,000 AF. This alternative diversion point for EBMUD was included in response to comments received on the WFP Draft EIR. It represents a possible EBMUD future diversion from the American River, but is no more certain than the diversion location modeled in the WFP Draft EIR (i.e., near the mouth of the Lower American River). Details of the supplemental cumulative impacts analysis modeling are provided in Appendix N to the Final EIR.

CVP ALLOCATION GUIDELINES

The WFP Draft EIR included USBR CVP allocation guidelines determined through extensive consultation with USBR staff during 1998. The applied CVP allocation guidelines were mutually agreed upon by USBR's Division of Planning and the Water Forum. The CVP allocation guidelines reflect USBR's planning policy regarding USBR's rules for designating deliveries to CVP customers (e.g., agricultural, M&I, and refuges) defined as decreasing percentages from full delivery allotments. At the time that the WFP Draft EIR was being completed and readied for release, use of the available CVP allocation guidelines represented a reasonable assumption of USBR allocation policy.

Since the release of the WFP Draft EIR, USBR has revised its CVP allocation guidelines. In fact, the Supplemental Programmatic Environmental Impact Statement for the CVPIA (released in the summer of 1999) included the revised CVP allocation guidelines as part of its hydrologic modeling. Given that these CVP allocation guidelines represent the latest USBR "policy" regarding anticipated allocations, they were used in the supplemental cumulative impacts analysis.

Key differences between the two versions of the CVP allocation guidelines lie in the magnitude and frequency with which deficiencies are imposed to the deliveries to either CVP agricultural or M&I customers or refuges. In all cases, allocations to refuges are greater under the revised guidelines than those under the previous guidelines. Conversely, allocations to agricultural and M&I customers are lower and at certain delivery levels, allocations to agricultural customers are reduced to zero.

OTHER UPDATES AND REFINEMENTS

In addition to the alternative cumulative conditions noted above, the Water Forum has taken the opportunity provided through the supplemental cumulative impacts analysis, to update and refine certain hydrologic modeling assumptions as well as the model itself (i.e., PROSIM). This update and refinement of the modeling assumptions, relative to that used in the WFP Draft EIR included: 1) revision to estimated future demands of Contra Costa Water District (i.e., from 145,000 AFA to 195,000 AFA plus their water rights in the Delta which vary depending on consumptive use); 2) a correction to a misprint in the Department of Interior's Final Administrative Proposal for the Management of Section 3406 (b)(2) Water, dated November 20, 1997 regarding the flow release-storage relationship for Folsom Reservoir; and 3) updating the PROSIM tool itself, from PROSIM 99 which represented a pre-release version of PROSIM 99.0, to the use of PROSIM 99.0. Specific details associated with the PROSIM inputs in the revised cumulative condition model run are provided in Appendix N of the Final EIR.

6.1.2 CONSISTENT HYDROLOGIC MODELING ASSUMPTIONS

Two potential policy changes that could affect future conditions were identified in comments received for the WFP Draft EIR and were thoroughly reviewed before determining whether they should be included in the supplemental cumulative impacts analysis. They are:

- revised minimum instream flows for the Trinity River; and
- CVPIA section 3406 (b)(2) actions both upstream and in the Delta.

The Trinity River Flow Evaluation, Final Report, released by the USFWS in July, 1999 recommended a variable release pattern of 369,000 AFA to 815,000 AFA. However, the flow pattern of 390,000 AFA to 750,000 AFA, at this point, remains the operative future flow pattern of USBR for the Trinity River as recently confirmed in its Supplemental Programmatic Environmental Impact Statement for the CVPIA (released in June 1999) and in the Programmatic Environmental Impact Statement/Environmental Impact Report for CALFED's Bay-Delta Program (released in June 1999). The supplemental cumulative analysis, therefore, retains the variable 390,000 AFA to 750,000 AFA future flow pattern for the Trinity River consistent with that used in the WFP Draft EIR.

The final decision on the future minimum instream flows for the Trinity River ultimately rests with the Department of the Interior. Accordingly, the use of the 390,000 AFA to 750,000 AFA minimum instream flow for the Trinity River in this Final EIR should not imply that the Water Forum takes a position on this issue; rather, it denotes that a reasonably foreseeable flow standard was applied based on the above documents.

Comments on the WFP Draft EIR also suggest that future conditions may change as a result of recent federal court decisions. The United States District Court issued a preliminary injunction in San Luis & Delta Mendota Water Authority v. United States of America E.D.Cal. (March 19, 1999) CV-F-97-6140, CV-F-98-5261, blocking implementation of the *Department of Interior's Final Administrative Proposal for the Management of Section 3406 (b)(2) Water*, on the basis that the accounting procedures used by USBR in calculating the dedicated 800,000 AFA of CVP yield for section 3406 (b)(2) purposes were inadequate. The court decision does not directly address the appropriateness of either upstream or Delta actions, but rather the manner with which the dedicated 800,000 AFA of CVP yield is accounted. While the decision requires USBR to re-calculate the allocation of CVP yield, it is reasonable to assume both upstream and downstream actions identified in section 3406 (b)(2) in the future. USBR has directed on numerous occasions the inclusion of section 3406 (b)(2) Delta actions in future cumulative condition modeling and it is the best available information that USBR still voluntarily attempts to

meet the requirements of the Delta actions. The supplemental cumulative impacts analysis, therefore, retains both the section 3406 (b)(2) upstream and Delta actions, consistent with that used in the WFP Draft EIR.

6.1.3 SCOPE OF SUPPLEMENTAL CUMULATIVE ANALYSIS

The supplemental cumulative analysis involved modeling of the alternative cumulative conditions in the year 2030. Accordingly, the cumulative condition model run (i.e., 2030 with WFP) was refined based on updated information (see Section 6.1.2, Alternative Cumulative Conditions). The supplemental analysis involved a comparison of the alternative cumulative conditions model run and the existing Base Condition from the WFP Draft EIR. The Base Condition did not change. The thresholds of significance used for the supplemental cumulative analysis are the same as those used for the cumulative impacts analysis in the WFP Draft EIR. Also, mitigation measures addressed in the cumulative impacts analysis in the WFP Draft EIR are fully applicable to impacts identified in this supplemental analysis.

It is important to note that the Water Forum Final EIR does not serve as the environmental document for the noted future conditions. The possible impacts associated with each of these actions would be evaluated in project-specific environmental documentation and, where appropriate, alternatives and mitigation measures recommended to reduce significant effects would be identified. Also, as mentioned previously, the supplemental cumulative impacts analysis does not replace the original cumulative analysis in the WFP Draft EIR; rather, it illustrates the potential cumulative impacts under another set of reasonable probable future conditions.

6.1.4 SUPPLEMENTAL CUMULATIVE ANALYSIS OF RESOURCES

The analysis presented in this supplemental cumulative evaluation is based on the best available up-to-date information and a reasonable set of assumptions as to how the system would be operated under these alternative cumulative conditions. Similar to the original cumulative impacts analysis in the WFP Draft EIR, it assumes that no additional water supply would be developed. The impacts to all resources identified in this supplemental cumulative analysis either do not differ at all or do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

6.2 CUMULATIVE GROUNDWATER IMPACTS

This section provides a discussion of the cumulative impacts to groundwater resources that could occur in the future under an alternative future cumulative scenario. It is assumed under this supplemental cumulative impacts analysis that the WFP would be in place as well as other reasonably foreseeable future actions. Because groundwater pumping within Sacramento County does not change between the two comparative future conditions, the impacts identified in this supplemental analysis do not differ at all from the impacts identified in the cumulative impact analysis in the WFP Draft EIR. In the future, it is expected that groundwater use would continue throughout Sacramento County as defined for the Sacramento North, South Sacramento, and Galt Areas. While groundwater levels are expected to continue to decline, ultimate stabilization of the water table is projected under the sustainable yield recommendations of the WFP. Groundwater management throughout Sacramento County would be facilitated through maintaining basin-specific sustainable yields and through implementation of conjunctive use programs or similar efforts designed to maximize the efficient use of available surface water and groundwater supplies.

While the alternative future cumulative scenario, as modeled through PROSIM, could result in changes to groundwater accretions and depletions, no changes were made to this PROSIM parameter in the supplemental analysis. The accretions and depletions input parameters used in the cumulative impacts analysis in the WFP Draft EIR were maintained for the supplemental analysis because any changes under this alternative condition would be immeasurable, relative to the cumulative impacts evaluation in the WFP Draft EIR. The impacts to groundwater resources identified in this supplemental analysis do not differ at all from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.2-1**

Groundwater Quality. *Because groundwater pumping within Sacramento County does not change between the two comparative future conditions, the impacts to groundwater quality identified under this alternative future cumulative condition, would represent* ***a less-than-significant impact.*** *The impacts to groundwater quality identified in this supplemental analysis do not differ at all from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Lowering of groundwater levels in the South Sacramento and Galt areas is associated with the up-rising of poorer quality water from the lower aquifer zone which then mixes with the water of the shallow aquifer zone. For the Sacramento North Area, no direct relationship between groundwater level decline and groundwater quality was observed from the available data. Thus, additional water level declines are not likely to significantly affect regional groundwater quality in the Sacramento North Area. In the South Sacramento and Galt areas, both manganese and arsenic have recently shown significant increases in average concentrations corresponding to a decline of 80 feet or more from pre-development conditions. It is anticipated that elevated levels of manganese and iron may occur in groundwater but at levels that would constitute an aesthetic, rather than health-related effect. Arsenic levels are not expected to exceed current Title 22 standards. No standards for radon have yet been established. The impacts to groundwater quality identified in this supplemental analysis do not differ at all from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.2-2**

Movement of Groundwater Contaminants. *Under this alternative future cumulative condition, movement of groundwater contaminants would not increase beyond that described for the WFP. This would be a* ***less-than-significant cumulative effect****. The impacts to groundwater quality identified in this supplemental analysis do not differ at all from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

IGSM results showed that the rate of groundwater movement at each of the groundwater contamination sites increases with the additional groundwater level declines for the sites in the South Sacramento Area. The highest groundwater migration rate with the implementation of the recommended sustainable yields under the WFP, 662 feet/yr, is projected to occur at the Army Depot site located in the South Sacramento Area. This, however, would represent an increase in the rate of migration resulting from the WFP of 86 feet/yr. This increase in migration rate would not be instantaneous and would occur after groundwater levels have declined and stabilized. As such, the increase in migration rate that may occur each year over 20 to 30 years would be less than 5 feet/year for the Union Pacific site. As a result, no substantial increase in the rate of groundwater contaminant movement is expected, relative to the Base Condition. The impacts to groundwater contaminants identified in this supplemental analysis do not differ at all from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.2-3** ***Land Subsidence.*** *Under this alternative future cumulative condition, land subsidence would not occur beyond that described for the WFP. This would be a* ***less-than-significant impact.*** *The impacts to land subsidence identified in this supplemental analysis do not differ at all from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Throughout Sacramento County, the hydrogeologic substrata is not conducive to significant land subsidence. This has been supported by historic data relating observed land subsidence to past groundwater declines. While the WFP is anticipated to result in estimated land subsidence of generally less than one-half foot, the cumulative effect of all withdrawals from the existing groundwater aquifer on projected land subsidence will not differ measurably, relative to the Base Condition. Overall, the small magnitude of estimated land subsidence coupled with the fact that such estimates are projected over several decades, supports the conclusion that as a potential cumulative impact, land subsidence would be less than significant. The impacts to land subsidence identified in this supplemental analysis do not differ at all from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.2-4** ***Efficiency of Wells.*** *Under this alternative future cumulative condition, efficiency of wells would not change beyond that described for the WFP. This would be a* ***less-than-significant impact****. The impacts to well efficiency identified in this supplemental analysis do not differ at all from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Under this alternative future cumulative condition, anticipated lowering of groundwater levels, relative to the Base Condition, may result in reduced efficiency of existing groundwater wells. Groundwater levels are anticipated to continue to decline and ultimately stabilize under the sustainable yield recommendations of the WFP. This would include the need to: 1) deepen many existing wells, and 2) increase pumping at the deepened wells. Recognized as an economic rather than environmental impact, where the economic effects would exist as increased costs to well users, well efficiency from a cumulative environmental perspective would be a less-than-significant impact. The impacts to well efficiency identified in this supplemental analysis do not differ at all from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

6.3 CUMULATIVE WATER SUPPLY IMPACTS

The supplemental cumulative analysis is based on a set of alternative cumulative future conditions throughout the CVP/SWP, as described in Section 6.1.2, Alternative Cumulative Conditions. As an alternative future cumulative scenario, the supplemental analysis still includes implementation of the WFP and other reasonably foreseeable future actions. The analysis does not assume any development of additional Sacramento River supplies because no specific proposals are available. Under this set of alternative conditions, the analysis indicates that annual deliveries to CVP and SWP customers could be reduced in the future, relative to current conditions. Annual delivery shortfalls could be more frequent in the future as a result of the increase in competing demands on the system (i.e., consumptive uses and increasing environmental instream requirements). Accurate predictions at this time are not feasible, owing to the uncertainty of future operations. Current commitments, however, made by USBR and various public trust resource agencies in reconsidering and re-assessing the coordinated operations of the CVP as well as its implications on current and future ESA requirements, will dictate how the system will be ultimately allocated for future competing resource uses. The impacts to water supply identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

SWP contract demands associated with future 2030 development will be higher than current demands by approximately 600,000 AF on an average annual basis. Consequently, one would expect to see, on average, greater SWP deliveries under alternative cumulative conditions than the Base Condition. Future level cumulative condition hydrologic modeling conducted under the supplemental analysis indicates that reductions of SWP diversions are likely to occur in the driest years.

CVP contract demands associated with future development will also be higher than current demands, with average annual CVP delivery also higher, relative to today's condition. However, due to the increased overall demands on the system, it is likely that lower deliveries to all categories of CVP contractors could occur in the future, and be most significant in the dry and driest years. This would be particularly pronounced on agricultural contractors who, in the future, and depending on USBR's ultimate decision regarding their deficiency criterion, may experience significant shortfalls in deliveries, relative to current conditions.

Impact **6.3-1**

Decrease in Deliveries to SWP Customers. *Implementation of this future cumulative condition could result in increased deliveries to SWP customers of ranging between 20,000 and 1,245,000 acre-feet in 48 years; and, decreased water deliveries to SWP customers in 21 years of the 70-year record, ranging between 45,000 and 1,210,000 acre-feet. Average annual SWP deliveries would increase by about 375,000 acre-feet. The delivery reduction in 21 years would represent a* ***significant impact.*** *The impacts to water supply identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

SWP customers receive deliveries from the Feather River and the Delta. The Feather River service area customers received full deliveries (no deficiencies) in all years under the future cumulative and Base Condition simulations. Therefore, there are no impacts to SWP customers in this service area.

SWP customers dependent on water supplies from the Delta would, however, be subject to delivery reductions resulting from CVP/SWP operations under this alternative future cumulative condition. Although the PROSIM modeling does not substitute deliveries to WFP purveyors from the SWP, the change in surplus Delta inflow caused by future cumulative conditions would result in water availability differences to SWP contractors. Deliveries to SWP contractors are not distinguished by contract type in PROSIM, therefore, impacts reported are aggregate reductions in deliveries. Modeling results for the supplemental cumulative impacts analysis suggest that deliveries to the SWP will be significantly reduced during 21 years in the future when compared on a year to year basis with the Base Condition. This comparison, however, masks the fact that the SWP's increased delivery in one year can directly affect the SWP's ability to meet its demands in a succeeding year. Overall (annual average of 69-year record) the SWP would deliver about 375,000 acre-feet more water under this future cumulative condition when compared with the Base Condition. The significance criteria which identifies any yearly decrease as an impact does, nevertheless, identify a significant impact to SWP water users. The impacts to water supply identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.3-2** ***Decrease in Deliveries to CVP Customers.*** *Implementation of this future cumulative condition could result in CVP water delivery increases ranging up to 610,000 acre-feet in 40 years of the 70-year record; and, decreases between 25,000 and 525,000 acre-feet in 29 years of the 70-year record. Average annual CVP deliveries would increase by about 35,000 acre-feet. The delivery reduction in 29 years would represent a* ***significant impact****. The impacts to water supply identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Discussions of the effects of this alternative future cumulative condition on CVP deliveries focuses only on the overall delivery changes to the CVP as a whole. The inability of USBR to meet all of its obligations in this future cumulative condition, evidenced by an annual Sacramento River water supply deficit of about 55,000 acre-feet during the critical dry period, obscures identification of impacts to individual contractors. It is only appropriate to disclose that there would be less water delivered to CVP contractors, compared to the Base Condition, in 42% of the years despite the fact that CVP demands would increase in the future. In the 58% of years that deliveries increase, the change is largely caused by the growth in water demands. Reductions in deliveries would be a significant impact. The impacts to water supply identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

6.4 CUMULATIVE WATER QUALITY IMPACTS

Under an alternative future cumulative condition, which includes the WFP and other reasonably foreseeable future system-wide actions (e.g., 2030 out-of-basin CVP/SWP demands, increased Sacramento Valley demands, and increased Trinity River flows), changes in water quality could occur in waterbodies of both the direct and indirect effect study areas. Seasonal impacts to water quality could occur as a result of increased surface water diversions and modified CVP operations that would result in lower reservoir storage and river flows. Lower volumes of water in both Folsom Reservoir and the Lower American and Sacramento rivers would provide less dilution for future levels of nutrient, pathogen, TDS, TOC, and priority pollutant loadings, which are anticipated to increase relative to existing levels due to planned urban growth within the region. Reduced Delta inflows could affect various water quality parameters within portions of the Delta.

A review of specific hydrologic modeling output (lower Sacramento River flows at Freeport) from the supplemental cumulative impacts analysis confirms that hydrologically, the change in river flows, relative to the Base Condition, would be minimal (generally less than a 3% reduction in 70-year average monthly flows). The impacts to water quality identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

This section provides a discussion of the potential water quality impacts that could occur in Folsom Reservoir, Lake Natoma, the Lower American River, the Sacramento River and the Delta under an alternative future cumulative condition, relative to existing conditions.

Impact **6.4-1**

Lower American River and Folsom Reservoir Water Quality. *Under this alternative future cumulative condition, which includes the WFP and other reasonably foreseeable future system-wide actions (e.g., 2030 out-of-basin CVP/SWP demands, increased Sacramento Valley demands, and increased Trinity River flows), Folsom Reservoir storage and Lower American River flows would be reduced more frequently and/or by greater magnitudes compared to that which would occur due to the WFP alone. Constituent loading to these waterbodies also would be expected to increase somewhat in the future, relative to existing conditions, but such increases will be minimized by project-level urban runoff and stormwater discharge mitigation measures that will be required for planned growth to occur. With the exception of water temperature (see Section 6.5.3), program-level assessment indicated that any impacts to water quality from reduced dilution and increased constituent loading would be minor, and would not be expected to cause State or federal water quality standards, objectives or criteria to be more frequently exceeded, relative to existing conditions. This would be a* ***less-than-significant cumulative impact.*** *The impacts to Lower American River and Folsom Reservoir water quality identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

The primary water quality parameter anticipated to be affected in Folsom Reservoir, Lake Natoma, and the Lower American River under this alternative future cumulative condition is water temperature. For a detailed discussion of cumulative temperature-related impacts in these waterbodies under this alternative future condition, see Section 6.5, Fisheries Resources and Aquatic Habitat.

Levels or concentrations for other water quality parameters of interest such as nutrients, pathogens, TDS, TOC, turbidity, and priority pollutants (e.g., metals, organics) would not be expected to be altered substantially, if at all, by reductions in Folsom Reservoir storage or Lower American River flows (i.e., dilution capacity), relative to existing conditions. The changes in reservoir storage and river flows under this alternative future cumulative condition would not differ substantially from that due to the additional diversions under the WFP alone. This alternative future cumulative condition would have little effect on seasonal volumes of water maintained in Lake Natoma.

Additional loading of constituents could potentially degrade water quality. Future increases in constituent loading will be minimized by project-level urban runoff and stormwater discharge mitigation measures that will be required for planned growth to occur. In addition, these waterbodies do not directly receive municipal wastewater discharges; hence, loading from this source would not change in the future. Hence, this alternative

future cumulative condition would not be expected to regularly cause substantial degradation of existing water quality in these waterbodies, nor would it be expected to cause State or federal water quality standards, objectives or criteria to be more frequently exceeded, relative to existing conditions.

Impact **6.4-2** ***Sacramento River Water Quality.*** *Under this alternative future cumulative condition, which includes the WFP and other reasonably foreseeable future system-wide actions (e.g., 2030 out-of-basin CVP/SWP demands, increased Sacramento Valley demands, and increased Trinity River flows), Sacramento River flows would be reduced more frequently and/or by greater magnitudes compared to that which would occur due to the additional diversions under the WFP alone. Constituent loading to the Sacramento River also would be expected to increase in the future, relative to existing condition. Future project-level water quality mitigation that will be implemented as urban growth occurs (i.e., mitigation measures to minimize additional loading from urban runoff and stormwater and effluent discharges) and ongoing water quality management plans and programs are expected to prevent State and federal water quality standards, objectives and criteria from being exceeded on a more frequent basis than currently occurs. However, substantial uncertainty exists with regard to seasonal changes in Sacramento River flow, constituent loading, and the extent and effectiveness of project-level water quality mitigation and management measures in the future, all of which are beyond the Water Forum's control. Because the potential for degradation of water quality in the future depends on uncertain future policy decisions and actions, this would be a* ***potentially significant impact.*** *The impacts to Sacramento River water quality identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Seasonal reductions in Sacramento River flows are anticipated to occur as a result of the additional surface water diversions under the WFP along with other reasonably foreseeable future system-wide actions (e.g., 2030 out-of-basin CVP/SWP demands, increased Sacramento Valley demands, and increased Trinity River flows). Such flow reductions, relative to existing conditions, could cause additional warming in various reaches of the Sacramento River, relative to higher flow conditions, when ambient air temperatures are high (i.e., during the summer and fall months). Conversely, measurable temperature changes would generally not be expected to occur in the Delta. For a detailed discussion of cumulative temperature-related impacts in the Sacramento River under this alternative future condition, see Section 6.5.3, Fisheries Resources and Aquatic Habitat.

The flow reductions expected to occur in the Sacramento River under this alternative future cumulative condition would reduce the dilution capacity of the river which, in turn, could result in elevated levels of certain constituents such as nutrients, pathogens, TDS, TOC, turbidity, and priority pollutants (e.g., metals, organics). However, river flow reductions of sufficient magnitude to cause measurable increases in various water quality constituents for a given rate of loading would be expected to occur infrequently. Higher rates of effluent discharge, urban runoff, and urban stormwater discharges to the Sacramento River would be expected to result from the planned development in the future that would be facilitated, in part, by the increased water supply made available by the WFP. However, increases in constituent loading are anticipated to be minimized by project-level urban runoff and stormwater and effluent discharge mitigation measures that will be required for planned growth to occur. Moreover, a number of regional plans and programs to address large-scale cumulative water quality impacts are in place or have recently been completed. Such plans/programs include, but are not limited to, the following:

- CALFED
- Sacramento River Coordinated Monitoring Program
- Sacramento River Watershed Program
- Sacramento County Stormwater Management Plan
- Triennial Review and Update of the Central Valley RWQCB Basin Plan
- NPDES Permitting Program
- CVRWQCB Ambient Monitoring Studies
- CVRWQCB Sacramento River Watershed Management Initiative
- Interagency Ecological Program Monitoring
- U.S. EPA Regional Environmental Monitoring and Assessment Program
- USGS Sacramento River Trace Metals Transport Studies
- USGS Sacramento River Basin National Water Quality Assessment Program
- SCRSD and EPA's Sacramento River Mercury Control Planning Project
- SWRCB Toxic Substances Monitoring Program
- USBR Upper Sacramento River Water Quality Monitoring Program
- DWR Municipal Water Quality Investigations Monitoring Program
- Cal EPA Department of Pesticide Regulation's Rice Pesticides Program
- 1995 Bay/Delta Water Quality Control Plan
- San Francisco Estuary Institute's Regional Monitoring Program for Trace Substances
- miscellaneous other watershed management plans and monitoring programs

Future actions implemented under the plans and programs identified above are anticipated to prevent significant cumulative impacts to Sacramento River and Delta water quality. However, substantial uncertainty exists with regard to seasonal changes in future Sacramento River flow and constituent loading, the extent and effectiveness of ongoing and future water quality management plans/programs and their actions, and the effectiveness of future project-level water quality mitigation measures associated with planned growth. Because of this extensive uncertainty, a definitive cumulative water quality impact determination cannot be made for the Sacramento River or Delta, based on available information. Although the actions anticipated to result from the numerous water quality monitoring and management plans/programs, coupled with project-specific mitigation measures that will be implemented as growth occurs, are anticipated to keep Sacramento River and Delta water quality changes to a minimum, the potential for water quality degradation in these waterbodies does exist. The realization of such impacts thus depends on uncertain future policy decisions and actions beyond the Water Forum's control. The impacts to Sacramento River water quality identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

6.5 CUMULATIVE FISHERIES RESOURCES AND AQUATIC HABITAT IMPACTS

This supplemental cumulative impacts analysis is based on a set of alternative future cumulative conditions throughout the CVP/SWP, as described in Section 6.1.2, Alternative Cumulative Conditions. As an alternative future cumulative scenario, the supplemental analysis still includes implementation of the WFP and other future, system-wide diversion projects. The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Regarding the use of modeling output, it should be noted that the comparisons made under each numbered impact in this section are comparisons between the supplemental future cumulative condition (also referred to as the "2030 w/WFP" within this section) and existing conditions (also referred to as the "Base Condition"). For the purposes of this assessment, USBR's proposed temperature control device (TCD) for the urban water intake at Folsom Dam was included in the "2030 w/WFP" simulation, but not in the Base Condition simulation. This was done because the TCD is a reasonably foreseeable action that is expected to be in-place before Water Forum diversions increase to the levels modeled under the 2030 w/WFP, and because it does not physically exist today (i.e., is not a part of the Base Condition) or at the time of issuance of the NOP. All modeling output supporting the analysis contained in this section are provided in Appendix N.

FOLSOM RESERVOIR

COLDWATER FISHERY

Impact **6.5-1**

***Impacts to Folsom Reservoir's Coldwater Fisheries**. This supplemental cumulative analysis is based on a set of assumptions about future cumulative conditions and does not assume any development of additional Sacramento River water supplies. Under this set of assumptions, the analysis indicates that Folsom Reservoir storage would be reduced by 10% or more, relative to the Base Condition, occasionally during some months of the April through November period. However, anticipated reductions in reservoir storage would not be expected to adversely affect the reservoir's coldwater fisheries because: 1) coldwater habitat would remain available within the reservoir during all months of all years; 2) physical habitat availability is not believed to be among the primary factors limiting coldwater fish populations; and 3) anticipated seasonal reductions in storage would not be expected to adversely affect the primary prey species utilized by coldwater fishes. This would be a **less-than-significant future cumulative impact.** The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Additional diversions from Folsom Reservoir under the 2030 w/WFP would result in seasonal changes in end-of-month storage during most years. Seasonal changes in storage could result in corresponding changes in physical habitat availability for the reservoir's coldwater fish species. Lower reservoir storage could reduce, to some degree, the amount of space available for coldwater species to use during the April through November period, when strong thermal stratification occurs within the reservoir. Conversely, higher storage could increase the availability of coldwater fish habitat in the reservoir.

During the April through November period of the year, under 2030 w/WFP, reductions in the 70-year average end-of-month storage would range from approximately 4 to 7%, relative to mean monthly storage levels under the Base Condition (Appendix N). Reductions in reservoir storage of 10% or more during individual years, relative to the Base Condition, would occur occasionally during the period April through June and frequently during the period July through November (Appendix N). However, storage reductions of the magnitudes anticipated from limited water availability and increased demands by 2030 would not result in significant

adverse effects to coldwater fisheries because the availability of physical habitat is not a primary limiting factor for these fishes. Food availability is a key factor affecting coldwater fish populations in the reservoir. However, the seasonal changes in reservoir storage expected to occur under the 2030 w/WFP would not be expected to have substantial, if any, effects on the population dynamics of threadfin shad or wakasagi, which are the primary prey species for the reservoir's coldwater fish populations. The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

WARMWATER FISHERY

Impact **6.5-2**

Impacts to Folsom Reservoir's Warmwater Fisheries. *Under the set of assumptions used for this supplemental cumulative analysis, Folsom Reservoir storage (and thus water levels) could frequently be reduced during the critical warmwater fish spawning and rearing period (i.e., March through September), which could reduce the availability of littoral (nearshore) habitat containing vegetation. Modeling output indicates that long-term average reductions in littoral habitat availability of up to approximately 50% could occur in September. Reductions in littoral habitat availability of this magnitude could result in increased predation on young-of-the-year warmwater fishes, thereby reducing long-term initial year-class strength of warmwater fishes. Unless willows and other nearshore vegetation become established at lower reservoir elevations in the future in response to seasonal reductions in water levels, long-term year class production of warmwater fishes would be reduced. Reduced littoral habitat availability would be a* ***potentially significant future cumulative impact*** *to Folsom Reservoir warmwater fisheries. The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Changes in the Seasonal Availability of Littoral Habitat

Additional diversions from Folsom Reservoir under the 2030 w/WFP would result in seasonal changes in end-of-month water surface elevation during most years, with the 70-year average monthly elevation being reduced, relative to that under the Base Condition, from approximately 2 to 3 feet during the March through September warmwater fish spawning and rearing period (Appendix N).

Changes in water surface elevation during the March through September period would result in corresponding changes in the availability of reservoir littoral habitat containing inundated terrestrial vegetation (e.g., willows). The 70-year average amount of littoral habitat potentially available to warmwater fishes for spawning and/or rearing in Folsom Reservoir would decrease during all months of the March through September period. Seventy-year average reductions in the availability of littoral habitat were estimated to range from approximately 5 to 50% during the March through September period (Appendix N). The average loss of approximately one-half of the reservoir's available littoral habitat containing vegetative structure during this period would be expected to reduce long-term year-class strength of warmwater fishes through resultant increases in predation losses of young-of-the-year fishes.

Changes in the Monthly Rates of Water Surface Elevation Fluctuation

Changes in Folsom Reservoir operations under the 2030 w/WFP would generally alter the rates at which reservoir surface elevations change during each month of the primary warmwater fish spawning period of the year (i.e., March through July). However, under the 2030 w/WFP, the potential for nest dewatering would change little, if at all, during all months of the March through July warmwater fish spawning period. (Appendix N). Changes in the potential for significant nest dewatering events to occur during the March through July period would not be expected to have substantial adverse effects on annual year-classes of warmwater fishes in Folsom Reservoir. The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

LAKE NATOMA

Impact **6.5-3**

Impacts to The Warmwater and Coldwater Fisheries of Lake Natoma. *Under the specific set of cumulative assumptions, this supplemental analysis indicates that operations of Folsom Dam and Reservoir would have minimal, if any, impact to Lake Natoma's seasonal storage, rates of elevation fluctuation, or temperature. Any changes to these lake parameters that could occur under the future cumulative condition would not adversely affect the lake's warmwater or coldwater fisheries. This would be a less-than-significant future cumulative impact. The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Because Lake Natoma serves as a regulating afterbay of Folsom Reservoir, it commonly experiences daily/weekly fluctuations in water surface elevations of approximately 4 to 7 feet. Hydrologic changes associated with the 2030 w/ WFP would not cause substantial changes in seasonal lake storage or water surface elevation fluctuations. Therefore, changes in use of surface and groundwater defined in the WFP would not directly affect the fisheries resources of Lake Natoma.

The 69-year average temperature of water released from Nimbus Dam under the 2030 w/WFP would be essentially equivalent to that under the Base Condition from December through May, but would be reduced up to about 1°F during the June through November period (Appendix N). These findings suggest that long-term average conditions in Lake Natoma could be somewhat improved for coldwater fishes during the June through November period, with temperatures being affected little during the remainder of the year. Spatial and temporal changes in water temperatures within Lake Natoma would not be expected to be sufficiently large to adversely affect the lake's warmwater fisheries. The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

NIMBUS FISH HATCHERY

Impact **6.5-4**

Temperature Impacts to Nimbus Fish Hatchery Operations and Fish Production. *Under the specific set of cumulative assumptions, this supplemental analysis indicates that operations of Folsom Dam and Reservoir would generally have little effect on May temperatures below Nimbus Dam, but would generally result in equivalent or colder temperatures during the June through September period, relative to the Base Condition. On a long-term basis, the frequent and measurable temperature reductions that would occur during the June through September period (when hatchery temperatures reach seasonal highs annually) would more than offset the infrequent adverse impacts resulting from increased temperature. This would potentially benefit long-term hatchery operations and resultant fish production. Overall, this would be a* ***less-than-significant future cumulative impact.*** *The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Under the 2030 w/WFP, changes in the 69-year average water temperature at Nimbus Dam during the May through September period would range from less than measurable to reductions of about 1°F (Appendix N). Based on probability of exceedance, measurable temperature increases could occur about 17% to 25% of the time during some months of this period. However, measurable temperature decreases would occur at Nimbus Dam approximately 50% to 70% of the time during June through September under the 2030 w/WFP (Appendix N). On a long-term basis, temperature decreases under the 2030 w/WFP more than offset the infrequent temperature increases.

LOWER AMERICAN RIVER

Flow- and temperature-related impacts are discussed separately below by species and lifestage. Organizationally, flow- and temperature-related impacts to fall-run chinook salmon are discussed first (Impact 6.5-5), followed by impact discussions for steelhead (Impact 6.5-6), splittail (Impact 6.5-7), American shad (Impact 6.5-8), and finally striped bass (Impact 6.5-9). Flow- and temperature-related impacts to fall-run chinook salmon and steelhead are discussed together. The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.5-5**

Fall-run Chinook Salmon. *The supplemental cumulative impacts analysis is based on a set of assumptions about future cumulative conditions and does not assume any development of additional Sacramento River water supplies. Under this set of assumptions, operations of Folsom Dam and Reservoir would result in periods of reduced flows in the lower American River during the October through December spawning period, when flows under the Base Condition would be 2,500 cfs or less. Further flow reductions occurring at already low flow levels could result in increased redd superimposition and eventual lower year-class strength. Improved water temperatures (resulting from a Folsom Dam urban water intake structure and optimal coldwater pool management) and improved early lifestage survival will benefit chinook salmon spawning success, as well as other lifestages. However, because of the broad, programmatic nature of the WFP, the extent to which these actions (combined with other future actions such as spawning gravel management, revised flow ramping rate criteria, etc.) will interact to*

counterbalance flow reductions is uncertain, as is the manner in which these actions will be implemented, managed and coordinated without a comprehensive Habitat Management Program Plan for the Lower American River. Consequently, the overall effect of 2030 w/ WFP on chinook salmon year-class strength also is uncertain and, therefore, is considered to represent a ***potentially significant impact.*** *The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Impact **6.5-6**

Lower American River Steelhead*. Under the supplemental cumulative analysis set of assumptions, flow reductions anticipated to occur during the April through September period would reduce the amount of juvenile rearing habitat in many years. The analysis also indicates that the 69-year average temperature at Nimbus Dam and Watt Avenue for the June through September period would decrease up to about 1°F. Although measurable temperature increases could occur in up to 30% of the years during this period, measurable temperature decreases could occur approximately 45% to 70% of the time during the June through September period. Because steelhead in the Lower American River are believed to be more limited by summer rearing temperatures than flows, the frequent and substantial temperature reductions would be expected to offset the flow reductions. Consequently, the combined temperature and flow changes under the 2030 w/ WFP would not be expected to adversely affect the long-term population trends of steelhead in the Lower American River. This would be a* ***less-than-significant future cumulative impact.*** *The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Flow-Related Impacts to Fall-Run Chinook Salmon and Steelhead Adult Immigration (September through March)

Flow-related impacts to chinook salmon adult immigration would primarily be dictated by the volume of flow at the mouth during the September through December period of the year, and for steelhead during the December through March period of the year. Under the 2030 w/WFP, the 70-year average flow at the mouth would decrease during all months of the September through March period (Appendix N). Although the 70-year average flow at the mouth during these months would be reduced under the 2030 w/WFP, relative to flows under the Base Condition, the 70-year average Sacramento River flow at Freeport also would be reduced during this period (Appendix N). Under the 2030 w/WFP, the greatest reduction in the 70-year average proportion of Sacramento River flow immediately downstream of the mouth that would be composed of American River water during the September through March period (the combined primary period of upstream adult immigration for chinook salmon and steelhead) would be less than 5%. Hence, although mean monthly Lower American River flows at the mouth under the 2030 w/WFP would decrease during each month of this period, relative to the Base Condition, these reductions would not be expected to adversely affect the long-term homing ability of immigrating adult fall-run chinook salmon or steelhead.

Temperature-Related Impacts to Fall-Run Chinook Salmon and Steelhead Adult Immigration (September through March)

The 69-year average water temperatures at the mouth of the Lower American River and at Freeport on the Sacramento River, under the 2030 w/WFP, would be equivalent to or colder than those under the Base Condition during all months of the September through March period, with measurable decreases in the 69-year average temperature potentially occurring during some months (Appendix N).

Although USBR's Lower American River Temperature Model does not account for the influence of Sacramento River water intrusion on water temperatures at the mouth, this bias would be similar among alternatives. Therefore, the remaining temperature assessments are based on temperatures modeled at the mouth of the Lower American River.

During the December through March period, water temperatures at the confluence under the 2030 w/WFP would typically remain sufficiently cool (see Appendix N) to not impact fall-run chinook salmon or steelhead immigration. In addition, based on probability of exceedance, temperatures under the 2030 w/WFP during these months are generally equivalent to or colder than temperatures under the Base Condition (Appendix N).

Based on probability of exceedance, temperatures at the mouth during the September through November period under 2030 w/ WFP would increase measurably, compared to the Base Condition, up to about 20% of the time, but would decrease approximately 33% to 42% of the time (Appendix N). Thus, September through March water temperatures in the lower portion of the Lower American River under the 2030 w/WFP would be expected to have long-term beneficial effects on fall-run chinook salmon adult immigration, and would have no adverse effect on steelhead adult immigration.

Flow- and Temperature-Related Impacts to Fall-run Chinook Salmon Spawning and Incubation (October through February)

Flow-Related Impacts

The 70-year average flow below Nimbus Dam under the 2030 w/WFP would be reduced by approximately 4 to 5% during each month of the October through February period, relative to flows under the Base Condition (Appendix N). The additional diversions that would occur between Nimbus Dam and Watt Avenue under the WFP range from approximately 10 cfs to 30 cfs, depending on the month of the year. Hence, changes in long-term average flows under the 2030 w/WFP for each month of the October through February period are essentially the same at Watt Avenue as those reported above for Nimbus Dam.

Substantial flow reductions could occur frequently at Nimbus Dam under 2030 w/ WFP, relative to the Base Condition, during the October through February period. When flows under the Base Condition are at or below 2,500 cfs, which is the wet year flow objective in the AFRP for this period, flows would be substantially reduced approximately 20 to 30% of the time. Findings are essentially the same at Watt Avenue (Appendix N). Thus, during the October through December portion of this period (when the majority of fall-run chinook salmon spawning occurs annually), 2030 w/WFP could relatively frequently reduce flows, and the initial year-class size of lower American River fall-run chinook salmon could potentially be reduced (due to increased redd superimposition) during some of the years when lower spawning flows are provided.

Temperature-Related Impacts

Under the 2030 w/WFP, changes in the 69-year average water temperature at Nimbus Dam and Watt Avenue during the October through February period would range from less than measurable to a reduction of about 1°F (Appendix N). During October and November, temperatures at Nimbus Dam and Watt Avenue would increase measurably, compared to the Base Condition, up to about 10 to 15% of the time, based on the probability of exceedance (Appendix N). However, measurable temperature decreases would occur at Nimbus Dam and Watt Avenue approximately 50 to 60% of the time.

During the December through February portion of this period, temperatures throughout the Lower American River would remain sufficiently cool as to not impact fall-run chinook salmon spawning and incubation success. In addition, temperatures under 2030 w/ WFP during these months are generally equivalent to or colder than those under the Base Condition.

Finally, the 69-year average annual early lifestage survival (percent survival of emergent fry from egg potential) for fall-run chinook salmon would increase from approximately 84% under the Base Condition to approximately 86% under the 2030 w/WFP, an average increase of about 2% (Appendix N). Thus, temperatures in the river under the 2030 w/WFP during the October through February period would have beneficial effects on spawning and incubation of fall-run chinook salmon.

Flow- and Temperature-Related Impacts to Steelhead Spawning and Incubation (December through March)

No flow- or temperature-related impacts to steelhead spawning or incubation would be expected to occur under the future cumulative condition modeled. For quantitative flow data supporting this impact determination, see Appendix N , Sections 6 and 7. For the quantitative temperature data supporting this impact determination, see Appendix N, Sections 5 and 9.

Flow- and Temperature-Related Impacts to Fall-run Chinook Salmon and Steelhead Juvenile Rearing (March through June)

Flow-Related Impacts

Under the 2030 w/WFP, the 70-year average flow at Watt Avenue would be reduced about 7 to 11% in all months of the March through June period, relative to the Base Condition (Appendix N).

Under the 2030 w/ WFP, the probability of mean monthly flows exceeding 4,500 cfs would be reduced by about 7% during the March through June period, relative to the Base Condition. Under 2030 w/ WFP, flow reductions would occur frequently in some months and somewhat less frequently in others, based on probability of exceedance, when flows would be at or below 4,500 cfs under the Base Condition, which is the wet-year flow objective in the AFRP for this period. For this period, 2,000 cfs is the dry and critical flow objective in the AFRP. When flows under the Base Condition are 2,000 cfs or less, measurable flow reductions would occur about 10% of the time or less during March through May, but about 15 to 20% of the time during June. Over the long-term, flow reductions under 2030 w/ WFP wouldn't be expected to substantially alter the quantity or quality of rearing habitat, partly because the primary period of emigration occurs from mid-February through early March. However, flow reductions when flows are already at relatively low levels may adversely affect rearing success during those years.

Temperature-Related Impacts Assessment

Under the 2030 w/WFP, changes in the 69-year average water temperature at Watt Avenue during the March through June period would range from less than measurable to a reduction of about 0.4°F (Appendix N). During the March through June period, temperatures at Watt Avenue under 2030 w/ WFP would increase measurably, based on the probability exceedance, up to about 25 to 30% of the time (Appendix N) during May and June, with temperatures under 2030 w/ WFP remaining similar to or cooler than the Base Condition 70 to 75% of the time during these months. The majority of temperature increases would be 0.5 °F or less. Temperatures during March and April would remain at or below 65 °F in all years under the 2030 w/WFP. Because the primary period of emigration occurs from mid-February through early March, and because temperatures during March under 2030 w/ WFP would remain below 60°F, the majority of emigrants would not be affected by these occasional increases in temperature. In addition, the frequency and magnitude of temperature increases that would occur from April through June would not be expected to impact the long-term rearing success of juveniles that remain in the river during these months. Furthermore, 2030 w/ WFP would provide improved temperature conditions approximately 50% of the time during June, based on the probability of exceedance, which could benefit late-emigrating juveniles.

The temperature changes discussed above for the March through June period would affect juvenile emigration upstream of Watt Avenue in a manner similar to effects on rearing. Temperature-related impacts to fish emigrating through the lower river (i.e., downstream of Watt Avenue) are assessed based on temperatures at the mouth (see discussion below).

Flow-Related Impacts to Fall-Run Chinook Salmon and Steelhead Juvenile Emigration (February through June)

The primary period of fall-run chinook salmon juvenile emigration occurs from February through June, with the majority of juvenile steelhead emigration occurring during this same period. Generally little, if any, emigration occurs during July and August. Flow-related impacts to salmonid immigration (discussed above) addressed flow changes in February and March. The changes in flows under the 2030 w/WFP during February and March would not be sufficient to adversely affect juvenile fall-run chinook salmon or steelhead emigration. Hence, this discussion will focus primarily on the April through June period of the year.

Adequate flows for emigration from the portion of the river above Watt Avenue would be met by flows which were previously discussed under this impact section (see discussions regarding rearing). Bypass flows at the mouth are used to assess potential flow-related impacts to salmonid emigration through the lower river (i.e., below Watt Avenue).

Under the 2030 w/WFP, the 70-year average flow at the mouth would decrease by approximately 10% to 15% during all months of the April through June period. Flows at the confluence would be reduced much of the time during all months, with substantial reductions in flow at the confluence occurring often (Appendix N). Flows under the 2030 w/WFP would never be reduced to levels that would physically block emigration from the river, when such flow levels would not exist under the Base Condition.

Higher flows and turbidity have been shown to result in higher rates of downstream juvenile emigration. However, much of this information comes from findings associated with large pulse flows following significant precipitation events, not relatively small changes in flow on the order of 10 to 20%. Moreover, high flow and turbidity levels, although known to trigger emigration events, are not necessary for successful emigration of a

salmonid year-class from the river. Consequently, although substantial flow reductions would occur periodically under the 2030 w/WFP during the April through June period, relative to flows under the Base Condition, resultant flows would not be expected to adversely affect the long-term success of juvenile salmonid emigration.

Temperature-Related Impacts to Fall-Run Chinook Salmon and Steelhead Juvenile Emigration (February through June)

With the possible exception of a small percentage of fish that may rear near the mouth of the Lower American River, impacts of river temperatures at the mouth to fall-run chinook salmon and steelhead would be limited to the [up to] several days that it takes emigrants to pass through the lower portion of the river and into the Sacramento River in route to the Delta.

The 69-year average water temperatures expected to occur at the mouth during February and March have been discussed previously under impacts to adult salmonid immigration. Water temperatures at the mouth under the 2030 w/WFP would generally be similar to those under the Base Condition during February and March and would generally be cool enough as to not be of concern to juvenile emigration (Appendix N).

The 69-year average temperatures would not be expected to change measurably under the 2030 w/WFP, relative to the Base Condition during the period April through June (Appendix N). Based on the probability of exceedance, temperatures at the confluence during this period would increase measurably, compared to the Base Condition, up to about 30% of the time (Appendix N) , with temperatures under 2030 w/ WFP remaining similar to or cooler than the Base Condition the rest of the time. Based on the probability of exceedance, temperatures would be measurably cooler approximately 40% of the time in June. Overall, increases in water temperatures that would be expected to occur at the mouth in some years under the 2030 w/ WFP would not occur with sufficient frequency, or be of sufficient magnitude, to adversely affect long-term emigration success of fall-run chinook salmon or steelhead during April, May or June. The more frequent reductions in temperatures at the mouth during June would have beneficial effects on late-emigrating juvenile fall-run chinook salmon and steelhead.

Flow-Related Impacts to Steelhead Rearing (year-round)

During the July through September period, fall-run chinook salmon are not in the river. July through September is generally considered to be the critical summer rearing period for steelhead in the Lower American River.

During the July through September period (Appendix N), flows at Nimbus Dam and Watt Avenue, under the 2030 w/WFP, would typically be reduced in most years, with average reductions ranging from about 350 to 400 cfs, with more substantial reductions occurring in some years. Under 2030 w/ WFP, substantial flow reductions would occur frequently, when flows are at or below 2,500 cfs under the Base Condition, which is the wet year summer flow objective in the AFRP. Based on the probability of exceedance, flows at Nimbus Dam and Watt Avenue would be 2,500 cfs or lower under the Base Condition approximately 40 to 60% of the time, and 2,500 cfs or lower about 45 to 70% of the time under 2030 w/ WFP.

Temperature-Related Impacts to Steelhead Rearing (year-round)

Under the 2030 w/WFP, changes in the 69-year average water temperature at Nimbus Dam and Watt Avenue during spring and the critical summer rearing period would range from less than measurable to reductions of about 1°F. Based on the probability of exceedance, measurable temperature increases could occur about 15 to 30% of the time during some months of this period. Temperature increases would generally be less than 1 °F, and often less than 0.5 °F. However, based on the probability or exceedance, measurable temperature decreases would occur at Nimbus Dam and Watt Avenue from about 10% to 70% of the time during June through September under the 2030 w/WFP (Appendix N). The 69-year average temperatures for the months June through September would be measurably reduced under the 2030 w/WFP, relative to the Base Conditions. Temperature changes under the 2030 w/WFP would, on a long-term basis, have a beneficial effect on steelhead summer rearing in the Lower American River. The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

SPLITTAIL

Impact **6.5-7**

Flow- and Temperature-Related Impacts to Splittail (February through May). *Under the supplemental cumulative analysis assumptions, the 2030 w/ WFP would typically reduce, to some degree, the amount of riparian vegetation inundated between RM 8 and 9 (which serves as an index for the lower portion of the river) relative to the Base Condition. However, with few exceptions, substantial amounts of inundated riparian vegetation would remain under the 2030 w/WFP in years when such habitat would occur under the Base Condition. In addition, flow changes under the 2030 w/WFP would have little effect on the availability of in-channel spawning habitat availability, or the amount of potential spawning habitat available from the mouth up to RM 5 – the reach of the river influenced by Sacramento River stage. The analysis also indicates that the frequency of suitable temperatures for splittail spawning below Watt Avenue would not change substantially under the 2030 w/WFP, relative to the Base Condition. Given the uncertainty as to the magnitude and extent of splittail spawning in the Lower American River, and the actual amount of potential spawning habitat at specific flow rates throughout the river, the effects of flow reductions from the February through May period also are uncertain and, therefore, represent a potentially significant impact. This would be a* ***potentially significant future cumulative impact****. The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Under the 2030 w/WFP, the 70-year average flows at Watt Avenue would be reduced by about 4 to 8% during each month of the February through May period, relative to flows under the Base Condition.

Using flows at Watt Avenue, the acreage of riparian vegetation inundated between RM 8 and 9 was used as an index of the relative amount of inundated riparian vegetation that would occur in the lower portion of the river for a given flow rate. Under the 2030 w/ WFP, the amount of riparian habitat inundated in this portion of the river would remain unchanged in about 70% to 80% of the years, relative to the Base Condition. However, in most of these years, no riparian vegetation would be inundated under either the 2030 w/ WFP or the Base Condition.

With the exception of March, when the amount of inundated riparian habitat would increase about 1% more often, the amount of such habitat between RM 8 and 9 would be reduced to some degree under the 2030 w/ WFP in the years when riparian habitat would be inundated under the Base Condition. Reductions of more than 20% in the relative amount of inundated habitat between RM 8 and 9 would occur about 3 to 7% of the time during the February through May period under the 2030 w/ WFP, relative to that which would be inundated under the Base Condition. Based on the number of years when riparian habitat would be inundated under the Base Condition, these habitat reductions of 20% or more would occur from about 10% to about 20% of the years during this period that such habitat would exist under the Base Condition. Nevertheless, in most of these years, substantial amounts of inundated riparian habitat would remain available under the 2030 w/WFP. Complete (i.e., 100%) losses of available habitat under the Base Condition would occur up to about 5% of the time during the February through May period. Increases in the availability of inundated riparian vegetation would occur approximately 1% of the time during March.

The number of years that mean monthly water temperatures at Watt Avenue would be within the preferred range for splittail spawning of 48°F to 68°F would not change substantially, if at all, during each month of the February through May period. The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

AMERICAN SHAD

Impact **6.5-8** ***Flow- and Temperature-Related Impacts to American Shad (May and June).*** *Under the supplemental cumulative analysis assumptions, flow reductions anticipated to occur during the May through June period would increase the frequency with which mean monthly flows at the mouth would be below the target attraction flow of 3,000 cfs by about 1% to 6%. Flow reductions under the 2030 w/WFP in May and June could reduce the number of adult shad attracted into the river during a few years. However, because American shad spawn opportunistically where suitable conditions are found, potentially attracting fewer adults spawners into the Lower American River in some years would not be expected to adversely impact annual American shad production within the Sacramento River system. Furthermore, direct impacts to the Lower American River sport fishery would be less than substantial in most years. In addition, the frequency with which suitable temperatures for American shad spawning would exist would not differ substantially between the 2030 w/WFP and the Base Condition. Consequently, the combined flow and temperature changes under 2030 w/WFP would not be expected to adversely affect the long-term population trends of American shad in the Lower American River. This would be a* ***less-than-significant future cumulative impact.*** *The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not*

differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Changes in Lower American River flows that could be expected to occur during May and June under the 2030 w/ WFP have been discussed previously under Impact 6.5-5 (Appendix N). In addition to this analysis, an additional analysis was performed to determine the probability that lower American River flows at the mouth would be below 3,000 cfs, the flow level defined by CDFG as that which would be sufficient to maintain the sport fishery. Under the 2030 w/ WFP, mean monthly flows would be below the 3,000 cfs attraction flow at the mouth approximately 1 and 6% more often during May and June, respectively (Appendix N).

The number of years that mean monthly water temperatures at Nimbus Dam and the mouth would be within the preferred temperature range for American shad spawning of 60°F to 70°F would not change substantially during the May through June period. Lower American River water temperatures under the 2030 w/ WFP would remain suitable for American shad rearing (Appendix N). The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

STRIPED BASS

Impact **6.5-9**

Flow- and Temperature-Related Impacts to the Striped Bass Sport Fishery (May and June). *Under the supplemental cumulative analysis assumptions, flow reductions anticipated to occur during the May through June period would increase the frequency with which mean monthly flows at the mouth would be below the target attraction flow of 1,500 cfs by about 1 to 7%. However, flows at the mouth that are believed to be sufficient to maintain the striped bass fishery would be met or exceeded in most years during this period. The frequency with which suitable temperatures for juvenile striped bass rearing in the Lower American River would differ little between the 2030 w/ WFP and the Base Condition during May and June. Consequently, the combined temperature and flow changes under the 2030 w/ WFP would not be expected to adversely affect long-term trends for the striped bass fishery in the lower American River. This would be a* ***less-than-significant future cumulative impact.*** *The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Changes in Lower American River flows that could be expected to occur during May and June under the 2030 w/ WFP have been discussed previously under Impact 6.5-5 (Appendix N). In addition to this analysis, an additional analysis was performed to determine the probability that Lower American River flows at the mouth would be below 1,500 cfs, the flow level defined by CDFG as that which would be sufficient to maintain the sport fishery. Under the 2030 w/ WFP, mean monthly flows in the Lower American River would be below the 1,500 cfs attraction flow threshold at the mouth about 1% more often in May and 7% more often in June, relative to the Base Condition.

The number of years that mean monthly water temperatures at Nimbus Dam would be within the preferred range for striped bass juvenile rearing of 61°F to 73°F would not change substantially during May and June

(Appendix N). The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

SHASTA AND TRINITY RESERVOIRS

COLDWATER FISHERIES

Impact **6.5-10**

Impacts to Shasta Reservoir's Coldwater Fisheries. *Under this supplemental cumulative analysis assumptions, substantial reductions in reservoir storage would occur occasionally during some months of the April through November period of the year. However, because physical habitat availability is not believed to be among the primary factors limiting coldwater fish populations within the reservoir, and because anticipated changes in seasonal storage would not be expected to result in substantial adverse effects on the primary prey base utilized by the reservoir's coldwater fish populations, seasonal reductions in storage expected to occur under 2030 w/ WFP would not significantly affect Shasta Reservoir's coldwater fisheries. This would represent a* ***less-than-significant future cumulative impact.*** *The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Hydrologic conditions with the 2030 w/ WFP would reduce the 70-year average monthly storage in Shasta Reservoir, relative to the Base Condition, by approximately 1 to 4% during all months of the April through November period. Reductions in Shasta storage of more than 10% would occur occasionally during some months of this period. The changes in Shasta Reservoir storage expected to occur under the 2030 w/ WFP would not be expected to substantially affect the coldwater fishery as the availability of physical habitat is not a primary limiting factor for these fish. In addition, the storage reductions would not adversely affect the population dynamics of the primary prey species for the reservoir's coldwater fish populations (Appendix N). The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.5-11**

Impacts to Trinity Reservoir's Coldwater Fisheries. *Under this supplemental cumulative analysis assumptions, substantial reductions in reservoir storage would occur occasionally throughout the April through November period of the year. However, because physical habitat availability is not believed to be among the primary factors limiting coldwater fish populations within the reservoir, and because anticipated changes in seasonal storage would not be expected to result in substantial adverse effects on the primary prey base utilized by the reservoir's coldwater fish populations, seasonal reductions in storage expected to occur under 2030 w/ WFP would not*

substantially affect Trinity Reservoir's coldwater fisheries. This would represent a ***less-than-significant future cumulative impact.*** *The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Hydrologic conditions with the 2030 w/ WFP would reduce the 70-year average monthly storage in Trinity Reservoir, relative to the Base Condition, by approximately 3 to 6% during all months of the April through November period. Reductions in Trinity storage of more than 10% would occur occasionally within individual years during all months of this period. However, these anticipated changes in mean monthly reservoir storage would not be expected to substantially affect the coldwater fishery as the availability of coldwater fish habitat is not a primary limiting factor for those fish. The storage reductions also would not adversely affect the population dynamics of the primary prey species utilized by the reservoir's coldwater fish populations (Appendix N). The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

WARMWATER FISHERIES

Impact **6.5-12**

Impacts to Shasta Reservoir's Warmwater Fisheries*. Under this supplemental cumulative analysis assumptions, the 70-year average amount of littoral habitat available to warmwater fishes would be reduced by about 2 to 4% during the March through September period (which are the initial rearing months for the reservoir's warmwater fishes of management concern), with even more substantial reductions in reservoir littoral habitat availability in some years during these months. Rates of elevation fluctuation would not change substantially under the 2030 w/ WFP, relative to the Base Condition. However, seasonal changes in 70-year average reservoir littoral habitat under the 2030 w/ WFP would be of sufficient magnitude to potentially affect long-term, average initial year-class strength of the warmwater fish populations of management concern. Reduced littoral habitat availability would be a* ***potentially significant future cumulative impact*** *to Shasta Reservoir warmwater fisheries. The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Littoral Habitat Availability

The additional diversion demand on the American River system and the Sacramento River under the 2030 w/ WFP would reduce the 70-year average end-of-month water surface elevation in Shasta Reservoir by about 2 to 4 feet during the March through September period. Reductions in average end-of-month elevation of greater than 1 ft would regularly occur during the all months of the March through September period (when warmwater fish

spawning and initial rearing occurs) (Appendix N). Changes in water surface elevation in Shasta Reservoir during the March through September period would result in corresponding changes in the availability of reservoir littoral habitat containing inundated terrestrial vegetation (e.g., willows and button brush). Such shallow, near-shore waters containing physical structure are important to producing and maintaining strong year-classes of warmwater fishes annually.

Reductions in the 70-year average amount of littoral habitat potentially available to warmwater fishes for spawning and/or rearing in Shasta Reservoir under the 2030 w/ WFP would be substantial during some months. Reduction in 70-year average amount of littoral habitat would range from about 2 to 5% during the March through June period, but would range from about 10 to 34% during the period July through September (Appendix N). Thus, on the average, littoral habitat would be reduced over 20% from July through September. More substantial reductions in littoral habitat availability would occur frequently during individuals years of the March through September period. These changes in the availability of littoral habitat, under 2030 w/ WFP, would suggest that such reductions would be likely to adversely affect the long-term initial establishment of warmwater fish year-classes.

Potential for Dewatering Events

Changes in CVP/SWP operations under the 2030 w/ WFP could alter the rates by which water surface elevations in Shasta Reservoir change during each month of the primary warmwater fish spawning period of the year (i.e., March through July). Modeling results indicate that under the 2030 w/ WFP the frequency with which potential nest dewatering events could occur in Shasta Reservoir would change little, if at all, relative to the Base Condition, during some months of the March through July period, with a minor increase in frequency in others. The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.5-13**

Impacts to Trinity Reservoir's Warmwater Fisheries*. Under this supplemental cumulative scenario, littoral habitat availability would be reduced by about 10 to 20% during the March through September period, with substantial reductions in littoral habitat availability occurring frequently throughout this period. The potential for nest dewatering events to occur in Trinity Reservoir would not change substantially under the 2030 w/ WFP during the March through July spawning period. However, changes in the availability of littoral habitat under the 2030 w/ WFP would potentially result in adverse affects to the initial establishment of warmwater fish year-classes. Reduced littoral habitat availability would be a* ***potentially significant future cumulative impact*** *to Trinity Reservoir warmwater fisheries. The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Littoral Habitat Availability

The additional diversion demand on the American River system and the Sacramento River under the 2030 w/ WFP would reduce the 70-year average end-of-month water surface elevation in Trinity Reservoir by about 5 to over 8 ft during the March through September period (Appendix N). During the March through September

period (when warmwater fish spawning and initial rearing occurs), reductions of greater than 1 foot in average end-of-month elevation would usually occur during the March through September period.

Changes in water surface elevation in Trinity Reservoir during the March through September period would result in corresponding changes in the availability of reservoir littoral habitat containing inundated terrestrial vegetation (e.g., willows and button brush). Reduction in the 70-year average amount of littoral habitat would range from less than 10 to almost 20% during the period March through September (Appendix N). Substantial reductions in littoral habitat availability would frequently occur in Trinity Reservoir under the 2030 w/ WFP, relative to the Base Condition.

Potential for Nest Dewatering Events

Changes in CVP/SWP operations under the 2030 w/ WFP could alter the rates at which water surface elevations in Trinity Reservoir change during each month of the primary warmwater fish spawning period of the year (i.e., March through July). However, modeling results indicate that the frequency with which potential nest dewatering events could occur in Trinity Reservoir under the 2030 w/ WFP, relative to that under the Base Condition, would not change substantially during any month of the warmwater fish spawning period of the year (i.e., March through July) (Appendix N). The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

KESWICK RESERVOIR

Impact **6.5-14**

Impacts to Keswick Reservoir Fisheries. *Under the supplemental cumulative impact assumptions, hydrologic conditions with the 2030 w/ WFP would have little, if any, effect on seasonal storage, elevation, and temperature of Keswick Reservoir. Any minor changes in storage, elevation, or temperature that could occur would not substantially affect the reservoir's fishery resources. This would constitute a* ***less-than-significant future cumulative impact.*** *The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

No storage-, elevation-, or temperature-related impacts to the fishery resources of Keswick Reservoir would be expected to occur because, as a regulating afterbay of Shasta Reservoir, its monthly storage, elevation, and temperature would be expected to remain similar under the 2030 w/ WFP to that which currently exists under the Base Condition. The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.5-15**

Flow-Related Impacts to Sacramento River Fisheries*. Under the supplemental cumulative analysis assumptions, the 70-year average flows released from Keswick Dam would not be substantially reduced during any month of the year. The analysis indicates that flow reductions of more than 10% would occur frequently during some months and infrequently during others under 2030 w/ WFP, relative to the Base Condition. The analysis also indicates that the 3, 250 cfs minimum flow objective for Keswick Reservoir stipulated in the NMFS Biological Opinion for the protection of winter-run chinook salmon rearing and downstream passage between 1 October and 31 March would not be violated in any month of this period under either the 2030 w/ WFP or the Base Condition. Flow changes below Keswick Dam that would occur under the 2030 w/ WFP would result in less-than-significant impacts to upper Sacramento River fisheries resources. The analysis for the lower Sacramento River indicates that the 70-year average flows under 2030 w/ WFP would not be substantially reduced relative to the Base Condition. The analysis also indicates that flow reductions of more than 20% would occur occasionally during August and infrequently during all other months of the year. Consequently, any flow-related impacts to lower Sacramento River fisheries or migrating anadromous fishes that could occur under 2030 w/ WFP are considered to be less than significant. Overall, this constitutes a* ***less-than-significant future cumulative impact.*** *The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Flow-Related Impacts in the Upper Sacramento River

Under the 2030 w/ WFP, the 70-year average flow released from Keswick Dam would not be substantially reduced during any month of the year, with changes in the 70-year average flow ranging from an increase of about 1% in September to reductions of up to about 5% (in May and June). Reductions of more than 10% in releases from Keswick Dam would occur occasionally during some months and infrequently during others throughout the yearly period (Appendix N). Reductions of more than 20% in releases from Keswick Dam would occur infrequently, if at all, during all months throughout the year (Appendix N).

The minimum flow objective for Keswick Dam release stipulated in the NMFS Biological Opinion for the protection of winter-run chinook salmon rearing and downstream passage is 3,250 cfs between 1 October and 31 March. Modeling output shows that mean monthly flows below Keswick Dam would never be below 3,250 cfs in any month of the October through March period in any of the 70 years modeled under either the 2030 w/ WFP or the Base Condition (Appendix N).

Flow-Related Impacts in the Lower Sacramento River

The 70-year average flow at Freeport under the 2030 w/ WFP would be reduced by about 3% or less, relative to flows under the Base Condition, during all months. Flow reductions of 1% to 10% would occur regularly in individual years during all months. Flow reductions of 10% or more, relative to Base Condition flows, would occur infrequently during the October through May period, but more frequently during the June through September period. Flow reductions of 20% or more would occur infrequently during all months except August, when flow reductions of 20% or more would occur occasionally (Appendix N). Therefore, because substantial and frequent reductions in lower Sacramento flows would not occur, neither physical habitat availability for fishes residing in the lower Sacramento River nor immigration of adult or emigration of juvenile anadromous fishes would be substantially affected under the 2030 w/ WFP, relative to the Base Condition. The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.5-16**

Temperature-Related Impacts to Sacramento River Fisheries Resources. *Under the supplemental cumulative analysis assumptions, the 69-year average temperature at Keswick Dam would increase up to approximately 0.5 °F during the period September through November. Mean monthly temperatures at Keswick Dam would exceed the 56°F threshold stipulated in the NMFS Biological Opinion for winter-run chinook salmon about 1% more often in September, and would exceed the 60°F threshold stipulated for October in the NMFS Biological Opinion for winter-run chinook salmon about 3% more often under the 2030 w/ WFP, relative to the Base Condition. Mean monthly temperatures at Bend Bridge would exceed the 56°F threshold stipulated in the NMFS Biological Opinion for winter-run chinook salmon approximately 1% more often in April and August, approximately 3% more often in May and June, no more often in July, and about 1% less often in September. Although there would be no measurable change in the 69-year average early lifestage salmon survival for fall-, late fall-, winter-, and spring- run chinook salmon, measurable reductions in annual early-lifestage survival could be expected to occur under the 2030 w/ WFP, relative to annual survival estimates under the Base Condition, during some individual years for all runs except late-fall run. Substantial changes in average lower Sacramento River temperatures would not be expected over the 69-year period simulated, although individual months of respective years could exhibit substantial temperature increases. Overall changes in water temperatures represent a* ***significant future cumulative impact.*** *The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Temperature-Related Impacts in the Upper Sacramento River

The 69-year average water temperatures below Keswick Dam under the 2030 w/ WFP would remain essentially equivalent to or slightly colder than that under the Base Condition during the December through August period. Conversely, the 69-year average temperature would increase up to approximately 0.5°F during the period September through November. Under the 2030 w/ WFP, the 69-year average temperatures at Keswick Dam would remain well below 56°F during all months of the year (Appendix N).

An assessment of the 69 individual years modeled indicates that, with the exception of the 56°F threshold being exceeded 3% of the time in March (as opposed to 1% of the time under the Base Condition), mean monthly temperatures below Keswick Dam under 2030 w/ WFP would always be 56°F or lower during the December through July period (Appendix N).

Under the 2030 w/ WFP, mean monthly temperatures at Keswick Dam would not exceed the 56°F threshold stipulated in the NMFS Biological Opinion for winter-run chinook salmon in any additional years in August, but would exceed 56°F 1% more often in September. In addition, under the 2030 w/ WFP, the 56°F threshold would be exceeded 3% more often in October and 1% more often in November, relative to that under the Base Condition. Mean monthly temperatures under 2030 w/ WFP would be below 60°F in all years during November. Finally, mean October temperatures at Keswick Dam would exceed the 60°F threshold stipulated for this month in the NMFS Biological Opinion for winter-run chinook salmon 1% more often under the 2030 w/ WFP, relative to the Base Condition (Appendix N).

With the exception of the 56°F threshold being exceeded about 1% of the time in March and 3% of the time November, mean monthly water temperatures at Bend Bridge, under the 2030 w/ WFP, would be at or below 56°F under in all years during the November through March period. Mean monthly temperatures at Bend Bridge would exceed the 56°F threshold stipulated in the NMFS Biological Opinion for winter-run chinook salmon approximately 1% more often in April and August, and approximately 3% more often in May and June, with no change in the frequency of exceeding 56°F in July, and 1% less often in September (Appendix N). The 60°F threshold would be exceeded 1% less often at Bend Bridge under 2030 w/ WFP, relative to that under the Base Condition (Appendix N).

Mean monthly temperatures at Jelly's Ferry would exceed the 56°F threshold stipulated in the NMFS Biological Opinion for winter-run chinook salmon approximately 3% more often in May, and August, 1% less often in June, and 1% more often in July and September (Appendix N). There would be no change in the probability of exceeding the 60°F threshold at Jelly's Ferry during October under 2030 w/ WFP, relative to that under the Base Condition, (Appendix N).

The 69-year average early life stage survival under the 2030 w/WFP would be reduced, relative to the Base Condition, by 0.9% for fall-run (90.1% vs. 89.2%), 0.1% for late-fall run (99.0% vs. 98.9%), 1.2% for spring-run (87.6% vs. 86.3%), and 1.7% for winter-run (95.7% vs 96.0%). Modeled reductions in survival in excess of 2% relative to survival under the Base Condition would occur 19%, 0%, 7%, and 7%, of the time for fall-run, late-fall run, spring-run, and winter-run, respectively (Appendix N).

Temperature -Related Impacts in the Lower Sacramento River

Under the 2030 w/ WFP, there would be no substantial change in the 69-year average water temperatures at Freeport (RM 46) for all months of the year (Appendix N). However, temperature increases in excess of 0.5°F could occur about 3 to 15% of the time under 2030 w/ WFP, for individual months during the June through September period. Conversely, temperature increases of 0.5°F or more would rarely occur during the October through May period. The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

DELTA

Impact **6.5-17**

Delta Fish Populations. *Under the supplemental cumulative analysis assumptions, reductions in Delta outflow of more than 10% would occur occasionally during February, March, and June, but would not occur in any year during April or May. The analysis also indicates that upstream shifts of the position of X2 of 1 km or more also would occur in February, March, and June, but infrequently during April and May. Finally, the analysis indicates that Delta export to inflow ratios under the 2030 w/ WFP would not exceed the maximum export limits for either the February through June (35% of Delta inflow) or the July through January periods (65% of Delta inflow). Although the project would not cause X2 or Delta outflow standards to be violated, the project could result in reductions in outflow and upstream shifts in the position of X2, which could be considered a* ***potentially significant impact*** *to Delta fisheries resources. The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

During the yearly period, changes in the 70-year average Delta outflow would range from negligible to reductions of approximately 4% under the 2030 w/ WFP, relative to the Base Condition (Appendix N).

Reductions in Delta outflow of more than 10% under the 2030 w/ WFP, relative to the Base Condition, could occur about 9% to 17% more often in February, March and June. Reductions in Delta outflow of more than 10% would not occur in any year during April and May (Appendix N).

Under the 2030 w/ WFP, the greatest upstream shifts in the 70-year average position of X2, relative to its mean monthly position under the Base Condition, would be up to approximately 0.7 km (Appendix N). During the February through June period considered important for providing appropriate spawning and rearing conditions and downstream transport flows for various fish species, upstream shifts in the position of X2 of more than 1 km would occur 14 to 21% more often in February, March, and June. Upstream shifts in the position of X2 of more than 3 km would occur about 1 to 4% more often in April and May (Appendix N).

Modeling output also showed that the Delta export to inflow ratios under the 2030 w/ WFP would not exceed the maximum export limits for either the February through June (35% of Delta inflow) or the July through January period (65% of Delta inflow) as set by the SWRCB Interim Water Quality Control Plan. The impacts to fisheries resources and aquatic habitat identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

6.6 CUMULATIVE FLOOD CONTROL IMPACTS

The supplemental cumulative analysis is based on a set of alternative future cumulative conditions throughout the CVP/SWP, as described in Section 6.1.2, Alternative Cumulative Conditions. As an alternative future cumulative scenario, the supplemental analysis still includes the implementation of the Water Forum Proposal and other reasonably foreseeable future actions. The analysis does not assume any development of additional Sacramento River supplies because no specific proposals are available. The impacts to flood control identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.6-1**

Ability to Meet Flood Control Diagrams of CVP Reservoirs. *Increased diversions from CVP/SWP reservoirs under this future cumulative condition would result in reduced storage during the flood control season, increasing the ability to meet flood control needs. This would be a* ***less-than-significant future cumulative impact.*** *The impacts to flood control identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

For an analysis flood control capability throughout the CVP/SWP at either USBR or DWR controlled reservoirs, it is intuitive that increased diversions from these reservoirs in the future would have the cumulative effect of resulting in a net beneficial impact to flood control operations system-wide. This beneficial condition results from the fact that with increased diversions from these reservoirs, each reservoir would commence the flood control season (November 15) with reduced storage, thereby increasing their ability to meet the early season flood control diagrams. Consequently, throughout the remainder of the flood control season, increased diversions anticipated in the future would also have the effect of reducing reservoir storage, thereby further assisting in the ability to maintain the required empty space storage during these times.

Based on the supplemental future cumulative condition reduced 70-year average end-of-month reservoir storage in Folsom Reservoir, relative to the Base Condition, would occur in all months of the flood control season. Reductions in storage would range from approximately 21,000 AF to 34,000 AF. For Shasta Reservoir, reductions in 70-year average end-of-month storage would range from approximately 31,000 AF to 68,000 AF relative to the Base Condition over the entire flood control season. At the outset of the flood control season, however, reductions in storage could be as high as approximately 450,000 AF (maximum end-of-month reservoir storage for October). Such reductions, relative to the Base Condition, would have an overall effect of enhancing the ability to meet and maintain reservoir operations within established flood control diagrams during the flood control season and, therefore, result in a net beneficial impact. The impacts to flood control identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

6.7 CUMULATIVE POWER SUPPLY IMPACTS

The supplemental cumulative impacts analysis is based on a set of alternative future cumulative conditions throughout the CVP/SWP, as described in Section 6.1.2, Alternative Cumulative Conditions. As an alternative future cumulative scenario, the supplemental analysis still includes implementation of the Water Forum Proposal and other reasonably foreseeable future actions. The analysis does not assume any development of additional Sacramento River supplies because no specific proposals are available. Under this set of supplemental

assumptions, analysis indicates that impacts to CVP hydropower operations and pumping energy requirements will occur in nearly all years. Impacts to CVP hydropower could result from increased surface water diversions and overall lower reservoir levels across the system. Lower reservoir water surface elevations would result in lower hydraulic head, and consequently lower generation potential at existing power generating plants. At Folsom Reservoir, lower water surface levels could also contribute to increased pumping power requirements for users relying on the Folsom Pumping Plant and the EID Pumping Plant. The impacts to power supply identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

CVP hydropower operations under this future cumulative condition are likely to be characterized by reductions to: capacity available for WAPA's preference customers, WAPA surplus capacity sales, and annual average CVP energy production. These cumulative impacts would be considered significant insofar as rates to CVP hydropower customers could increase in response to decreased CVP surplus capacity sales revenues and/or increased WAPA energy and capacity purchases for preference customers.

In the future, reductions in Folsom Reservoir water surface levels could increase pumping requirements at the Folsom and EID pumping plants. Folsom Reservoir storage is expected to be, on average, lower in the future relative to current conditions due, in part, to the increased demands placed on the American River system and increased demands system-wide. This is likely to remain a significant cumulative impact

Impact **6.7-1** ***Reduced CVP Hydropower Capacity and Generation.*** *Under this future cumulative condition, which includes the WFP and other reasonably foreseeable future system-wide actions (e.g. 2030 out-of-basin CVP/SWP demands, increased Sacramento Valley demands, and increased Trinity River flows), no substantial reduction in average annual surplus capacity or capacity for use by WAPA's preference customers would occur. Under this future cumulative condition, WAPA's capacity peak maximum of 1,152 megawatts would not be met in 45 of the 828 months studied, as compared to 42 months for the Base Condition. However, under the supplemental future cumulative condition average annual CVP energy production would be reduced by 223 Gwh compared to the Base Condition. This change in annual average CVP energy production, which is roughly equivalent to a 5% reduction, is considered to represent a* **significant impact**. *The impacts to power supply identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Changes to hydropower operations caused by future cumulative actions are many and varied. Some changes are directly attributable to observable phenomenon; for example, lower reservoir storage directly predicts lower electrical capacity. Other changes are not as clear; for example, lower reservoir storage could result in fewer water spills and more water through the generator turbines during a year. An examination of the supplemental future cumulative results suggests the following: CVP electrical capacity at the generators is lower in most months of most years, but not so low as to affect the 1,152 MW in many months. Project use capacity is lower in the future cumulative condition in some years because of less deliveries (increased deficiencies) to CVP contractors. The reduction in Project Use capacity is approximately equal to the overall reduction in CVP capacity at the generators, thus surplus capacity is unchanged between the future cumulative and base conditions. And, CVP energy production is reduced by virtue of lower reservoir storages diminishing the efficiency (kwh/af) of water released through the power plants, even though Project Use energy requirements are less in the future cumulative condition. The impacts to power supply identified in this supplemental

analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.7-2** ***Increased Energy Requirements for Diverters Pumping from Folsom Reservoir.*** *Under the supplemental future cumulative condition, which includes the WFP and other reasonably foreseeable future system-wide actions (e.g. 2030 out-of-basin CVP/SWP demands, increased Sacramento Valley demands, and increased Trinity River flows), changes in pumping requirements for those who pump water from Folsom Reservoir would occur. Under the supplemental future cumulative condition, it is anticipated that an approximate 140% increase in average annual pumping energy would be required. While this cumulative impact would be environmentally less-than-significant, it represents an* ***economically significant impact****. The impacts to power supply identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Two factors associated with the supplemental future cumulative condition affect the amount of energy required by diverters pumping from Folsom Reservoir. The first of these is the reduction in Folsom water storage attributable to future operations. This reduction in storage decreases the opportunities to deliver water by gravity flow and increases the hydraulic lift required to pump water from the reservoir. A second and more influential effect is that significantly more water will be pumped from Folsom in the future. An estimate of the proportion of increased energy requirements by effect suggests that as much as 115% of the 140% increase is caused by increased diversions and the remaining 25% is caused by other future operational influences which increase the hydraulic lift. The impacts to power supply identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

6.8 CUMULATIVE VEGETATION AND WILDLIFE IMPACTS

The supplemental cumulative impact analysis is based on a set of alternative future cumulative conditions throughout the CVP/SWP, as described in Section 6.1.2, Alternative Cumulative Conditions. As an alternative future cumulative scenario, the supplemental analysis still includes implementation of the WFP and other reasonably foreseeable future actions. Under this alternative set of assumptions, analysis indicates that significant future impacts to vegetation and wildlife associated with the lower American River would occur, as a result of reduced mean monthly flows. Future flows associated with the Sacramento River and Sacramento-San Joaquin Delta and surface water elevations of affected reservoirs would not be reduced with sufficient magnitude and frequency to adversely affect riparian vegetation and associated special-status species and habitat. The impacts to vegetation and wildlife identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.8-1** ***Special Status Species, Riparian Vegetation, and Backwater Ponds Associated with the Lower American River.*** *Under this set of assumptions for future conditions, the cumulative impact analysis indicates that the range of flows within the minimum/optimal range of 1,300 to 4,000 cfs would vary by 3 or fewer years during the 70-year period of record, in comparison to base conditions. As a result, reduced flows under these future cumulative conditions would not result in an adverse effect to the special-status species (including the Valley Elderberry Longhorn Beetle) that are dependent on riparian vegetation and backwater ponds*

*associated with Lower American River. This would be a **less-than-significant** future cumulative impact. The impacts to vegetation and wildlife identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Under this set of alternative assumptions for future conditions, the cumulative impact analysis indicates that flows in the lower American River would be further reduced. However, during the critical growing season months of April through July, the number of occurrences in which mean monthly flows of the lower American River would be within the minimum/optimal flow range of 1,300 to 4,000 cfs would vary by 3 or fewer years during the 70-year period of record, in comparison to base conditions. As a result, reduced flows under these future cumulative conditions would not result in an adverse effect to the special-status species (including the Valley Elderberry Longhorn Beetle) that are dependent on riparian vegetation and backwater ponds associated with Lower American River. This would be a less-than-significant future cumulative impact. The impacts to vegetation and wildlife identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.8-2** ***Special Status Species and Riparian Vegetation Associated with the Sacramento River and Sacramento-San Joaquin Delta.*** *Under this set of assumptions for future conditions, the cumulative impact analysis indicates that flows in the lower American River would be further reduced. However, during the critical growing season months of April through July, the number of occurrences in which mean monthly flows of the lower American River would be within the minimum/optimal flow range of 1,300 to 4,000 cfs would vary by 3 or fewer years during the 70-year period of record, in comparison to base conditions. As a result, reduced flows under these future cumulative conditions would not result in an adverse effect to the special-status species (including the Valley Elderberry Longhorn Beetle) that are dependent on riparian vegetation and backwater ponds associated with Lower American River. This would be a **less-than-significant** future cumulative impact. The impacts to vegetation and wildlife identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Based on this alternative future cumulative scenario, additional diversions and potential CVP operations would result in decreases in Sacramento River mean monthly flows. Compared to base conditions, average mean monthly flows of the Sacramento River would be reduced by approximately 3% (715 cfs), during the critical growing season months (March - July). During the remaining months of the growing season (August - October) flows would be reduced, on average, by approximately 3% (317 cfs). As a result, mean monthly flows would not be reduced with sufficient magnitude and frequency to significantly alter existing riparian vegetation dependent on Sacramento River flows and Delta inflows. Because riparian vegetation would not be adversely affected and open water (river) habitat would be available, the special-status species dependent on such habitat would not be adversely affected. This would be a less-than-significant future cumulative impact. The impacts to vegetation and wildlife identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.8-3** ***Vegetation Associated with Reservoirs.*** *Under this set of assumptions for future conditions, the cumulative impact analysis indicates that, in comparison to base conditions, mean monthly surface water elevations at Folsom, Shasta, and Trinity reservoirs would be reduced by less than 1%*

during the months of the growing season (March-October). Because the draw down zones at these reservoirs are vegetated with non-native plants that do not form a contiguous riparian community, minor fluctuations in surface water elevations would not adversely affect important habitat values at these reservoirs. Consequently, this would be a ***less-than-significant future cumulative impact****. The impacts to vegetation and wildlife identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Based on this alternative future cumulative scenario, additional diversions and potential CVP operations would result in more frequent declines in the water surface elevation of Folsom, Shasta, and Trinity reservoirs. However, during the months of the growing season (March-October) mean monthly surface water elevations at Folsom, Shasta, and Trinity reservoirs would be reduced by less than 1%. Compared to base conditions, future month-end surface water elevations would be reduced by approximately 4 feet at Folsom and Shasta reservoirs and by approximately 8 feet at Trinity Reservoir. Because the draw down zones at these reservoirs are vegetated with non-native plants that do not form a contiguous riparian community, minor fluctuations in surface water elevations would not adversely affect important habitat values at these reservoirs. In addition, Keswick and Whiskeytown Reservoirs would continue to operate as regulating reservoirs for the larger upstream dams, so their pattern of elevation changes would not change under future cumulative conditions. This would be considered a less-than-significant cumulative impact. The impacts to vegetation and wildlife identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

6.9 CUMULATIVE RECREATION IMPACTS

The supplemental cumulative impact analysis is based on a set of alternative assumptions about future cumulative cumulative conditions throughout the CVP/SWP, as described in Section 6.1.2, Alternative Cumulative Conditions. The alternative future cumulative scenario includes implementation of the WFP and other reasonably foreseeable future actions. Under this alternative set of assumptions, analysis indicates that significant cumulative impacts to future recreation opportunities associated with the lower American River and Folsom Reservoir would occur. Future flows associated with the Sacramento River and Sacramento-San Joaquin Delta and surface water elevations of the other affected reservoirs would not be reduced with sufficient magnitude and frequency to result in significant cumulative impacts to recreational opportunities. The impacts to recreation identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.9-1**

Cumulative Impacts on the Lower American River Recreation Opportunities. *Under the alternative set of assumptions for future conditions, the supplemental cumulative impact analysis indicates that flows in the lower American River would be further reduced compared to baseline conditions. For example, during the months of May through September, the number of occurrences in which mean monthly flows of the lower American River would be reduced below the minimum threshold of 1,750 cfs would increase by as much as 40%, in comparison to base conditions. The WFP would contribute to this cumulative impact. This would be a* ***significant future cumulative impact****. The impacts to recreation identified in this*

supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Based on the future cumulative scenario evaluated for 2030, additional diversions and potential CVP operations would result in substantial decreases in Lower American River mean monthly flows during the high recreation use season. Compared to the Base Conditions, mean monthly flows during the period of May through September would be approximately 10% lower under the future cumulative condition. Mean monthly flows would fall below the 1,750 cfs minimum flow for rafting and boating in approximately 20 to 40% more years during most months of the summer recreation season. The greater frequency of inadequate flows for rafting and boating would substantially diminish recreation opportunities on the Lower American River and would be considered a significant cumulative impact. The impacts to recreation identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.9-2** ***Cumulative Impacts to Folsom Reservoir Recreation Opportunities.*** *Under the alternative set of assumptions for future conditions, the supplemental cumulative impact analysis indicates that, in comparison to base conditions, surface water elevations at Folsom Reservoir would be further reduced. For example, during the recreational use period of the year (primarily May- September), the number of occurrences in which lake levels would decline below the minimum 412-foot elevation for use of marina wet slips would increase by more than 10%, in comparison to base conditions. Reduced lake levels under the cumulative condition would also adversely affect swimming beaches. The WFP would contribute to this cumulative condition and it would be a* ***significant future cumulative impact****. The impacts to recreation identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Based on the supplemental cumulative analysis, additional diversions and potential CVP operations would result in more frequent declines in the water surface elevation of Folsom Reservoir during the high recreation use season. Compared to the Base Conditions, month-end elevations would typically average about 3 feet lower during the May through September period under the future cumulative condition. Month-end elevations would fall below the 420-foot elevation necessary to maintain all boat ramps in operation and keep swimming beaches useable slightly more often than Base Conditions early in the season and in approximately 20% more years than under Base Conditions in the later months of the season. Also, month-end elevations would decline below the 412-foot level necessary to keep wet slips in operation in approximately 10 to 25% more years, depending on the month of the season. The greater frequency of water surface elevation declines would substantially diminish recreation opportunities on the Folsom Reservoir and would be considered a significant cumulative impact. The impacts to recreation identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.9-3** ***Sacramento River and Sacramento-San Joaquin Delta Recreation Opportunities Under Future Cumulative Conditions.*** *Under the alternative set of assumptions for future conditions, the supplemental cumulative impact analysis indicates that during the critical recreation season months of May through September mean monthly flows in the Sacramento River would be reduced by approximately 3%, in comparison to base conditions. Flows would not be reduced with sufficient magnitude and frequency to adversely affect recreational opportunities associated with the Sacramento River and Sacramento-San Joaquin*

*Delta. This would be a **less-than-significant future cumulative impact**. The impacts to recreation identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Based on the supplemental cumulative analysis for 2030, additional diversions and potential CVP operations would result in small decreases in Sacramento River mean monthly flows during the high recreation use season. Compared to the Base Conditions, mean monthly flows during the period of May through September would be approximately 3% lower under the future cumulative condition. The summer flows in the Sacramento River remain sufficient to support water-dependent and water-enhanced recreation activity. On the upper Sacramento River, mean monthly flows below Keswick Reservoir during the May to September recreation season range between approximately 6,500 cfs to over 12,000 cfs. On the lower Sacramento River, mean monthly flows at Freeport during the May to September recreation season range between approximately 14,000 cfs to over 18,000 cfs. The change in frequency of reduced flows for rafting and boating would not be sufficient to substantially diminish recreation opportunities on the upper and lower Sacramento River and would be considered a less-than-significant cumulative impact. The impacts to recreation identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.9-4** ***Lake Natoma, Whiskeytown, Keswick, Shasta, and Trinity Reservoirs Recreation Opportunities Under Future Cumulative Conditions.*** *Under the alternative set of assumptions for future conditions, the supplemental cumulative impact analysis indicates that, in comparison to base conditions, mean monthly surface water elevations at Shasta and Trinity reservoirs would be reduced by less than 1% during the recreational use period of the year (primarily May-September), which would not substantially diminish recreation opportunities. Because Lake Natoma, Whiskeytown, and Keswick reservoirs serve as regulating reservoirs, the pattern of surface water elevations changes at these reservoirs is not expected to change substantially under cumulative conditions. This would be a **less-than-significant future cumulative impact.** The impacts to recreation identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Based on the supplemental cumulative analysis for 2030, additional diversions and potential CVP operations would result in slightly greater declines in the water surface elevation of Shasta and Trinity Reservoirs during the high recreation use season. Compared to the Base Conditions, month-end elevations would typically decrease by less than one-half of 1% during the May through September period under the future cumulative condition. Month-end elevations would fall below the 941-foot elevation necessary to maintain at least one boat ramp in operation in each major arm of Shasta Reservoir typically only one year more often under the alternative cumulative conditions compared to Base Conditions. Keswick and Whiskeytown Reservoirs would continue to operate as regulating reservoirs for the larger upstream dams, so their pattern of elevation changes would not change under future cumulative conditions. The change in frequency of water surface elevations would not be substantial and would not substantially diminish recreation opportunities on the Shasta, Trinity, Keswick, and Whiskeytown Reservoirs; this would be considered a less-than-significant cumulative impact. The impacts to recreation identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

6.10 CUMULATIVE LAND USE AND GROWTH-INDUCING IMPACTS

One of the coequal objectives of the WFP is "to provide a reliable and safe water supply for the region's economic health and planned development through the year 2030." Under the WFP, water would be utilized by purveyors which serve jurisdictions in the water service study area. With sufficient water, jurisdictions can make decisions about how much and what type of development to approve, in accordance with planned land uses, recognizing that water supply is not a constraint.

Land use designations established in the most recent general plans for the jurisdictions in the water service study area represent the maximum long-term level of growth approved by city and county decision-makers. Because the WFP addresses the region's water demands through the year 2030, and the buildout years of the general plans are not able to be precisely predicted, the reliable water supply provided by the WFP to each purveyor may fall short of, just meet, or exceed water demand at buildout. The diversions provided for in the WFP are intended to accommodate each agency's projected surface water need in 2030 considering such factors as projected growth rate, water rights, conservation levels, availability of alternative water supplies, environmental considerations, and other factors. Section 4.10, Land Use and Growth-Inducing Impacts, of the WFP Draft EIR evaluates the WFP's potential land use effects in relation to the adopted general plans for long-term growth of the communities in the water service study area.

6.11 CUMULATIVE AESTHETICS IMPACTS

The supplemental cumulative impact analysis is based on a set of alternative future cumulative conditions throughout the CVP/SWP, as described in Section 6.1.2, Alternative Cumulative Conditions. The alternative future cumulative scenario includes implementation of the WFP and other reasonably foreseeable future actions. The impacts to aesthetics identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Discernible aesthetic impacts along river corridors are primarily associated with adverse impacts to localized vegetation. As previously discussed, significant reductions in river flow can result in a reduced expanse of the water area, which can result in the thinning of the riparian corridor, loss of valuable border zone vegetation, and subsequent degradation of wildlife habitat. Under this set of alternative assumptions, analysis indicates that future impacts to the aesthetic quality could occur, as a result of adverse impacts to riparian vegetation and wildlife habitat associated with the lower American River. Flows would not be reduced with sufficient magnitude and frequency to significantly alter existing riparian vegetation and habitat dependent on Sacramento River flows and Delta inflows. As a result, the aesthetic quality of the Sacramento River and Sacramento-San Joaquin Delta would not be adversely affected.

Discernible aesthetic impacts among reservoirs are generally assumed to occur with reductions in surface water elevations of greater than 10 feet. As a result, significant aesthetic effects of reservoirs would be based primarily on the frequency in which future surface water elevations would be reduced by more than 10 feet, in comparison to base conditions. Under this set of alternative assumptions, analysis of future cumulative conditions indicates that impacts to the aesthetic quality of reservoirs would not occur.

Impact **6.11-1**

Aesthetic Value of the Lower American River. *Under this set of assumptions for future conditions, the cumulative impact analysis indicates that flows in the lower American River would be further reduced. However, during the*

critical growing season months of April through July, the number of occurrences in which mean monthly flows of the lower American River would be within the minimum/optimal flow range of 1,300 to 4,000 cfs would vary by 3 or fewer years during the 70-year period of record, in comparison to base conditions. As a result, reduced flows under future cumulative conditions would not result in an adverse effect to riparian vegetation and habitat and, as such, would not result in an adverse affect to the aesthetic quality of the lower American River. This would be a ***less-than-significant future cumulative impact.*** *The impacts to aesthetics identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Under the set of assumptions for future conditions used in the WFP Draft EIR, the cumulative impact analysis indicates that flows in the lower American River would be further reduced. However, during the critical growing season months of April through July, the number of occurrences in which mean monthly flows of the lower American River would be within the minimum/optimal flow range of 1,300 to 4,000 cfs would vary by 3 or fewer years during the 70-year period of record, in comparison to base conditions. As a result, reduced flows under future cumulative conditions would not result in an adverse effect to the special-status species (including the Valley Elderberry Longhorn Beetle) that are dependent on riparian vegetation and backwater ponds associated with Lower American River. This would be a less-than-significant future cumulative impact. The impacts to aesthetics identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.11-2**

Aesthetic Value of the Sacramento River and Sacramento-San Joaquin Delta. *Under this set of assumptions for future conditions, the cumulative impact analysis indicates that mean monthly flows in the Sacramento River would be reduced by approximately 3%, in comparison to base conditions, during the critical growing season months of April through July. Flows would not be reduced with sufficient magnitude and frequency to significantly alter existing riparian vegetation dependent on Sacramento River flows and Delta inflows. As a result, the aesthetic quality of the Sacramento River and Sacramento-San Joaquin Delta would not be adversely affected. This would be a* ***less-than-significant future cumulative impact****. The impacts to aesthetics identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Based on this alternative future cumulative scenario, additional diversions and potential CVP operations would result in decreases in Sacramento River mean monthly flows. Compared to base conditions, average mean monthly flows of the Sacramento River would be reduced by approximately 3% (715 cfs), during the critical growing season months (April - July). During the remaining months of the growing season (August - October) flows would be reduced, on average, by approximately 3% (377 cfs). As a result, mean monthly flows would not be reduced with sufficient magnitude and frequency to significantly alter existing riparian vegetation dependent on Sacramento River flows and the Sacramento San Joaquin Delta inflows. As a result, the aesthetic quality of

the Sacramento River and Sacramento-San Joaquin Delta, under future cumulative conditions, would not be adversely affected. This would be a less-than-significant future cumulative impact. The impacts to aesthetics identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.11-3**

Aesthetic Value of Reservoirs. *Under this set of assumptions for future conditions, the cumulative impact analysis indicates that mean monthly surface water elevations at Folsom, Shasta, and Trinity reservoirs would be reduced by less than 5 feet, in comparison to base conditions. In addition, because Lake Natoma, Whiskeytown, and Keswick Reservoir serve as regulating reservoirs, future surface water elevations at these reservoirs are not expected to change substantially. Consequently, this would be a* ***less-than-significant future cumulative impact.*** *The impacts to aesthetics identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

Based on this alternative future cumulative scenario, additional diversions and potential CVP operations would result in more frequent declines in the water surface elevation of Folsom, Shasta, and Trinity reservoirs. However, compared to base conditions, future mean monthly surface water elevations at Folsom, Shasta, and Trinity reservoirs would be reduced by less than 1%. Based on the 70-year hydrologic period of record, month-end surface water elevations would be reduced, on average, by approximately 4 feet or less at Folsom and Shasta reservoirs and approximately 8 feet or less at Trinity Reservoir. In addition, Keswick and Whiskeytown Reservoirs would continue to operate as regulating reservoirs for the larger upstream dams, so their pattern of elevation changes would not change under future cumulative conditions. This would be considered a less-than-significant cumulative impact. The impacts to aesthetics identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

6.12 CUMULATIVE CULTURAL RESOURCES IMPACTS

Under the alternative future cumulative condition conducted for the supplemental cumulative analysis, which includes the WFP and other reasonably foreseeable future system-wide actions (e.g., out-of-basin CVP/SWP demands, increased Sacramento Valley demands, and increased Trinity River flows), changes (e.g., lowered reservoir storage and river flows) in the hydrology of CVP/SWP waterbodies and watercourses are expected. Such changes have the potential to affect known and unknown cultural resource sites within Folsom Reservoir, the Lower American River, and the Lower Sacramento River through any combination of increased exposure, inundation, or physical deterioration caused by increased wave action. The impacts to cultural resources identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

This section provides a discussion of the potential impacts to cultural resources that could occur in Folsom Reservoir, the Lower American River, and the Lower Sacramento River under the alternative future cumulative condition conducted for the supplemental cumulative impacts analysis, relative to existing conditions.

Impact **6.12-1**

Physical Deterioration of Cultural Resource Sites in Folsom Reservoir. *Under this alternative future cumulative condition, Folsom Reservoir water surface elevations would be reduced more frequently and/or by greater magnitudes compared to that occurring solely as a result of the WFP. Future reductions in the 70-year monthly average water surface elevation would be approximately 3 to 4 ft, relative to existing elevations. Such reductions would result in a lowered zone where water-level fluctuations would be the most pronounced. The effect of this lowered fluctuation zone on cultural resources would be to expose sites that historically had experienced a higher degree of protection from erosion and other physical destructive forces. Under this alternative future cumulative condition, this would be a* ***potentially significant cumulative impact****. The impacts to cultural resources identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

It is expected that increased diversions system-wide would occur in the future. These increased diversions, both out-of-basin and those within and outside of the WFP in the American River watershed, would have the overall system-wide effect of lowered storage and water surface elevations in Folsom Reservoir. Such reductions would lower the zone where water-level fluctuations would be the most pronounced, and also increase the number of fluctuations in this zone each year. The long-term effect on cultural resources would be to expose sites that historically have been somewhat protected from erosion and hydrologic sorting through wave action, to increased vandalism, and to more rapid breakdown of organic remains through repeated wetting and drying. The impacts to cultural resources identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.12-2**

Inundation or Exposure of Cultural Resource Sites in the Lower American River. *Under this alternative future cumulative condition, river flows in the Lower American River would be reduced more frequently and/or by greater magnitudes compared to that occurring solely as a result of the WFP. With overall reductions in 70-year monthly average river flows at any location along the Lower American River (up to 16% , but generally much lower), the potential for inundation of cultural resource sites along the Lower American River would be less than that existing today. Such reductions would also not exceed those historically recorded, thereby avoiding further exposure of any cultural remains which are presently submerged. This would represent a* ***less-than-significant cumulative impact****. The impacts to cultural resources identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

It is expected that, under this alternative future cumulative condition, mean monthly river flows in the lower American River below Nimbus Dam would be lower than at present, implying that no new areas (or cultural resources) would be inundated. Overall reduction in 70-year monthly average river flows could approximate 16% but, would generally be much lower. Additionally, minimum mean monthly flows would generally be slightly lower (approximately 10 t 20 cfs), relative to current conditions. This slight reduction in minimum mean monthly flows would have negligible effects on the water surface elevation, suggesting that any cultural remains which presently are submerged (e.g., old shipwrecks) would continue to be submerged. It is expected that future changes in river flows along the lower American River between Nimbus Dam and the river mouth would have a less-than-significant cumulative effect on cultural resources. The impacts to cultural resources

identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

Impact **6.12-3**

Inundation or Exposure of Cultural Resource Sites in the Lower Sacramento River. *Under this alternative future cumulative condition, flows in the Lower Sacramento River would be reduced more frequently and/or by greater magnitudes compared to that occurring solely as a result of the WFP. Such reductions on a 70-year monthly average, however, are anticipated to be generally less than 3% , relative to existing flow conditions. These reductions would be small enough that exposure of submerged cultural resources would be highly unlikely. Moreover, any cultural resources within the river banks and floodplain would not be affected since flows would, on average, be lower, and it is assumed that the existing levee system would continue to provide channelized protection of the floodplain areas. This would be considered a* ***less-than-significant cumulative impact****. The impacts to cultural resources identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.*

It is expected that future increased water demands would result in decreased flows on the Lower Sacramento River for most of the year, with somewhat higher minimum mean monthly flows during the winter and early spring (February-April). It is conceivable that decreased flows could expose submerged cultural resources (e.g., shipwrecks), however, the decrease would be small enough (i.e., generally less than 3%, relative to existing flow conditions) that such exposure would be highly unlikely. Cultural resources along the river banks and within the floodplain would not be affected since, on average, flows would be lower, and it is assumed that the existing levee system would continue to contain river flows within the channelized portion of the river. It is expected that future changes in river flows along the lower Sacramento River near Freeport under this alternative cumulative condition would have a less-than-significant cumulative impact on cultural resources. The impacts to cultural resources identified in this supplemental analysis do not differ substantially from the impacts identified in the cumulative impact analysis in the WFP Draft EIR.

6.13 CUMULATIVE SOILS AND GEOLOGY IMPACTS

The supplemental cumulative impacts analysis is based on a set of alternative cumulative future conditions throughout the CVP/SWP, as described in Section 6.1.1, Alternative Cumulative Conditions. Since hydrologic analyses (i.e., determined through an evaluation of PROSIM output) did not factor in to the cumulative impacts assessment for soils and geology in the WFP Draft EIR, the alternative cumulative scenario for hydrologic conditions captured in the supplemental cumulative impacts analysis would not affect soils and geology throughout the region. Therefore, there would be no change to the cumulative impact determinations for soils and geology from those of the WFP Draft EIR.

6.14 MITIGATION MEASURES FOR CUMULATIVE IMPACTS AND LEVEL OF SIGNIFICANCE AFTER MITIGATION

CUMULATIVE IMPACT MITIGATION MEASURES

The WFP includes many provisions to reduce impacts, including cumulative impacts on the CVP system, Sacramento River, and Bay-Delta (refer to Section 4.1.5 of the WFP Draft EIR). In addition, mitigation measures are identified to address significant project impacts, as warranted, in Section 4.2 through 4.13 of the WFP Draft EIR for each environmental topic area.

The State CEQA Guidelines indicate that the focus of an EIR's discussion of mitigation for cumulative effects is on the measures necessary to mitigate or avoid the project's contribution to a cumulative impact. Section 15130(b)(3) of the Guidelines indicates that "[a]n EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects." The identified mitigation measures for project impacts would also serve to lessen or mitigate for the WFP's contribution to the effects of the alternative future cumulative scenario modeled in the supplemental cumulative analysis. Therefore, this Final EIR also recognizes them as mitigation for cumulative impacts.

Even with the provisions in the WFP and the project mitigation measures identified in the WFP Draft EIR, unless additional water supplies are developed, there would still be remaining cumulative impacts on the CVP system, Sacramento River, and the Bay-Delta.

Many of the actions necessary to mitigate or avoid the remaining cumulative impacts are the responsibility of USBR and other federal and state agencies with jurisdiction over the affected resources, such as CALFED, USFWS, NMFS, and CDFG. The number and range of potential policy decisions and actions, or combination thereof, are considerable, and it is not feasible to predict which measures can and should be implemented by the involved federal and state agencies. Decision-making about systemwide, water resource management policies, programs, and mitigation actions is ongoing through the CALFED process, USBR implementation of the CVPIA, consultation with USFWS and NMFS in compliance with the Endangered Species Act, and other efforts. These decisions are influenced by statewide interests and state and federal mandates that are beyond the control of the Water Forum participants. Therefore, attempting to define other potential cumulative impact mitigation measures in this Final EIR, beyond those already included in the WFP or identified in the WFP Draft EIR for the project impacts, would be only speculative at this time.

LEVEL OF SIGNIFICANCE OF CUMULATIVE IMPACTS AFTER MITIGATION

The ability to entirely avoid or mitigate cumulative impacts to a less-than-significant level depends on numerous state and federal policy decisions and actions beyond the control of the Water Forum participants. If additional water supplies are developed, or diversions are reduced, it is conceivable that cumulative impacts could be mitigated by policy decisions and actions by the relevant state and federal agencies. However, it is not yet feasible to reliably predict the outcome of the various state and federal water resource management programs.

Although the provisions of the WFP and identified mitigation measures for project impacts would also help reduce cumulative impacts, it cannot be assured at this time that the significant cumulative impacts described in this Final EIR would be avoided or reduced to a less-than-significant level. Because of the uncertainty, it is necessary for CEQA compliance purposes to recognize and disclose that the cumulative impacts identified in this Final EIR could be significant and unavoidable. Consequently, any significant cumulative impacts described in Sections 6.2 through 6.13 of this Final EIR are considered to be potentially significant and unavoidable.

Appendix L

There are three groundwater zones (sub-basins) within Sacramento County. These zones consist of the Sacramento North area, South Sacramento area, and the Galt area and generally correspond to the hydrologic boundaries of the three primary groundwater cones of depression. These areas of lowered groundwater levels, developed due to localized intensive groundwater pumping, are located adjacent to McClellan AFB, in the Elk Grove area, and in the Galt area. The hydrologic boundaries separating the groundwater zones include the American River, which serves as the boundary between the Sacramento North area and the South Sacramento area, and the Cosumnes River, which serves as a boundary between the South Sacramento area and the Galt area.

Sustainable yield is the amount of groundwater which can be safely pumped from the groundwater basin over a long period of time while maintaining acceptable groundwater elevations. Sustainable yield requires a balance between pumping and basin recharge and is expressed as the number of acre feet of water per year which can be pumped from the basin on a long-term average annual basis.

Groundwater recharge in the Sacramento area groundwater basin is not a fixed amount but rather is a function of groundwater levels.

In the Sacramento groundwater basin, stream recharge and boundary inflows are major groundwater recharge sources. Because of this relationship sustainable yield is related to the extraction pattern, location of pumps and the amount and variation of extraction rates. Thus in the Sacramento county groundwater basin, recharge is a function of basin pumping and sustainable yield is not a unique fixed number.

Determination of sustainable yield should be dependent on the lowest groundwater levels that can be allowed while remaining within physical and institutional limits.

During the course of the Water Forum negotiations three teams were formed, one of which was the Groundwater Negotiation Team (GWNT).

The GWNT reviewed information gleaned from the Sacramento County Groundwater Model and the Groundwater Yield Analysis Technical Memorandum: Impacts Analysis. The Impacts Analysis contained information on the impacts of establishing sustainable yields for several different pumping amounts.

Recommendations on sustainable yield for the three zones of the Sacramento groundwater basin are:

SOUTH AREA

The recommended estimated average annual sustainable yield is 273,000 acre feet. This represents the year 2005 projected pumping amount and is 23,000 acre feet more than the 1990 pumping amount. The projected 2005 pumping amount for the South Area took into consideration the cost of delivery of surface water and the impacts which occur due to the lower stabilized groundwater levels. To meet year 2030 demands, a program would be implemented to use the groundwater basin conjunctively with surface water diversions.

GALT AREA

The recommended estimated average annual sustainable yield is 115,000 acre feet. This represents the year 1990 pumping amount. Conjunctive use would be implemented, dependent upon the availability of surface water, to enhance groundwater levels.

SACRAMENTO NORTH AREA

The recommended estimated average annual sustainable yield is 131,000 acre feet. This represents the year 1990 pumping amount. To help meet year 2030 demands, a program would be implemented to use the groundwater basin conjunctively with surface water supplies.

In August 1998, the cities of Citrus Heights, Folsom, Sacramento and Sacramento County by a joint powers agreement (JPA) formed the Sacramento North Area Groundwater Management Authority (SNAMGA). This was specified in the Groundwater Management Element contained in the Water Forum Action Plan. These agencies have, in effect, delegated their power to management of the groundwater resources in the northern part of Sacramento County, including maintaining the sustainable-yield recommendation contained in the Element and specified above, to the representatives of all groundwater pumpers in the North Area. Also, the JPA and Groundwater Element specifically provide for coordination of policies and activities in adjacent political jurisdictions. This recognizes that the groundwater basin in the north part of Sacramento County is shared with the counties of Sutter and Placer and the City of Roseville.

APPENDIX M

Modeling Approach and Assumptions

The Fischer Delta Model (FDM) was used to simulate the potential effects of the WFP on Delta TDS concentrations at various Delta locations. The PROSIM simulations conducted for the DEIR provided hydrologic input to the FDM on a monthly time-step. The PROSIM modeling simulation defining existing hydrologic conditions (henceforth referred to as the Base Condition) and the simulation depicting the WFP imposed on existing conditions (Base + WFP) were used as hydrologic input to the FDM. Delta water quality was then modeled for the 70-year hydrologic period of record (1922-1991) by combining results from the FDM with current (measured) and projected future TDS concentrations for the Sacramento and American rivers. The FDM simulations provided estimates of the fraction of the flow from each major water source (e.g., Sacramento River, San Joaquin River, Ocean intrusion, etc.) to the interior Delta at three different "receptor locations" within the Delta (i.e., Rock Slough, Old River at the Los Vaqueros intake, and adjacent to the inlet to Clifton Court Forebay).

Two FDM simulations were performed, including: 1) the Base Condition, which utilized the hydrologic flows at FDM model boundaries under conditions of current hydrology and existing CVP operating rules; and 2) the Base + WFP condition, which simulated hydrologic conditions that would occur if the WFP were fully implemented today.

It is important to note that a number of key assumptions were made in performing the FDM simulations, including the following:

1) The quantity of agricultural return flow is determined by PROSIM on a monthly basis, with the monthly flow divided among eighty-nine locations according to a fixed formula;
2) No temporally varying south Delta barriers were "installed" in either of the FDM simulations;
3) The Delta Cross Channel was operated according to the schedule provided as part of the PROSIM model input to the FDM;
4) A 19-year mean tide was used to simulate tidal influences at the downstream, Bay boundary of the FDM.

The contribution of the Sacramento River to the TDS at three interior Delta locations (Rock Slough, Old River, and Clifton Court Forebay) was then determined. This was done by multiplying the flow fractions calculated by the FDM with current (measured) and future (estimated) values of TDS for the Sacramento River, the American River, and for two wastewater discharges (the Roseville Wastewater Treatment Plant and the Sacramento Regional Wastewater Treatment Plant (SRWTP)). The region to be supplied with the additional water diverted under the WFP is, for the most part, the service area of the SRWTP. Exceptions include: 1) El Dorado County and Irrigation District; and 2) City of Roseville. Of these two exceptions, Roseville's future wastewater discharges were accounted for in this modeling effort. Conversely, wastewater discharges by the El Dorado Irrigation District are sufficiently small that specifically accounting for them in this modeling effort was not warranted.

The three water quality simulations performed, based on output from the FDM, are defined below.

1) Base Condition: This simulation used the FDM flow fractions calculated using current hydrology and CVP operating criteria, and recent measured values of TDS in the rivers and wastewater flows.

2) Base + WFP ("Scenario 1"): Utilized the Base + WFP hydrology, current CVP operating criteria, and assumed that there would be no net increase in the total TDS load discharged from the SRWTP, as a result of future treatment upgrades). This was done by assuming that the concentration of TDS in the SRWTP effluent would decrease in proportion to the projected increase in wastewater flow so that the TDS "load" from the SRWTP would be the same as it is now. The load for the Roseville WWTP was allowed to increase, based on future projected effluent TDS and flow levels, because upgrades to decrease TDS levels for this plant are not anticipated in the future.

3) Base + WFP ("Scenario 2"): This simulation used the FDM flow fractions calculated using the Base + WFP hydrology, current CVP operating criteria, and projected TDS concentrations. It also assumed that the SRWTP effluent water quality (i.e., TDS) would be approximately the same in the future as it is now (i.e., no upgrade in the treatment process).

The contribution of the Sacramento River to water quality at each of the three receptor locations was estimated by assuming that TDS would mix conservatively (i.e., that no chemical or biological transformations or physical losses of TDS would occur as Sacramento River water mixed with water from other sources within the Delta). For each of the three water quality simulations performed, the cumulative probability distribution for the TDS at each of the three interior Delta locations (Rock Slough, Old River, and Clifton Court Forebay) was calculated for each calendar month.

Based on the three modeling simulations performed, the hydrologic or flow effects of the WFP on the Sacramento River's contribution to Delta TDS levels at the three locations modeled can be approximated by comparing the cumulative probability distributions for the Base Condition to those calculated for the Base + WFP ("Scenario 1"). In addition, the overall effect of the WFP, that is effects due to both hydrology and potential increases in TDS loading from the SRWTP and Roseville WWTP, can be approximated by comparing the Base Condition to the Base + WFP ("Scenario 2").