BUREAU OF RECLAMATION

Appendix C – Comments Received

Los Vaqueros Reservoir Expansion Project
Final Supplement to the Final Environmental Impact Statement
Final Environmental Impact Report

U.S. Department of the Interior

February 2020

APPENDIX C
Comments Received

C.1 Federal Agencies

TABLE C-1
FEDERAL AGENCIES THAT SUBMITTED COMMENTS ON THE DRAFT SUPPLEMENT

Comment Format	Comment ID	Name of Commenter	Title	Organization/ Affiliation	Page Number
Letter	F_EPA	Kathleen Martyn Goforth	Manager, Environmental Review Section, Region IX	Environmental Protection Agency	C-3
Letter	F_USFWS	Eric Tattersall	Assistant Field Supervisor	U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office	C-6

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

SEP 0 8 2017

Pablo R. Arroyave
Acting Regional Director
U.S. Bureau of Reclamation
Mid-Pacific Region
2800 Cottage Way
Sacramento, CA 95825

Subject: Draft Supplement to the Final Environmental Impact Statement for Los Vaqueros Reservoir Expansion, Contra Costa County, California (EIS No. 20170125)

Dear Mr. Arroyave:

The U.S. Environmental Protection Agency has reviewed the Draft Supplement to the Final Environmental Impact Statement (Draft SFEIS) for the Los Vaqueros Reservoir Expansion. Our review is provided pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

The Draft SFEIS evaluates expansion of the Los Vaqueros Reservoir to 275 thousand acre-feet (TAF), which is presented as the second phase of an expansion that previously increased the size of the reservoir from 100 TAF to 160 TAF. The first phase of the expansion was completed pursuant to the 2009 Final EIS/EIR, which evaluated, but did not select, a two-phased alternative for expansion to 275 TAF. The selected alternative did, however, explicitly leave open the possibility of a second phase in the event additional partners for such a project were found. It is EPA's understanding that the reservoir's owner Contra Costa Water District (CCWD) has now identified sufficient potential partners to enable proceeding with the second phase of expansion.

The Draft SFEIS includes revised information on operational assumptions that reflect drought conditions as well as water supply demand and operational preferences from the local water agencies and south-of-Delta wildlife refuges that have been identified as potential partners in the Phase 2 Expansion. The entrainment monitoring at the Rock Slough fish screens and the additional water quality analysis support the proposed Mitigation and Monitoring plan for the expansion proposal. EPA appreciates that the information described above has been included in the Draft SFEIS for public review and comment.

We suggest that the SFEIS clarify the permitting process for the future proposed activities within jurisdictional waters of the U.S. and incorporate the results of any further analyses to support that process. If a Clean Water Act Section 404 Individual Permit is required, we suggest that the SFEIS include the Clean Water Act Section 404(b)(1) alternatives analysis and identify the Least Environmentally Damaging Practicable Alternative. Including information sufficient to demonstrate compliance with the 404(b)(1) Guidelines in Environmental Impact Statements improves efficiency and

F_EPA_01

provides a more meaningful opportunity for the public to contribute timely and substantive input on the evaluation of alternatives, which could inform the decision-making process. F_EPA_01 cont.

The Habitat Management Plan on CCWD's Los Vaqueros website provides a detailed description of interim and long-term management of 5,079 acres of mitigation land purchased by CCWD in Contra Costa, Alameda, and San Joaquin Counties for the Phase I expansion. EPA encourages Reclamation and CCWD to use the information contained in this document and other mitigation monitoring reports to further inform the expected permits from the Corps and the wildlife agencies for an enlarged 275 TAF reservoir. This will facilitate ensuring that any additional mitigation complements projects already completed in conjunction with the broad wildlife and habitat goals articulated in efforts such as the East Contra Costa Habitat Conservation Plan. F_EPA_02

The Draft SFEIS does not identify the Bureau's preferred alternative. It is EPA's policy to rate each alternative when a preferred alternative is not identified. Based on our review, we are rating all the alternatives evaluated in the Draft SFEIS as *Lack of Objections* (LO) (see enclosed "Summary of EPA Rating Definitions").

Thank you for the opportunity to review this Draft SFEIS. When the Final Supplement is released, please send one hard copy and one CD to the address above (mail code: ENF-4-2). If you have any questions, please contact me at (415) 972-3521, or have your staff contact Stephanie Gordon, the lead reviewer for this project. Stephanie can be reached at (415) 972-3098 or gordon.stephanies@epa.gov.

Sincerely,

Kathleen Martyn Goforth, Manager
Environmental Review Section

Enclosure: Summary of EPA Rating Definitions
Cc via email: Lisa Rainger, Project Manager, Bureau of Reclamation
William Guthrie, U.S. Army Corps of Engineers

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

In Reply Refer to:
08ESMF00-
2017-F-3133

SEP 05 2017

Lisa Rainger
Bureau of Reclamation
2800 Cottage Way, MP-700
Sacramento, CA 95825

Subject: Los Vaqueros Reservoir Expansion Project Draft Supplement to the Final EIS/EIR, Contra Costa County, California

Dear Ms. Rainger:

This letter is provided by the U.S. Fish and Wildlife Service (Service) in response to the Draft Supplement to the Final EIS/EIR (DSFEIR) for the proposed Phase 2 Expansion of the Los Vaqueros Reservoir Project (Project). The comments provided below relate specifically to potential impacts to East Contra Costa Habitat Conservation Plan/Natural Communities Conservation Plan (ECCCHCP/NCCP) Preserve Lands and other lands conserved as mitigation for effects to state and federally listed species. These comments are provided to assist you with your environmental review of the proposed project and are not intended to preclude future comments from the Service. Project-related effects to federally listed species are not specifically addressed in this letter and must be analyzed in a formal consultation with the Service pursuant to section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*), and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402).

Impacts to the ECCHCP/NCCP

Impact 4.6.17 in the DSFEIR fails to address the potential impacts to ECCCHCP/NCCP Preserve Lands resulting from the proposed alignment of the Transfer-Bethany Pipeline. The proposed pipeline alignment crosses ECCCHCP/NCCP Preserve Lands acquired by the East Contra Costa Habitat Conservancy (Conservancy) in cooperation with the East Bay Regional Park District to be incorporated into the ECCCHCP/NCCP Preserve System and preserved and managed in perpetuity for species covered under the HCP. The Service recommends revising Impact 4.6.17 to analyze the impacts of the proposed Transfer-Bethany Pipeline on ECCCHCP/NCCP Preserve Lands (including to wetlands/ponds created by the Conservancy on preserve lands), and revise the DSFEIR to include alternative alignments for the Transfer-Bethany Pipeline that would avoid ECCCHCP/NCCP Preserve Lands. The DSFEIR should also include an analysis of the feasibility of the proposed Transfer-Bethany Pipeline alignment given the encumbrances (i.e. recorded restrictive covenants) on ECCCHCP/NCCP Preserve Lands that it must cross.

F_USFWS_01

Impacts to Mitigation Lands

Regulatory permitting for the Phase 1 Expansion of the Los Vaqueros Reservoir Project (which expanded the reservoir to a capacity of 160 thousand acre-feet) resulted in higher mitigation ratios than are described in the DSFEIR for terrestrial biological impacts resulting from impacts to San Juaquin kit fox conservation easement lands (mitigation lands). The DSFEIR should be revised to describe the mitigation anticipated to be necessary for impacts to mitigation lands for the Phase 2 Expansion based on the outcome of regulatory permitting for the Phase 1 Expansion of the Los Vaqueros Reservoir Project which resulted in a ratio of nearly 9:1 (land conserved to land impacted) for impacts to mitigation lands. F_USFWS_02

Thank you for the opportunity to provide comments on the proposed the Draft Supplement to the Final EIS/EIR (DSFEIR) for the proposed Phase 2 Expansion of the Los vaqueros Reservoir Project. If you have any questions or concerns regarding these comments and recommendations, please contact Stephanie Jentsch (Stephanie_Jentsch@fws.gov), at the letterhead address, or at (916) 414-6600.

Sincerely,

E. Tattersall

Eric Tattersall
Assistant Field Supervisor

cc:
Melissa Farinha, California Department of Fish and Wildlife, Napa, California
Abby Fateman, East Contra Costa County Habitat Conservancy, Martinez, California
Marguerite Patil, Contra Costa Water District, Concord, CA

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C.2 State Agencies

TABLE C-2
STATE AGENCIES THAT SUBMITTED COMMENTS ON THE DRAFT SUPPLEMENT

Comment Format	Comment ID	Name of Commenter	Title	Organization/ Affiliation	Page Number
Letter	S_CDFW	Scott Wilson	Regional Manager, Bay Delta Region	California Department of Fish and Wildlife	C-11
Letter	S_DWR	Pedros Villalobos	Chief, State Water Project Analysis Office	California Department of Water Resources	C-24
Letter	S_CVRWQCB	Stephanie Tadlock	Environmental Scientist	Central Valley Regional Water Quality Control Board	C-34
Letter	S_SWRCB	Sean Maguire	Manager, Petition, Licensing Registration Section, Division of Water Rights	California State Water Resources Control Board	C-43
Letter	S_DSC	Cassandra Enos-Nobriga	Deputy Executive Officer	Delta Stewardship Council	C-169

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State of California – The Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Director
Bay Delta Region
7329 Silverado Trail
Napa, CA 94558
(707) 944-5500
www.wildlife.ca.gov

***EDMUND G. BROWN JR.**, Governor*
CHARLTON H. BONHAM,

August 31, 2017

Marguerite Patil, P.E.
Special Assistant to the General Manager
Contra Costa Water District
P.O. Box H_2O
Concord, CA 94524

Dear Ms. Patil:

Subject: Los Vaqueros Reservoir Expansion Project Draft Supplement to Final EIS/EIR, SCH# 2006012037, Contra Costa County

The California Department of Fish and Wildlife (CDFW) has reviewed the Draft Supplement to the Final EIS/EIR (DSFEIR) for the proposed Phase 2 Expansion of the Los Vaqueros Reservoir (Project) pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines. In accordance with our mandates, CDFW is submitting comments on the DSFEIR as a means to inform Contra Costa Water District (CCWD), as the Lead Agency, of our concerns regarding potentially significant impacts to sensitive resources associated with the proposed Project.

CDFW ROLE

CDFW is a Trustee Agency with responsibility under CEQA §15386 for commenting on projects that could impact fish, plant or wildlife resources. CDFW is also considered a Responsible Agency if a project requires discretionary approval, such permits issued under the California Endangered Species Act (CESA) and the Native Plant Protection Act, Lake and Streambed Alteration Agreements (LSAA), and other provisions of the Fish and Game Code that afford protection to the State's fish and wildlife trust resources.

Project Location and Description

The Project is located throughout the foothills of eastern Contra Costa County and extends eastward to Middle River and Old River in the Sacramento-San Joaquin Delta and southward to the California Aqueduct. The Project consists of the Phase 2 components of the Los Vaqueros Reservoir expansion. The Project proponent (CCWD) proposes to provide environmental water, and water supply reliability benefits, by accomplishing the following: expand the reservoir capacity (currently 160,000 acre-feet (160 TAF) to 275 TAF; construct approximately 26 miles of pipeline that includes the installation of a 300 cubic feet per second (cfs) pipeline from existing facilities to the California Aqueduct (Transfer-Bethany Pipeline), a pipeline connecting the Old River and Middle River diversions to an upgraded transfer station (Delta Transfer Pipeline), and a pipeline from CCWD's Neroly Blending Facility to the City of Brentwood Water Treatment Plant; upgrades to the existing Transfer Facility including a new 300-cfs capacity pump station and an additional 5-million gallon (MG) capacity storage tank; replace Pumping Plant No.1; construct a new high-lift pump station at Neroly with a 350-cfs capacity; construct a new East Bay Municipals Utilities District (EBMUD)-CCWD intertie pump station to provide the 300 feet of

head needed to lift water from Los Vaqueros Pipeline to EBMUD's Mokelumne Aqueduct No. 2; construct the Walnut Creek Pumping Plant and variable frequency drives for EBMUD to allow throttling at Mokelumne Aqueducts Nos.1, 2, and 3; construct the East Contra Costa Irrigation District (ECCID) Intertie Pipeline which allows for of up to 80-cfs between the existing Transfer Facility and ECCID's existing Bixler diversion in Brentwood; and construct other related water delivery infrastructure, power supplies, recreation facilities, and associated improvements needed to operate the expanded reservoir.

The Project includes the following elements and updates described in the DSFEIR and how they relate to the Draft EIR (DEIR) and Final EIS/EIR (FEIR) published in 2011:

Facilities completed under the FEIR:

1. Los Vaqueros Reservoir Dam modification expanded the 100 TAF to 160 TAF storage capacity.
2. Relocation of the marina complex upslope of the original marina location
3. Relocation of trails and access roads that were inundated by the 160 TAF expansion
4. Acquisition and management of over 5,000 acres of habitat lands as compensatory mitigation

Facilities proposed in the FEIR and eliminated in the DSFEIR:

1. Delta Intake and Pump Station
2. Transfer-Los Vaqueros Pipeline
3. Northern Marina Complex

Facilities proposed in the FEIR that are modified in the DSFEIR:

5. Los Vaqueros Reservoir Dam modification that would expand the current reservoir capacity from160 TAF to 275 TAF.
6. Relocation of the Los Vaqueros Watershed Trails
7. Construction of the Delta Transfer Pipeline
8. Construct of the Transfer-Bethany Pipeline
9. Upgrades to the Transfer Facility

New proposed facilities or facility improvements not addressed in the FEIR:

10. Replacement of Pumping Plant No.1
11. Construction of the Neroly High-Lift Pump Station
12. Construction and water transfer through a new Brentwood Pipeline
13. Construction of the EBMUD-CCWD Intertie Pump Station
14. Construction of the EBMUD Walnut Creek Pumping Plant variable frequency drives
15. Construction of the ECCID Intertie Pipeline
16. Construction of the Los Vaquerous Watershed Recreation Facilities:
    a. Marina Complex
    b. Los Vaqueros Interpretive Center
    c. Los Vaqueros Watershed Office Barn
    d. New Los Vaqueros Watershed Trail

COMMENTS AND RECOMMENDATIONS

CDFW offers the following comments and recommendations below to assist Contra Costa Water District in adequately identifying and/or mitigating the Project's significant, or potentially

significant, direct and indirect impacts on fish and wildlife (biological) resources. Editorial comments or other suggestions may also be included to improve the document.

Marina Relocation and Expansion

The DSFEIR fails to describe and provide an analysis of biological impacts from decommissioning, dismantling, and/or demolition of the existing marina and the relocation and expansion of the new marina. CDFW recommends the DSFEIR be revised to include a description of the steps that will be taken to dismantle and relocate the existing marina's infrastructure, and the existing infrastructure that will either be demolished or inundated as a result of the Project. CDFW also recommends inclusion of an analysis for impacts to biological resources that may result from this Project component such impacts displacement of roosting bats or bat maternity colonies in existing buildings. Impacts may also include release of contaminants into the aquatic environ as a result of demolition or inundation of existing buildings. CDFW recommends that the DSFEIR be revised to include this analysis and if significant impacts to biological resources are identified then the DSEIR should be revised to include specific and enforceable mitigation measures to reduce the impacts to a level of less-than-significant. S_CDFW_01

Sensitive Habitat Communities

Impact 4.6.1 (DSFEIR p.4.6-13) describes impacts from the Phase 2 Expansion construction that may affect NCCP habitat types (CDFW sensitive plant communities in parentheses) Natural Seasonal Wetland (i.e., bulrush-cattail series, northern claypan vernal pool series, bush seepweed series, and saltgrass series), Valley/Foothill Riparian (i.e., Fremont cottonwood series and valley oak series), and Grassland (i.e., purple needlegrass series). The associated mitigation measures 4.6.1b and 4.6.2b (DSFEIR p.4.6-91, 4.6-103) state the following, S_CDFW_02

"CCWD shall submit the mitigation and monitoring plan to the appropriate regulatory agencies for approval".

To ensure impacts to the above habitat types are mitigated to a level of less-than-significant, CDFW recommends that the mitigation measures 4.6.1b and 4.6.2b be revised to require plan approvals from the State's trustee for fish and wildlife (CDFW) **prior** to project construction. In addition, these measures should be revised to require conservation and management in perpetuity through recordation of conservation easements on lands where mitigation occurs. S_CDFW_03

Special Status Plant Species

Impact 4.6.3 attempts to analyze impacts to special-status plant species, however, it does not include results from more recent botanical surveys beyond the initial botanical surveys conducted between 2004-2008 (page 4.6-1 of the DEIR). CDFW is unable to evaluate Project impacts to special-status plant species due to the lack of recent (within 2-3 years) botanical surveys. CDFW recommends that the DSFEIR be revised to include results from botanical surveys within the Project footprint and revise the DSFEIR to include a quantification of impacts S_CDFW_04

to special-status plant species and identify specific and enforceable mitigation measures to reduce any significant impacts to a level of less than significant.

Impact 4.6.3 (DSFEIR p. 4.6-23) describes impacts that may affect populations of special-status plant species including brittlescale, San Joaquin spearscale, and Brewer's dwarf-flax. The associated mitigation Measure 4.6.3b (DEIR p. 4.6-106) states the following:

A qualified ecologist shall develop and implement a restoration and mitigation plan according to CDFG guidelines and in coordination with CDFG and USFWS. At a minimum, the plan shall include collection of reproductive structures from affected plants, a full description of microhabitat conditions necessary for each affected species, seed germination requirements, restoration techniques for temporarily disturbed occurrences, assessments of potential transplant and enhancement sites, success and performance criteria, and monitoring programs, as well as measures to ensure long-term sustainability.

To ensure impacts to the above habitat types are mitigated to a level of less-than-significant, CDFW recommends that measure 4.6.3b be revised to require plan approval from the State's trustee for fish and wildlife (CDFW) for restoration and monitoring **prior** to Project construction. In addition, mitigations measure 4.6.3b should be revised to require conservation and management in perpetuity through recordation of conservation easements on lands where mitigation occurs.

S_CDFW_04 cont.

California Red-legged Frog and California Tiger Salamander

Impact 4.6.4 (DSFEIR 4.6-25, DEIR 4.6-107) analyzes impacts to the federally listed California red-legged frog and the federally and State-listed California tiger salamander. CDFW recommends that the associated mitigation Measure 4.6.4a that addresses avoidance and minimization measures be revised to require CDFW approval and to include reporting to CDFW in addition to the reporting provided to the U.S. Fish and Wildlife Service.

Impact 4.6.4 (DSFEIR 4.6-25) fails to describe, or analyze, impacts to mitigation lands that have been, or are slated to be, conserved for impacts to California red-legged frog and California tiger salamander as required by the previous reservoir expansion project. CDFW recommends that this section be revised to map and quantify the mitigation lands that will be impacted by the Project. Impacts to mitigation lands are cumulative in nature. Resultant cumulative impacts to mitigation lands include repeated displacement of species impacted by a prior project, repeated disruption of breeding efforts of special-status species, repeated destruction of breeding and upland habitats, net loss of special-status species habitat, reductions in the ability of impacted species populations to recover and remain self-sustaining or to reach pre-Project levels, etc. If any California red-legged frog and/or California tiger salamander identified mitigation lands are impacted by the Project CDFW recommends that the ratio of conserved to impacted mitigation lands should be 6:1. This ratio will help to offset cumulative impacts to these populations that have been, or will be, repeatedly impacted by multiple reservoir construction and expansion projects. CDFW also recommends that mitigation lands be conserved and managed in perpetuity through a binding legal instrument that is attached to the land (i.e. recordation of a

S_CDFW_05

conservation easement) and managed in perpetuity through an endowment with an appointed land manager.

Measure 4.6.4b (DEIR 4.6-114) states the following:
In accordance with the [CALFED Bay-Delta Program Multi-Species Conservation Strategy] MSCS (CALFED, 2000) objectives, CCWD shall provide compensation for the permanent loss of California red-legged frog and California tiger salamander aquatic habitat at a minimum of a 3:1 ratio. The MSCS does not require compensation for loss of California red-legged frog and California tiger salamander aestivation habitat.

Measure 4.6.4b does not mitigate impacts to California tiger salamander to a level of less-than-significant. Best available science since the MSCS was developed indicates that upland habitats have a significant role in the life cycle of California tiger salamander and that individuals spend more than 70 percent of their lives in upland habitats (primarily in underground refugia). The opinion of species experts is that approximately 1,000 acres of contiguous upland habitat interspersed with breeding ponds is the smallest land unit that can support a self-sustaining and viable population of the species (Searcy, pers. obs.). To mitigate to a level of less-than-significant, CDFW recommends that the DSFEIR require a minimum of a 3:1 mitigation ratio (conservation to loss) for impacts to California tiger salamander upland habitats. S_CDFW_05 cont.

Mitigation Measure 4.6.4b also states the following:

"CCWD shall develop and implement a mitigation, monitoring, and management plan, with input from regulatory agencies that shall outline long-term management strategies and performance standards to be attained to compensate for habitat losses resulting from the Project."

CDFW recommends that Measure 4.6.4b be revised to require plan approval from the State's trustee for fish and wildlife (CDFW) **prior** to project construction. In addition, CDFW recommends revising mitigation Measure 4.6.4b to require conservation and management in perpetuity through recordation of conservation easements on lands where mitigation occurs.

San Joaquin Kit Fox

Impact 4.6.7 indicates that the Project would have temporary and permanent impacts on potential San Joaquin kit fox habitat that will be less than significant with mitigation and that the Project will permanently reduce potential regional movement opportunities in one location for this species but that this potential impact is either less than significant or will have no impact.

Mitigation Measure 4.6.7a (DEIR 4.6-139) requires the reporting kit fox den occupancy to the U.S. Fish and Wildlife Service. CDFW recommends modifying this measure to include reporting to CDFW as well. S_CDFW_06

Mitigation Measure 4.6.7c states the following:
CCWD shall replace any acreage of existing kit fox easement affected by the project with an equivalent amount of acreage within the watershed to maintain under conservation easement the full amount required for the original Los Vaqueros Reservoir Expansion Project. In addition,

CCWD shall provide compensation for conservation easement acreage affected at a ratio of up to 3:1, including conservation easement lands that are isolated by the Project (see Table 4.6-14). Compensation for temporary impacts to lands within conservation easements shall be provided at a ratio of 1:1 to 1.1:1.

CDFW does not concur with the FEIR and DSFEIR's assertion that San Joaquin kit fox impacts will be mitigated to a less-than-significant level with the proposed mitigation ratios. CDFW recommends that Impact 4.6.7 section be revised to quantify and map the acreage of impacts to lands within existing kit fox easements (mitigation lands) resulting from the Project. Without this information, CDFW is unable to evaluate the cumulative impacts of the Project. Impacts to mitigation lands are cumulative in nature. Resultant cumulative impacts to mitigation lands include repeated displacement of species impacted by prior projects, repeated disruption of breeding efforts of special-status species, repeated destruction of breeding and upland habitats, net loss of special-status species habitat, reductions in the ability of impacted species populations to recover and remain self-sustaining or to reach pre-project levels, etc. If any San Joaquin kit fox mitigation lands are impacted by the Project CDFW recommends that the ratio of conserved to impacted mitigation lands be 6:1 (conserved to impacted). This ratio will help to offset cumulative impacts that have been, or will be, repeatedly impacted by multiple reservoir construction and expansion projects. CDFW also recommends that mitigation lands be conserved and managed in perpetuity through a binding legal instrument that is attached to the land (i.e. recordation of a conservation easement) and managed in perpetuity through an endowment with an appointed land manager.

S_CDFW_06 cont.

Alameda whipsnake

Impact 4.6.10 does not identify all habitat types utilized by Alameda whipsnake and therefore does not address a significant portion of potential impacts. Publicly available, peer-reviewed literature, documents Alameda whipsnake use of the following habitats: annual grassland, oak savanna, oak-bay woodland, mixed evergreen forest, riparian, and areas with rock outcrop features. CDFW recommends revising the DSFEIR to indicate that these habitat types as viable habitat for Alameda whipsnake. Project construction may result in direct adverse effects including mortality of individuals. CDFW recommends that Project impacts such as the permanent destruction of Alameda whipsnake habitat and direct impacts associated with roadway mortalities be identified in a revised DSFEIR. The DSFEIR should also address cumulative impacts to the Alameda whipsnake due to fragmentation of habitat, permanent loss of habitat, and impacts associated with vehicle traffic on roadways.

CDFW recommends that Measure 4.6.10b be revised in the DSFEIR to include mitigation for Project impacts to Alameda whipsnake and their habitats to a less-than-significant level. CDFW recommends compensatory mitigation for impacts to previously conserved or mitigation lands at a minimum of a 6:1 ratio (compensatory mitigation to impact), a 5:1 ratio for newly created roadways, a 3:1 ratio for newly-impacted habitat, and a 1:1 ratio for temporary impacts.

S_CDFW_07

Conflict with a Local Conservation Plan

Impact 4.6.17 fails to address, or analyze, the potential conflict (under all alternatives) resulting from the location of the Transfer-Bethany Pipeline across lands conserved as part of the East Contra Costa County Habitat Conservation Plan/Natural Communities Conservation Plan (Plan) implemented by the East Contra Costa County Habitat Conservancy (Conservancy). Page 2-35 of Chapter 2, Section 2.3.4 of the Plan, Utility Construction and Maintenance paragraph states "*Construction of new utilities in preserves is a covered activity only when there is no other practicable alternative to siting the utility within the preserve.*" The DSFEIR also fails to evaluate an alternative route for the Transfer-Bethany Pipeline in a manner that could reduce impacts by following existing roadways and other highly disturbed areas and/or one that will avoid impacts to lands conserved under the Plan. CDFW recommends revising Impact 4.6.17 to analyze the impacts of the Transfer-Bethany Pipeline and whether this would interfere with implementation of the Plan. CDFW recommends that impacts to the Plan be evaluated in a revised DSFEIR. CDFW also recommends that the Project should attempt to avoid all impacts to lands conserved under the Plan and that the DSFEIR be revised to provide and analyze alternative pathways for the Transfer-Bethany Pipeline, including an alternative route through highly disturbed areas. S_CDFW_08

Delta Hydrologic or Hydrodynamic Conditions

Impact 4.3.6 fails to adequately address and analyze the effect of diverting approximately 100 TAF annually (through all water year types) from the Delta ecosystem (Table 4.2-6). CDFW recommends revising Impact 4.3.6 with an analysis that describes the relative change in habitat metrics, such as X2, Net Delta Outflow, and QWEST between the No Action Alternatives, and the Project. The analysis should be summarized on a monthly time step in each water year type. Such an analysis would help quantify the seasonal impact of the increased operational capacity of the Project. S_CDFW_09

CDFW also recommends that Impact 4.3.6 incorporate an analysis of fisheries impacts related to reductions in outflow, such as the relationship to spring flows and longfin smelt abundance (as described in Kimmerer et al 2009, and updated in Mount et al. 2013). Based on the results of this analysis, the revised SDFEIR should consider mitigation for impacts related to longfin and Delta smelt as a result of reduced seasonal Delta outflows in months where outflow is correlated to abundance for each species. S_CDFW_10

Direct Entrainment or Impingement of Fish

CDFW recommends revising several components of the analyses related to Impact 4.3.7. Similar to the recommendations for impact 4.3.6 – CDFW requests that analyses be presented in a monthly time step and categorized by water year type to better articulate the Project's seasonal effects on the Old and Middle River flows (OMR) and entrainment. Additionally, CDFW seeks clarification to the OMR analyses performed in tables 4.3-16 and 4.3-17 where there appears to be incremental improvements to OMR in all months for all alternatives (positive percent changes relative to baseline). These improvements in OMR appear to be in incongruent with the proposed increases in diversions relative to existing conditions. S_CDFW_11

Cumulative Impacts to Delta Fisheries and Aquatic Resources

CDFW does not concur with the assertion in Impact 4.3.9 that the change in operations of CCWD's diversions would not be considerable in the context of cumulative effects of other existing and foreseeable projects. This is largely because the projects considered in the cumulative effects analysis, such as California WaterFix, are required to mitigate impacts in order to avoid jeopardy to the existence of fish species listed as threatened or endangered under CESA (listed species). However, unmitigated incremental effects on listed species habitat as a result of cumulative effects could still impact listed species in the context of a cumulative effects analysis. Since this Project is not proposing mitigation for the incremental effects on aquatic habitat, it is possible that the conclusions in the cumulative effects analysis are overstated. CDFW recommends revising impact 4.3.9 with a qualitative discussion and analysis that incorporates mitigation for impacts to aquatic species to ensure that there is no significant effect on listed species and aquatic resources. S_CDFW_12

Changes to Delta Hydrologic or Hydrodynamic Conditions that Affect the Growth of Algal Blooms.

CDFW recommends that the justification stated in Impact 4.3.10s be revised with a new analytical approach. To our knowledge, residence time is one of the only ways to analyze effects of microcystis blooms on aquatic resources. CDFW recommends using the Particle Tracking Model associated with DSM2 to support this analysis. Impact 4.3.10 currently uses averaged monthly flow metrics from CalSim II as a justification for the conclusion that changes in residence time will not occur. The coarse temporal scale of CalSim II (monthly time steps) is not adequate to analyze the number of days water resides in a particular area before advecting elsewhere. In contrast, the DSM2 – PTM allows a comparison of changes in residence time of neutrally buoyant particles between the NAA and the Alternative 1B on a daily time step. While this analysis may not appreciably change the outcome of the impact, it does provide a more accurate analytical approach to understanding the effects of CCWD's increased diversion capacity on harmful algal blooms. S_CDFW_13

Migration Habitat for Adult Fall-run Chinook Salmon and Steelhead in the Lower Mokelumne River.

Impact 4.3.11s states the following,

"To successfully navigate to their natal streams, adult chinook salmon and steelhead require sufficient flow to provide adequate water depth in stream channels and to overcome flow-related barriers. Flows that result in water depths of at least 0.8 foot typically provide adequate adult salmonid passage (Taylor and Love, 2003). *The State Water Resources Control Board recommendation for northern California coastal streams is at least 0.7 foot of water depth for steelhead and 0.9 foot of water depth for Chinook salmon (State Water Resources Control Board, 2010).*
No river-wide analysis of Project effects on these salmonid passage standards is provided. Rather, the analysis is based on uncited observations of fish passage at a single location, Woodbridge Dam, which is stated to provide adequate passage with 95% of adult passage occurring at flows exceeding 100 cfs above and below Woodbridge Dam. As such, CDFW cannot concur with the conclusion that the operation of the Phase 2 Expansion on migration S_CDFW_14

habitat for adult fall-run Chinook salmon and steelhead in the lower Mokelumne River is less-than-significant. CDFW requests that a river-wide evaluation of potential locations of natural and man-made fish passage impediments and Project-related effects based on the State Water Resources Control Board 2010 standards of 0.7 feet and 0.9 feet of depth for steelhead and fall-run Chinook salmon be provided for these locations. CDFW requests that analyses be summarized on a monthly time step and categorized by water year type to better articulate the seasonal effects of the Project on fish passage. S_CDFW_14 cont. S_CDFW_15

Furthermore, Impact MOKFISH-1 in Appendix A states the following;

EBMUD's Permit 10478 includes a new regulatory term which, subject to certain conditions, requires EBMUD to release up to 2 TAF of additional water during September through February during below normal and dry years to assist in migration upstream. These additional releases were not included in the modeling and would offset the reduced flows in the two additional months with average flows below Woodbridge Dam of less than 100 cfs. As a result, this impact is less than significant.

This term of EBMUD Permit 10478 is subject to 'certain conditions' in below normal and dry years. As a result it is unclear whether it would be implemented in additional months when average flows below Woodbridge Dam of less than 100 cfs are caused by the operation of the Project. CDFW requests clarification to better understand whether mitigation is required to achieve the less-than-significant conclusion, and if the mitigation is achieved through implementation of EBMUD Permit 10478 or if it is proposed through implementation of the Project. S_CDFW_16

Outmigration Reduction for Juvenile Fall-run Chinook Salmon and Steelhead in the Lower Mokelumne River.

Impact 4.3.13s suggests that average flow releases from Camanche Dam of approximately 800 cfs and above during January through March may encourage early outmigration based on rotary screw trap data from 1993 to 2012. The conclusion of no significant impact is based on modeling which indicates that there are 34 years of the analyzed 92 year time series under both No Project/No Action Alternative and Alternative 1B conditions when the average flows for the January through March period are greater than 800 cfs. CDFW cannot verify that 800 cfs is a suitable threshold for evaluating outmigration reduction with the information provided. S_CDFW_17

Additionally, there is insufficient information provided to verify that 34 years occur under both No Project/No Action Alternative and Phase 2 Expansion conditions when the average flows for the January through March period are greater than 800 cfs. S_CDFW_18

CDFW requests that a citation or analysis be provided which further describes how the 800 cfs threshold was derived. S_CDFW_19

CDFW requests the analysis through which the less than significant conclusion was derived be summarized by average monthly flow for January through March by water year type. S_CDFW_20

Floodplain Habitat for Native Fish Species in the Lower Mokelumne River

Impact 4.3.14s states that flows in excess of 3,000 cfs below Woodbridge Dam may support floodplain inundation. Please provide a citation or analysis sufficient to verify this conclusion. S_CDFW_21

The no significant impact conclusion is based on 92 simulated years, in which the occurrence of flows exceeding 3,000 cfs in March, April, and/or May below Woodbridge Dam are infrequent (approximately 11 months out of a total of 276 months) but are the same for the Project and No Project/No Action Alternative. Please provide the analysis summarized by average monthly flow by water year type through which the less-than-significant conclusion was derived. S_CDFW_22

Mobilization of Substrate for Salmonid Spawning Habitat Maintenance in the Lower Mokelumne River

Impact 4.3.15 states that under both the No Project/No Action Alternative and the Phase 2 Expansion, the frequency of flows exceeding 2,000 cfs below Camanche Dam occur approximately 8 percent of the time (88 months out of 1101 total months). There is no change in the frequency of flows greater than 2,000 cfs below Camanche Dam under the Project as compared to No Project/No Action Alternative conditions. Please provide the analysis summarized by average monthly flow and water year type through which the less-than-significant conclusion was derived. S_CDFW_23

Reservoir Effects and Downstream Temperature.

Reservoir effects and downstream temperature conclusions are based on available and reconstructed historical data (March 1974 through October 2008), which are stated to be significantly correlated with Camanche Reservoir water surface elevation below elevation 190 feet and Camanche Reservoir storage effects on release temperatures. No further information on the actual temperature or magnitude of significant impacts to release temperatures is provided. It is also stated that:

The Phase 2 Expansion conditions result in improvements whereby Camanche Reservoir is below the 190-foot threshold 4.9 percent of the time (4.5 years). Using Camanche water surface elevation threshold of 190 [mean sea level] *as a criterion for cold water pool, there would be a slight improvement in the number of years when Camanche water surface elevation was below 190 feet msl under the Phase 2 Expansion conditions relative to the No Project/No Action Alternative.*

However, there is no analysis provided in the DSFEIR or description of the mechanism by which elevation below 190 feet mean sea level (msl) is reduced under the Project. S_CDFW_24

The above rationale are utilized make the following conclusions for the following impacts:

- Impact 4.3.17s: Operation of the Phase 2 Expansion would not significantly affect water temperature for coldwater fish species in Pardee and Camanche Reservoirs. (Less than Significant)

- Impact 4.3.18s: Operation of the Phase 2 Expansion would not significantly affect water temperature for migration, spawning and incubation of fall-run Chinook salmon in the lower Mokelumne River. (Less than Significant)

- Impact 4.3.19s: Operation of the Phase 2 Expansion would not significantly affect water temperature for rearing, smoltification, and emigration of juvenile fall-run Chinook salmon in the lower Mokelumne River. (Less than Significant)

- Impact 4.3.20s: Operation of the Phase 2 Expansion would not significantly affect water temperature for migration, spawning and incubation of steelhead in the lower Mokelumne River. (Less than Significant)

- Impact 4.3.21s: Operation of the Phase 2 Expansion would not significantly affect water temperature for rearing, smoltification, and emigration of juvenile steelhead in the lower Mokelumne River. (Less than Significant)

While elevation is one factor that affects the coldwater pool in the reservoir, no information is provided regarding Phase 2 Expansion effects on other factors that may affect the coldwater pool and the ability to meet downstream temperature needs for aquatic species. These factors include, but are not limited to, the following:

- Volume of annual snowpack vs. warmer rain contribution to inflow
- Inflow water temperatures
- Spring air temperatures
- Flood control releases
- Conservation of coldwater resources through selective withdrawal
- Utilization of coldwater resources to thermally dilute warm water inflow
- Hydroelectric power generation
- Releases to meet downstream consumptive demand

S_CDFW_25

Based on the level of information and detail provided, CDFW cannot concur with the less-than-significant impact conclusions. CDFW requests further documentation describing how the 190 msl threshold was determined, including graphical representation of the relationship between elevation above and below the 190 msl level, and downstream temperature. CDFW also requests additional descriptions of the mechanisms by which the exceedance of elevation below 190 msl is achieved by monthly time step and water year type are sufficient to justify the less-than-significant conclusions for the Project temperature related effects. If this information cannot be provided CDFW requests that a downstream temperature model be utilized to analyze temperature effects of the operation of the Project and that the information is summarized by monthly time step by water year type with daily exceedances of 56 degrees F delineated for analysis fall-run Chinook salmon and steelhead egg and embryo incubation.

Additional Mitigation Measures

CDFW also recommends the following avoidance and minimization measures to be included in the biological resources section of the DSFEIR:

S_CDFW_26

Open Pipes Restriction: All pipes, culverts, or similar structures that are stored at the construction site (either vertically or horizontally) for one or more overnight periods will be

securely capped on both ends prior to storage and thoroughly inspected for wildlife prior to implementation by a Qualified Biologist.

Fence and Sign Post Restriction: Any fencing posts or signs installed, temporarily or permanently, throughout the course of the Project shall have the top three post holes covered or filled with screws or bolts to prevent the entrapment of wildlife, specifically birds of prey. CCWD shall be responsible for ensuring compliance with this measure throughout the course of the Project and shall inspect each post.

S_CDFW_26 cont.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).Accordingly, please report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB).

S_CDFW_27

CONCLUSIONS

CDFW recommends that compensatory mitigation for temporal and permanent loss of special-status resources and species habitats be modified throughout the DSFEIR, these measures include: Measure 4.6.1b (sensitive plant communities), Measure 4.6.2b (wetlands and streams), Measure 4.6.3b special status plants), Measure 4.6.4b (California red-legged frog and California tiger salamander), Measure 4.6.6b (vernal pool fairy shrimp and Contra Costa goldfields), Measure 4.6.7b (San Joaquin kit fox), Measure 4.6.8b (burrowing owl), and Measure 4.6.10b (Alameda whipsnake). To reduce significant mortality and displacement impacts resulting from Project construction and associated habitat loss to a level of less than significant with mitigation, CDFW recommends compensatory mitigation ratios be revised to the following: 6:1 (conserved habitat to impacted habitat) for impacts to previously conserved or mitigation lands; 5:1 for newly created roadways to account for roadkill mortalities and fragmentation of wildlife movement corridors; 3:1 for impacts to undisturbed or recovered special-status species habitats that are either permanent in nature or where remediation will require greater than 2 years recovery time; 2:1 for impacts to special status species habitats where remediation will require up to 2 years recovery time; and 1:1 for temporary impacts to special status species habitats where remediation will take less than one year. Conserved habitats or lands should be protected in perpetuity under a legal instrument, such as a conservation easement, and be managed in perpetuity through an endowment with an appointed land manager. To ensure significant impacts are adequately mitigated to a level less-than-significant, CDFW recommends the revisions to mitigation measures, described above, be incorporated as enforceable conditions into the revised DSFEIR.

The DSFEIR fails to evaluate an alternative route for the Transfer-Bethany Pipeline in a manner that could significantly reduce impacts by following existing roadways and other highly disturbed areas and/or a route that will avoid impacts to lands conserved under the Plan. In addition, the DSFEIR fails to adequately address and analyze the effect of diverting approximately 100 TAF annually (through all water year types) from the Delta ecosystem.

CDFW appreciates the opportunity to comment on the DSFEIR to assist the Contra Costa Water District in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination regarding this letter and impacts to plants or wildlife should be directed to Ms. Jeanette Griffin, Environmental Scientist at (209) 234-3447 or via email to Jeanette.Griffin@wildlife.ca.gov or to Ms. Melissa Farinha, Senior Environmental Scientist (Supervisory) at (707) 944-5579 or via email to Melissa.Farinha@wildlife.ca.gov. Questions regarding this letter and impacts to water operations or fisheries resources should be directed to Mr. Brandon Amrhein, Senior Environmental Scientist (Specialist) at (916) 445-8577 or via email to Brandon.Amrhein@wildlife.ca.gov or Mr. Kenneth Kundargi, Senior Environmental Scientist (Supervisory) at 916-445-1291 or via email to Kenneth.Kundargi@wildlife.ca.gov.

Sincerely,

Scott Wilson
Regional Manager
Bay Delta Region

STATE OF CALIFORNIA – CALIFORNIA NATURAL RESOURCES AGENCY EDMUND G. BROWN JR., Governor

DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791

September 5, 2017

Ms. Marguerite Patil
Special Assistant to the General Manager
Contra Costa Water District
Post Office Box H2O
Concord, California 94524-2099

Dear Ms. Patil:

Thank you for the opportunity to review and comment on the Los Vaqueros Reservoir Expansion Project DSEIS/EIR under SCH#2006012037. As a party of the original Memorandum of Understanding among several state, federal, and local agencies, including Contra Costa Water District (CCWD) regarding the CALFED Bay-Delta Program Studies on the Expansion of Los Vaqueros Reservoir (LV MOU), the Department of Water Resources (DWR) has participated in discussions, studies, and reviews of the proposals for the expansion. The proposed Phase 2 expansion in storage from 160 thousand acre-feet (TAF) to 275 TAF aims to provide local, regional, and statewide environmental, water supply reliability, and water quality benefits. In general, DWR recommends that CCWD continue to evaluate the pilot partnership projects it undertook with some of the Local Agency Partners and other anticipated uses of an expanded Los Vaqueros Reservoir. DWR also recommends that CCWD continues to develop more detailed information regarding those potential long term partnerships for the proposed use. DWR would need this information in developing any operating agreements or conditions that might be required related to its involvement in the proposed actions for use of the reservoir expansion. State Water Project (SWP) water deliveries to SWP contractors who are participating in this proposed project must be consistent with provisions of the SWP water supply contracts. In addition, DWR requests that CCWD update the information in the DSEIS/EIR to reflect the final documents available on the California WaterFix (CWF). S_DWR_01 S_DWR_02

DWR has the following specific comments about the proposed expansion of Los Vaqueros Reservoir:

1. Section 2.2.3.4 Transfer-Bethany Pipeline
   The connection for the proposed Transfer-Bethany Pipeline should be developed in consultation with DWR and operations proposed for the pipeline should not impact SWP operations, especially Bethany Reservoir. Additional California Environmental Quality Act (CEQA) documentation may be required to assess the site specific impacts for the construction of the pipeline, and its connection to SWP facilities. S_DWR_03

The DSEIS/EIR does not have sufficient detail on the operations of the expansion of the Los Vaqueros Reservoir to assess the impact of the tie-in to SWP operations. Also, the modeling results are summarized on an annual basis; however, impacts would need to be presented on a monthly basis to be analyzed.

DWR, CCWD, and the SWP contractors would need to develop agreements for the diversion, storage, and delivery of any SWP contractors' allocated SWP water through the proposed pipeline. A separate agreement will be needed for the planning, design, operation and maintenance of the turn-in structure to SWP facilities.

S_DWR_03 cont

2. Section 2.3.1 Project Operations Update
In general, the proposed Phase 2 expansion and altered operations of Los Vaqueros Reservoir could be a basis for either amending or terminating the 2011 *Coordinated Operations Agreement By and Between U.S. Department of the Interior, Bureau of Reclamation, Mid-Pacific Region and the Contra Costa Water District for the Los Vaqueros Reservoir* (see Sections 2.2 and 7.1 of the 2011 Agreement). In addition, if CCWD approves construction of the proposed Transfer-Bethany Pipeline, DWR and CCWD would need to develop a coordinated operations agreement. The DSEIS/EIR pages 2-16, 2-38, 2-49, 3-5, and 3-6 discuss changes that support the need for coordination and agreement with DWR regarding the proposed expansion, especially related to the proposed pipeline connecting to the California Aqueduct. In order to minimize impacts to the SWP and Central Valley Project (CVP) operations, a new or amended operations agreement could be developed among CCWD, Reclamation, and DWR to include, but not limited to the following:

   a. Coordination on diversions that would be considered “exports” in managing and determining compliance with the Sacramento-San Joaquin Delta (Delta) and regulatory objectives.
   b. Coordination with DWR on diversion and storage on any SWP water into Los Vaqueros Reservoir and also for any conveyance through the SWP system.
   c. Coordination on diversion of other party’s water to avoid double counting in Delta compliance calculations.
   d. Coordination on the operations between San Luis Reservoir and Los Vaqueros Reservoir.
   e. Coordination and agreement with DWR on operation of any new pipeline connected to SWP facilities.

S_DWR_04

3. Section 2.3.1 Updates to All Alternatives (DSEIS/EIR page 2-31)
CCWD has updated its demands to reflect more recent customer usage. However, the DSEIS/EIR does not quantify the updates or the CCWD demand assumptions used in the modeling.

S_DWR_05

4. Section 2.3.1 Updates to All Alternatives
The DSEIS/EIR page 2-35 (Section 2.3.1(2)) describes a shift of the no-fill period from that in the Final EIS/EIR action alternatives to the first half of February and all of March and June. As described, it appears that the planned operation of Los Vaqueros Reservoir Phase 2 expansion is to capture additional water during April and May; however, this operation may be inconsistent with CWF objectives and operation, and may impact water supply to the SWP and CVP. It is unclear whether the proposed operations of expanded the Los Vaqueros Reservoir would alter Delta outflow for those months.

   Pages 2-35 and 2-36 discuss in Section 2.3.2.2 "CCWD No-Fill/No-Diversion Period" that the no-fill/no diversion periods would be eliminated in the proposed action alternatives, and instead, CCWD filling operations would be constrained by Old and Middle River (OMR) flow restrictions. (See also Table 4.2-2 on CalSim II Modeling Assumptions, elimination of no-fill period in alternatives.) However, in the final EIS/EIR action alternatives the no fill period was shifted and not eliminated for project alternatives, and in the DSEIS/EIR the shifting of the no-fill period is listed as a No Project/No Action alternative. Also, Section 2.3.2.1 regarding filling at Rock Slough Intake suggests changes in operations that would not be constrained by OMR restrictions. DWR requests additional information or clarification on the changes in operations to better understand any potential effects on Delta hydrology and SWP operations. S_DWR_06

5. Section 2.3.2.6 Water Right Permits
The project description includes several SWP long-term water supply contractors as potential project partners, including that three SWP contractors would store SWP Table A water in the expanded Los Vaqueros Reservoir. DWR's water rights do not currently include Old River, Middle River, or Rock Slough intakes as authorized points of diversion, and any diversion of SWP water through CCWD intakes would require DWR to petition for a change in its water rights. If proposals for use of Los Vaqueros Reservoir are pursued by SWP contractors, DWR would need to work together with the local agency partners to secure any necessary modifications to relevant DWR water rights. In addition, CCWD would need a coordination agreement with DWR for purposes of implementing the actions. S_DWR_08

6. Section 2.3.4 Updates to Local Agency Partner Operations
The DSEIS/EIR provides an overview of the operational preference and Phase 2 expansion demands for the ten Local Agency Partners. Table 2-5 states that many agencies would have demands in "certain drier years." This is vague and does not provide enough information as to when the Local Agency Partners would receive water deliveries. The DSEIS/EIR does not provide detailed monthly demand assumptions under different hydrologic conditions for the ten partners. S_DWR_09

The DSEIS/EIR also lacks operational details for each alternative making it difficult to assess the potential impacts. In addition, Table 2-5 includes proposals for reserved storage which may require changes to the partners' water rights. S_DWR_09 cont. S_DWR_10

The DSEIS/EIR also proposes to convey, store, and deliver water from Byron Bethany Irrigation District (BBID) and East Contra Costa Irrigation District (ECCID) within the Delta. These districts are currently included in the Gross Channel Depletion (GCD) estimate used to determine the Net Delta Outflow Index (NDOI) as described in the Water Rights Decision 1641 (D-1641). CCWD's diversions out of the Delta are separate from the GCD. If CCWD diverts water for these districts, then these districts diversions will be double counted and could impact the SWP and CVP and DWR therefore requests that this impact be considered. S_DWR_11

DWR has additional specific comments for the following operational changes:

State Water Project Contractors (Sections 2.3.4.1, 2.3.4.6, and 2.3.4.9)
Alameda County Water District (ACWD), Santa Clara Valley Water District (SCVWD), and Alameda County Flood Control and Water Conservation District, Zone 7 (Zone 7) all list "Extra SWP Table A Allocation" as an additional source of water. It is not specified whether these agencies intend to request additional water, if they are currently not using all of their Table A allocation due to conveyance constraints, or if the allocated Table A water is from a SWP water management program such as carry-over from a previous year. As noted above, any storage of SWP water in Los Vaqueros Reservoir will require DWR to petition for changes in its water rights. S_DWR_12

Under Zone 7's updated operations it states that drier year needs could be met with storage originating from "Delta Surplus Water." Zone 7 does not have a water right to divert water from the Delta and the DSEIS/EIR should be revised to indicate the source of this water, such as from its SWP water supply contract with DWR. The DSEIS/EIR should explain if current water rights would need to be expanded or be more clear on the source of water for the proposed uses. S_DWR_13

Byron Bethany Irrigation District (BBID, Section 2.3.4.2)
BBID identified the need for additional water in critically dry years to be delivered to the Mountain House development, as well as months in the fall with low precipitation. BBID diverts water under the terms of a 2003 settlement agreement with DWR (2003 Agreement). The 2003 Agreement provides for the direct diversion of water to meet existing needs within the BBID service area. The 2003 Agreement does not provide for the diversion of water to storage. Additionally, BBID's historic use under its pre-1914 appropriative right was for direct diversion of water for agricultural purposes during the irrigation season only. Any water diverted to storage in Los Vaqueros Reservoir by BBID must come from a source other than that diverted under the 2003 Agreement. S_DWR_14

City of Brentwood (Brentwood, Section 2.3.4.3.)
Brentwood is listed as a project partner. Brentwood does not hold individual water rights to divert from the Delta. Brentwood diverts under an agreement with the ECCID. As noted below, ECCID diverts water consistent with a settlement agreement with DWR. The agreement with DWR does not provide for the storage of water. Any water diverted to storage in Los Vaqueros Reservoir by Brentwood must come from a source other than its agreement with ECCID. S_DWR_15

East Contra Costa Irrigation District (ECCID, Section 2.3.4.5)
The DSEIS/EIR states that ECCID would store water in Los Vaqueros Reservoir. ECCID diverts water from the Delta consistent with January 7, 1981 Settlement Agreement with DWR (1981 Agreement). The 1981 agreement only allows for the direct diversion of water to meet existing needs within the ECCID service area. It does not include the provision for diversion of additional water to storage. ECCID's historic diversions under its pre-1914 water right were for agricultural purposes during the irrigation season only. Any water diverted to storage in Los Vaqueros Reservoir by ECCID must come from a source other than that diverted under the 1981 Agreement. S_DWR_16

San Luis & Delta-Mendota Water Authority (SLDMWA) and Wildlife Refuges (Section 2.3.4.8)
The DSEIS/EIR does not provide a specific amount of water for SLDMWA due to the assumption that the proposed project's operational constraints would not be able to meet SLDMWA's demand. Even if this is the case, the desired amount of water to be delivered should be specified so the potential impacts can be known and assessed. Additional water being moved south of the Delta through a wheeling agreement with DWR using the California Aqueduct has the potential to impact SWP operations. S_DWR_17

7. <u>Section 4.2 Delta Hydrology and Water Quality</u>
The DSEIS/EIR utilizes the word "violation" when describing water quality objectives that were not met in the modeling. DWR recommends using the term "exceedance" since it describes the state of a number in relation to an objective or standard, whereas "violation" presumes the State Water Resources Control Board had taken enforcement action on the exceedance. S_DWR_18

8. <u>Section 4.2 Delta Hydrology and Water Quality</u>
It appears that in some sections of the DSEIS/EIR CCWD is using old information and is making statements regarding CWF that DWR believes are not supported. While the DSEIS/EIR Appendix B refers to the final CWF documents, such as the CWF 2016 Biological Assessment when describing the CWF Sensitivity Study, and the 2016 CCWD Settlement Agreement with DWR, other sections appear to use incorrect information. S_DWR_19

In addition, DWR recommends that CCWD refer to the June 2017 National Marine Fisheries Service (NMFS) and U.S. Fish & Wildlife Service (USFWS) no-jeopardy biological opinions regarding effects to listed species from CWF, available at websites:

- https://www.fws.gov/sfbaydelta/HabitatConservation/CalWaterFix/documents/Final_California_WaterFix_USFWS_Biological_Opinion_06-23-2017.pdf
- http://www.westcoast.fisheries.noaa.gov/central_valley/CAWaterFix.html

Specifically, DWR requests that in Section 4.2 identified below, CCWD refer to information in the final CWF documents and permits and correct the information:

a. Page 4.2-34 in a discussion on cumulative impacts states:

> "…changes in Delta inflows due to climate change and the California WaterFix could also increase salinity and degrade water quality in the Delta and reduce water deliveries to other water users."

DWR analysis indicates that this is not an accurate representation of the CWF approved project and this statement should be deleted or corrected based on information in the CWF FEIR (12-22-16) (please refer to Volume 1, Chapters 5 and 8, and Volume II, Part 1, Master Response 14).

b. Page 4.3-32 regarding cumulative impacts states:

> "The Draft Biological Assessment for the California WaterFix (BA) found that the Proposed Action is likely to adversely affect winter-run and spring-run chinook salmon due to incidental take associate with facility construction, operation and maintenance."

This information is not in the CWF 2016 Biological Assessment and the statement should be deleted or corrected. In addition, the reference to CWF effects on listed species would be more appropriately taken from the no-jeopardy biological opinions from NMFS and USFWS (see above).

S_DWR_19 cont.

9. <u>Appendix C Sensitivity Study re Partner Benefits with Water Transfers</u>
The DSEIS/EIR states that CCWD intends to use the expanded Los Vaqueros Reservoir to convey transfer water from April through September. These diversions could potentially impact SWP and CVP operations and are subject to the Special Delta Term in D-1629.

S_DWR_20

The CCWD diversions at Old River, Middle River, and Rock Slough are all junior to the SWP and CVP and are subject to the Special Delta Term in D-1629:

> "*No diversion is authorized that would adversely affect the operation of the Central Valley Project or the State Water Project under permits and licenses for the Projects in effect on the date of this Order. An adverse effect shall be deemed to result from the permittee's diversion at any time the United States Bureau of Reclamation and the Department of Water Resources have declared the Delta to be in balanced water conditions under the Coordinated Operation Agreement or at any other time that such diversion would directly or indirectly require the Central Valley Project or the State Water Project to release water from storage or to reduce their diversion or rediversion of water from the Delta to provide or assure flow in the Delta required to meet any applicable provision of state or federal law." (D-1629, p. 94.)*

The Special Delta Term in D-1629 applies to all diversions under CCWD's existing water rights and it is unclear if CCWD has considered this requirement in the Appendix C analysis.

S_DWR_20 cont.

Please provide DWR with the additional information requested in this letter. Should the lead agencies prepare any subsequent environmental documentation, DWR would appreciate copies as well. Any future correspondence relating to the proposed Project should be sent to:

Anna Fock, Chief
Program Development and Water Supply and Transfers Branch
State Water Project Analysis Office
Department of Water Resources
1416 Ninth Street, Room 1620
Sacramento, California 94236-0001

If you have any questions, please contact Anna Fock, Chief of the Program Development and Water Supply and Transfers Branch at (916)-653-0190 (Anna.Fock@water.ca.gov), or James Edwards at (916)-653-9467 (James.Edwards@water.ca.gov).

Sincerely,

Pedros Villalobos, Chief
State Water Project Analysis Office

cc: (See attached list.)

State Clearinghouse
Office of the Planning and Research
1400 Tenth Street, Room 121
Sacramento, California 95814

Ms. Lisa Holm
Water Rights Specialist
United States Bureau of Reclamation
2800 Cottage Way
Sacramento, California 95825

Ms. Cindy Kao
Imported Water Unit Manager
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, California 95118-3686

Ms. Jill Duerig
General Manager
Alameda County Flood Control and Water Conservation District, Zone 7
100 North Canyons Parkway
Livermore, California 94551-9486

Mr. Robert Shaver
General Manager
Alameda County Water District
43885 South Grimmer Boulevard
Fremont, California 94538-6348

Mr. Rick Gilmore
General Manager
Byron Bethany Irrigation District
7995 Bruns Road
Byron, California 94514-1625

Ms. Patricia A. Corey
General Manager
East Contra Costa Irrigation District
1711 Sellers Avenue
Brentwood, California 94513-4106

Mr. Jason Peltier
Executive Director
San Luis Delta-Mendota Water Authority
842 - 6th Street, Suite 7
Post Office Box 2157
Los Banos, California 93635-2157

City of Brentwood
Water Operations
2201 Elkins Way
Brentwood, California 94513

Mr. Tom Francis
Water Resources Manager
Bay Area Water Supply and Conservation Agency
155 Bovet Road # 650
San Mateo, California 94402

Mr. Mike Gardner
Chief of Field Operations Water Master
Grassland Water District
200 W. Willmot Avenue
Los Banos, California 93635

Mr. Alexander R. Coate
General Manager
East Bay Municipal Utility District
375 11th Street
Oakland California 94607

Mr. Harlan L. Kelley, Jr
General Manager
San Francisco Public Utilities Commission
525 Golden Gate Avenue
San Francisco, California 94102

California Water Boards

Edmund G. Brown Jr. Governor

Matthew Rodriquez Secretary for Environmental Protection

Central Valley Regional Water Quality Control Board

18 August 2017

Marguerite Patil
Contra Costa Water District
P.O. Box H20
Concord, CA 94524

CERTIFIED MAIL
91 7199 9991 7035 8361 5202

COMMENTS TO REQUEST FOR REVIEW FOR THE DRAFT SUPPLEMENT ENVIRONMENTAL IMPACT REPORT, LOS VAQUEROS RESERVOIR EXPANSION PROJECT, ALAMEDA AND CONTRA COSTA COUNTIES

Pursuant to the Contra Costa Water District's 29 June 2017 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Draft Supplement Environment Impact Report* for the Los Vaqueros Reservoir Expansion Project, located in Alameda and Contra Costa Counties.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38. S_CVRWQCB_01

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases,

the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues.

For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website: http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/.

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Policy is available on page IV-15.01 at: http://www.waterboards.ca.gov/centralvalleywater_issues/basin_plans/sacsjr.pdf

S_CVRWQCB_01 cont.

In part it states:

> *Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.*
>
> *This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.*

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

Mercury in Reservoirs

Harmful levels of methylmercury in fish are a statewide and nationwide problem. More than 180 freshwater bodies in California are designated as impaired for mercury by the U.S. Environmental Protection Agency (USEPA), and more than 100 of these are reservoirs. The State Water Resources Control Board is developing a Statewide Mercury Control Program for Reservoirs (see below) that will identify an additional 30 reservoirs as impaired for mercury. Many fish in these waters have methylmercury concentrations that pose a risk for humans and wildlife that eat the fish.

Reservoir creation or expansion compounds the problem of methylmercury bioaccumulation and pollution. Reservoirs slow water velocity, creating conditions that increase the production and bioavailability of methylmercury in the aquatic environment.

Reservoirs also have a low rate of mixing between top and bottom waters, causing oxygen depletion in lower waters. Low or depleted oxygen can stimulate methylation of mercury by bacteria. Flooding of terrestrial ecosystems is a major cause of elevated aqueous and fish methylmercury in new or expanded reservoirs because flooding causing bacterial stimulation and methylation of mercury present in the soil. After initial flooding of terrestrial ecosystems, fish methylmercury levels typically increase between 2- and 7-fold with peak concentrations typically occurring in 5–15 years, although elevated levels can persist for as long as 35 years (Genivar 2006; Schetagne et al. 2003; Therrin 2005). Reservoirs also increase surface area of water, and hence collect more mercury from atmospheric deposition which could result in an increase of methylmercury levels in fish.

The Los Vaqueros Expansion Project (Proposed Project) is in the Coast Range in a region with nearby mercury mines and areas with elevated levels of mercury in soils and geothermal springs. Subsequent mercury discharges and erosion of the sediment from the mine sites and other areas with the naturally occurring mercury have resulted in high levels of methylmercury in Los Vaqueros aquatic life. In addition, Los Vaqueros Reservoir likely receives mercury and methylmercury in its main source water. Water is conveyed to Los Vaqueros Reservoir from Pardee Reservoir and Camanche Reservoir- both of these reservoirs are also listed as impaired for mercury. These supply water sources are in Sierra foothills watersheds where extensive gold mining activities were conducted and mercury from these areas is transported to Los Vaqueros.

Applicability to the Proposed Project: Integrated Report, Statewide Mercury Water Quality Objectives, and Control Program for Reservoirs

Los Vaqueros reservoir is listed as impaired for mercury in fish tissue on the 2014/2016 Integrated Report (303(d) List/305(b) Report) and will be included in the Statewide Mercury Control Program for Reservoirs. The Integrated Report and data supporting the impaired listing can be accessed here: http://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/#impaired.

In July 2017, USEPA adopted State Water Resources Control Board Resolution No. 2017-027 which approved Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions. This resolution establishes statewide mercury water quality objectives, expressed as methylmercury concentrations in fish tissue, to protect the beneficial uses associated with the consumption of fish by both people and wildlife in all inland surface waters, enclosed bays, and estuary environments. Methylmercury concentrations in Los Vaqueros fish exceed the statewide objectives for commercial and sport fishing and wildlife protection.

In addition, the State Water Resources Control Board is developing a Statewide Mercury Control Program for Reservoirs that includes a control program and Total Maximum Daily Load (TMDL) for mercury-impaired reservoirs and mercury sources upstream of the

reservoirs. Los Vaqueros, Pardee Reservoir and Camanche Reservoir will be included in the Statewide Mercury Control Program for Reservoirs. The proposed mercury program is considering requiring reservoir owners and operators of these and other reservoirs to conduct water chemistry and fisheries management pilot studies to evaluate methods of reducing methylmercury levels in fish. Additional information about the Statewide Mercury Control Program for Reservoirs can be found at http://www.waterboards.ca.gov/water_issues/programs/mercury/reservoirs.

Considerations During Project Design

Based on the known water quality impairment for methylmercury in fish within the Proposed Project area, it is reasonable to anticipate that the Proposed Project could result in additional degradation of water quality unless appropriate actions are considered to mitigate methylmercury increases. Actions that could be evaluated to prevent high peaks or shorten the duration of, and eventually reduce elevated fish methylmercury levels include the following:

- If reservoir is sited in a watershed with historical mines, (a) cleanup actively eroding mine sites and associated downstream mining waste located upstream of the reservoir to minimize discharges of mercury from historical mining, and (b) conduct comprehensive soil mercury monitoring of area to be inundated and cap or remove mercury-contaminated soils before flooding.
- Conduct controlled burns or other vegetation removal activities before filling a reservoir or inundating new surface area for the first time to minimize methylmercury production. Removing organic matter reduces methylation potential.
- Operation plans for the Proposed Project could be developed and implemented to include reservoir water chemistry management to prevent or reduce methylmercury production. The operation plans should also include ongoing monitoring including aqueous and fish tissue methylmercury to assess the effectiveness of the control actions.
- Avoid stocking high trophic level species such as brown trout and bass will help to keep methylmercury bioaccumulation low and reduce human and wildlife exposure to methylmercury.
- Promote public outreach and education about fish consumption, focusing on sensitive populations in addition to publishing advisory material in multiple languages.

The Central Valley Water Board strongly encourages the project proponents to consider evaluation of the above actions in order to ensure all water quality objectives are met and beneficial uses are supported.

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II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml.

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]

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The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/.

For more information on the Caltrans Phase I MS4 Permit, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/caltrans.shtml.

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

Industrial Storm Water General Permit
Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ.

For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml.

Clean Water Act Section 404 Permit
If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACOE). If a Section 404 permit is required by the USACOE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements.

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACOE at (916) 557-5250.

S_CVRWQCB_03 cont.

Clean Water Act Section 401 Permit – Water Quality Certification
If an USACOE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance (i.e., discharge of dredge or fill material) of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

Waste Discharge Requirements (WDRs)

Discharges to Waters of the State
If USACOE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation.

Land Disposal of Dredge Material
If the project will involve dredging, Water Quality Certification for the dredging activity and Waste Discharge Requirements for the land disposal may be needed.

Local Agency Oversite

Pursuant to the State Water Board's Onsite Wastewater Treatment Systems Policy (OWTS Policy), the regulation of septic tank and leach field systems may be regulated under the local agency's management program in lieu of WDRs. A county environmental health department may permit septic tank and leach field systems designed for less than 10,000 gpd. For more information on septic system regulations, visit the Central Valley Water Board's website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/owts/sb_owts_policy.pdf

For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/help/business_help/permit2.shtml.

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Risk General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Risk Waiver) R5-2013-0145. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

S_CVRWQCB_03 cont.

For more information regarding the Low Risk General Order and the application process, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Risk Waiver and the application process, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2013-0145_res.pdf

Regulatory Compliance for Commercially Irrigated Agriculture

If the property will be used for commercial irrigated agricultural, the discharger will be required to obtain regulatory coverage under the Irrigated Lands Regulatory Program. There are two options to comply:

1. **Obtain Coverage Under a Coalition Group.** Join the local Coalition Group that supports land owners with the implementation of the Irrigated Lands Regulatory Program. The Coalition Group conducts water quality monitoring and reporting to the Central Valley Water Board on behalf of its growers. The Coalition Groups charge an annual membership fee, which varies by Coalition Group. To find the Coalition Group in your area, visit the Central Valley Water Board's website at: http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/app_appr

oval/index.shtml; or contact water board staff at (916) 464-4611 or via email at IrrLands@waterboards.ca.gov.

2. **Obtain Coverage Under the General Waste Discharge Requirements for Individual Growers, General Order R5-2013-0100**. Dischargers not participating in a third-party group (Coalition) are regulated individually. Depending on the specific site conditions, growers may be required to monitor runoff from their property, install monitoring wells, and submit a notice of intent, farm plan, and other action plans regarding their actions to comply with their General Order. Yearly costs would include State administrative fees (for example, annual fees for farm sizes from 10-100 acres are currently $1,084 + $6.70/Acre); the cost to prepare annual monitoring reports; and water quality monitoring costs. To enroll as an Individual Discharger under the Irrigated Lands Regulatory Program, call the Central Valley Water Board phone line at (916) 464-4611 or e-mail board staff at IrrLands@waterboards.ca.gov.

Low or Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Dewatering and Other Low Threat Discharges to Surface Waters* (Low Threat General Order) or the General Order for *Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water* (Limited Threat General Order). A complete application must be submitted to the Central Valley Water Board to obtain coverage under these General NPDES permits.

S_CVRWQCB_03 cont.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0074.pdf

For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0073.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of the waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A

complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit.

For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/help/business_help/permit3.shtml

S_CVRWQCB_03 cont.

If you have questions regarding these comments, please contact me at (916) 464-4644 or Stephanie.Tadlock@waterboards.ca.gov.

Stephanie Tadlock

Stephanie Tadlock
Environmental Scientist

California Water Boards

Edmund G. Brown Jr.
Governor

Matthew Rodriguez
Secretary for Environmental Protection

State Water Resources Control Board

SEP 05 2017

In Reply Refer to
KMG: A020245

Ms. Lisa Rainger
U.S. Bureau of Reclamation
2800 Cottage Way, MP-700
Sacramento, CA 95825
Email: lrainger@usbr.gov

Ms. Marguerite Patil
Contra Costa Water District
P.O. Box H20
Concord, CA 94524
Email: lve@ccwater.com

Dear Ms. Rainger and Ms. Patil:

COMMENTS ON THE JUNE 2017 LOS VAQUEROS RESERVOIR EXPANSION PROJECT DRAFT SUPPLEMENT TO THE FINAL EIS/EIR OF THE U.S. BUREAU OF RECLAMATION AND CONTRA COSTA WATER DISTRICT

State Water Resources Control Board (State Water Board), Division of Water Rights (Division) staff have the following initial comments on the June 2017 Los Vaqueros Reservoir Expansion Project Draft Supplement (Draft Supplement EIS/EIR) to the Final EIS/EIR of the U.S. Bureau of Reclamation (Reclamation) and Contra Costa Water District (CCWD). Reclamation and CCWD have prepared the Draft Supplement EIS/EIR to cover the proposed expansion of Los Vaqueros Reservoir (LVR) from its current storage capacity of 160 thousand acre-feet (TAF) to 275 TAF. With the expansion to 275 TAF, Reclamation and CCWD propose to work with multiple agencies to provide local, regional and statewide water supply reliability, water quality, and environmental benefits.

Diversion and storage of water at LVR is currently allowed pursuant to the water rights of both Reclamation's Central Valley Project (CVP) and CCWD. According to the Draft Supplement EIR/EIS, with the proposed increase in capacity, the potential additional sources of water that will be diverted and/or stored in LVR may occur pursuant to the water rights of Department of Water Resources' State Water Project (SWP), East Bay Municipal Utility District, and East Contra Costa Irrigation District. There are also potentially other local agency and wildlife refuge partners who may utilize the expansion of LVR with water from either CVP or SWP contracts or their own water rights. The Draft Supplemental EIR/EIS lists potential partners for the expansion project to currently include ten local regional water agencies that supply water for municipal, industrial and agricultural uses in the Bay Area and Delta region, and fourteen south-of-Delta wildlife refuges. S_SWRCB_01

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Water proposed for diversion and/or storage into LVR must be done in accordance with all applicable California water rights laws. As such, to allow for the increased storage in LVR, it is likely that either new water rights must be obtained or existing water rights will require modification. The Draft Supplemental EIR/EIS indicates that the water agency and wildlife refuge partners will secure any necessary modification to relevant water rights, agreements and/or contracts in order to legally use the sources of water for diversion and/or storage in the expanded LVR. If Reclamation, CCWD, and the eventual project partners propose to modify their current water rights to allow for storage and/or diversion into LVR, the parties will need to file petitions to change their water rights with the Division to allow for modified operations and the resulting end uses.

In order for the State Water Board to approve a water right change petition, the petitioner must 1) establish that the proposed change(s) will not in effect initiate a new right; 2) provide sufficient information to demonstrate a reasonable likelihood that the proposed change(s) will not injure any other legal user of the water; 3) provide information concerning the extent to which fish and wildlife will be affected by the change(s); and 4) identify proposed measures to protect fish and wildlife from any unreasonable impacts of the change(s). The petitioner also must demonstrate that the proposed change(s) will comply with any applicable requirements of the Fish and Game Code, including the California Endangered Species Act, and the federal Endangered Species Act, and demonstrate compliance with the California Environmental Quality Act (CEQA).

S_SWRCB_01 cont.

Based on information in the Draft Supplemental EIS/EIR, it appears the most likely scenario is that the LVR expansion will solely require change petitions for existing water rights. However, in the event that the LVR expansion requires new water rights, along with determining that the new proposed diversion will not cause injury to senior water right holders and compliance with necessary CEQA documentation, the State Water Board will also need to make a finding that unappropriated water is available for the proposed diversion.

Reclamation and CCWD (or other potential agency partners) have not filed water right change petitions (or water right applications) for the proposed LVR expansion project as it has not been determined which water rights will need to be amended, and what amendments will be necessary. At this time, Division staff are unable to conclude whether the Draft Supplemental EIR/EIS will provide adequate information or what supplemental information may be necessary to cover approval of change petitions (or potentially any new applications) necessary to develop the proposed LVR expansion. Therefore, Reclamation and CCWD may need to modify or supplement the CEQA documentation for the proposed LVR expansion when the necessary water right amendments are determined and change petitions and/or water right applications are filed with the Division.

The Draft Supplemental EIS/EIR discusses how the proposed project will affect meeting existing water quality and flow requirements included in the Bay-Delta Water Quality Control Plan (Bay-Delta Plan) as implemented through State Water Board Decision 1641 (D-1641) (please note there is a mistake on page 4.3-18 in the second sentence of the second paragraph that refers to "X2 during February through May"- May should be June). The State Water Board is currently in the process of updating the Bay-Delta Plan including required Delta outflows, Sacramento River and eastside Delta tributary inflows (including the Mokelumne, Calaveras and Cosumnes rivers), cold water habitat for those same streams and interior Delta flows. The EIS/EIR should acknowledge that changes to the Bay-Delta Plan could affect the water supply benefits expected from the expansion as well as the expected impacts to different resources areas.

S_SWRCB_02

SEP 05 2017

Chapter 3 of the EIS/EIR should also identify the level 4 refuge supply benefits by water year type rather than only providing the long term average and drought benefits and should discuss the temporal pattern of these benefits, both of which are important factors in the actual benefit water supplies provide to refuges. Water supply improvements in drier years are likely more beneficial as are water supply improvements that can be timed to coincide with critical time periods for refuge water needs. The EIR/EIS should also discuss how the assumed benefits to refuges will be assured through operational or other rules. S_SWRCB_03

Should you have any questions regarding this matter, please contact Kate Gaffney at (916) 341-5360 or via email at kathryn.gaffney@waterboards.ca.gov.

Sincerely,

Sean Maguire, Manager
Petition, Licensing and Registration Section
Division of Water Rights

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C.3 Local and Regional Agencies

TABLE C-3
LOCAL AND REGIONAL AGENCIES THAT SUBMITTED COMMENTS ON THE DRAFT SUPPLEMENT

Comment Format	Comment ID	Name of Commenter	Title	Organization/ Affiliation	Page Number
Letter	L_CCCSD	Roger S. Bailey	General Manager	Central Contra Costa Sanitary District	C-49
Letter	L_CCCFC	Jorge Hernandez	Staff Engineer	Contra Costa County Flood Control and Water Conservation District	C-51
Letter	L_EBRPD	Brian W. Holt	Principal Planner	East Bay Regional Park District	C-60
Letter	L_MWD	Stephen Arakawa	Manager, Bay Delta Initiatives	The Metropolitan Water District of Southern California	C-62
Oral comment	L_SJWC	Andy Gere	President and CEO	San Jose Water Company	C-67
Oral comment	L_SCVWD	Garth Hall	Deputy Operating Officer	Santa Clara Valley Water District	C-72
Letter	L_WID	Hanspeter Walter	--	Woodbridge Irrigation District	C-77
Letter	L_Zone7	Elke Rank	Water Resources Planner	Alameda County Flood Control and Water Conservation District, Zone 7	C-90

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Central Contra Costa Sanitary District
Protecting public health and the environment
5019 Imhoff Place, Martinez, CA 94553-4392

PHONE: (925) 228-9500
FAX: (925) 676-7211
www.centralsan.org

ROGER S. BAILEY
General Manager

KENTON L. ALM
Counsel for the District
(510) 808-2000

ELAINE R. BOEHME
Secretary of the District

September 5, 2017

Ms. Marguerite Patil
Contra Costa Water District
P.O. Box H20
Concord, CA 94524

Ms. Lisa Rainger
Bureau of Reclamation
2800 Cottage Way, MP-700
Sacramento, CA 95825

Sent via email to lve@ccwater.com and lrainger@usbr.gov

Dear Ms. Patil & Ms. Rainger:

Comments on the Los Vaqueros Reservoir Expansion Project Draft Supplement to the Final EIS/EIR

Central Contra Costa Sanitary District (Central San) appreciates the opportunity to comment on the Draft Supplement to the Environmental Impact Statement/ Environmental Impact Report (EIS/EIR) for the Los Vaqueros Reservoir Expansion Project (LVE Project). The proposed LVE Project will allow for improved environmental water management and provide needed water supply reliability. It brings together regional partners and creates opportunities to store emergency supplies and/or transfer supplemental water supplies to these partners. For these reasons, the project creates benefits for our common ratepayers, the region, and beyond.

Central San is the wastewater collection and treatment provider to more than 480,000 residents in central Contra Costa County. Central San currently discharges more than 35,000 acre-feet per year (AFY) of secondary-treated wastewater into Suisun Bay, which could be put to a higher beneficial use. In particular, Central San has the potential to produce and serve up to 22,000 AFY of recycled water through an exchange with Contra Costa Water District (CCWD), using two nearby refineries to optimize a final arrangement. An expanded Los Vaqueros Reservoir and the Transfer-Bethany Pipeline would provide the opportunity to store and/or transfer the resulting freed-up raw Central Valley Project water supply to serve an array of downstream water users in need.

Central San urges CCWD and the Bureau of Reclamation to include the Contra Costa County Refinery Recycled Water Project (Refinery Project) as part of the final EIS/EIR for the LVE Project. We believe that making the Refinery Project an integral component of the LVE project would greatly enhance its environmental and water supply benefits, and we look forward to working with you to evaluate the potential water supply yield it could provide to the project. L_CCCSD_01

Sincerely,

Roger S. Bailey
General Manager

Contra Costa County
Flood Control
& Water Conservation District

Brian Balbas,
Interim Chief Engineer
Mike Carlson,
Deputy Chief Engineer

September 6, 2017

Marguarite Patil
Contra Costa Water District
P.O. Box H2O
Concord, CA 94524

RE: Los Vaqueros Reservoir Expansion Draft Supplement to Final EIS/EIR
Our File: 97-109

Dear Ms. Patil:

We have reviewed the Draft Supplement to Final Environmental Impact Statement/Environmental Impact Report (Draft Supplement) for the proposed Los Vaqueros Reservoir Expansion Project, which we received on July 10, 2017. The project is located southwest of the town of Byron and east of the Morgan Territory Regional Park. We had previously commented on this project's Draft Environmental Impact Report Response to Comments in our letter dated March 30, 2010 (attached). We thank you for your response to our previous letter and appreciate your diligence; however, we remain concerned that the proposed mitigation measures do not sufficiently address the impacts downstream of the project. To reiterate our concerns and to further clarify our comments in our March 30, 2010 letter, we offer the following:

L_CCCFC_01

Chapter 3.4.2 State and Local Agency Coordination and Permits

County Permits (page 3-35)

1. This section of the Master Responses chapter states that "the project's need for a drainage permit per the County's 1010 Drainage Ordinance will be determined in consultation with the Contra Costa County Flood Control & Water Conservation District (FC District)." To clarify, construction of a temporary bridge across Kellogg Creek, as well as construction of conveyance pipelines across Kellogg Creek, Brushy Creek, and other unnamed drainage facilities, will require that a County drainage 1010 permit be obtained. The purpose for obtaining a drainage permit is to ensure that the proposed improvements will not impair or impede the natural flow of the drainage facilities and will not reduce the facility's drainage capacity and cause flooding damage to adjacent properties and communities.

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Chapter 3.4.3 Local Agency Drainage Fee

Responses (page 3-36)

2. This section of the Master Responses chapter states that "the Transfer Facility's applicability of Drainage Area 109 (DA 109) fees will be determined in consultation with the FC District." To clarify, the Flood Control Ordinance for DA 109 (Ordinance #94-75, attached) only allows an exemption from fee collection for the following four circumstances:

   a. The proposed structure will replace a destroyed or damaged structure, provided the resultant structure has the same or less impervious surface area than the original structure.

   b. Modifications to an existing structure will increase the impervious surface area by no more than 100 square-feet.

   c. The conveyance of land to a government agency, public entity, public utility, or abutting property owner where a new building site is not created as a result of the conveyance.

   d. The Drainage Area fees have been previously paid for on the project site parcel.

   None of these four circumstances apply to the proposed expansion of the Transfer Facilities and pumping stations; therefore, an exemption from fee collection cannot be claimed. As such, all new impervious surface area will increase the stormwater runoff and should be mitigated. Contributing to the DA 109 Drainage Improvement Fund may be an acceptable form of mitigation.

L_CCCFC_01 cont.

Chapter 3.6.2 Stormflow and Flood Risk along Kellogg Creek

Response (page 3-57)

3. This section of the Master Responses chapter states that "reservoir expansion under any of the four expansion alternatives would not result in additional downstream flooding and would not increase flood risks to people or structures." However, as recently as January of 2017, we received reports from downstream constituents of reservoir stormwater releases during a storm event exacerbating flooding downstream.

   Due to the existing inadequate drainage capacity of Kellogg Creek and the vast existing and growing community downstream of the project, the FC District requests that the Contra Costa Water District prepare a plan, and submit to the FC District for review, that addresses our concerns with regard to the expanded reservoir's ability to detain the 100-year storm event and to control dam releases when the reservoir's flood storage is at capacity. As proposed, the expanded reservoir will not provide additional flood protection, but it stands to reason that the opportunity exists with the expanded reservoir to provide additional storage capacity for flood protection.

We appreciate the opportunity to review projects involving drainage matters and welcome continued coordination. If you have any questions, please call me at (925) 313-2346 or e-mail me at jorge.hernandez@pw.cccounty.us.

Sincerely,

Jorge Hernandez
Staff Engineer
Contra Costa County Flood Control
& Water Conservation District

JH:cw
\\PW-DATA\grpdata\fldctl\CurDev\CITIES\Byron\97-109\Los Vaqueros Reservoir Expansion\Final EIR FCD Comments -Sept. 2017.doc
Enclosures

c: Tim Jensen, Flood Control
Teri E. Rie, Flood Control
c/enc: Lisa Rainger
Bureau of Reclamation
Attn: Los Vaqueros Reservoir Expansion Project Supplement to Final EIS/EIR
2800 Cottage Way, MP-700
Sacramento, CA 95825

Contra Costa County
Flood Control
& Water Conservation District

Julia R. Bueren,
ex officio Chief Engineer
R. Mitch Avalon,
Deputy Chief Engineer

April 21, 2009

Marguerite Naillon
Contra Costa Water District (CCWD)
P.O. Box H2O
Concord, CA 94524

Our File: 97-109
RE: Los Vaqueros Reservoir Expansion DEIS/DEIR

Dear Ms. Naillon:

We have reviewed the Draft Environmental Impact Statement / Environmental Impact Report (DEIR) for CCWD's Los Vaqueros Reservoir Expansion Project, which we received on February 24, 2009. The project is located southwest of the town of Byron and east of the Morgan Territory Regional Park.

The Contra Costa County Flood Control & Water Conservation District's (FC District's) main concern regarding this project is its impacts on Kellogg Creek and increased flood risk to the communities of Byron and Discovery Bay. Specifically, the DEIR does not adequately address the increases in storm runoff being directed into Kellogg Creek during construction of the project, during an emergency drawdown, and during a storm event when the reservoir is at capacity. It also does not address recent State legislation requiring the provision of 200-year level of flood protection for Delta communities. Prior to publishing the Final Environmental Impact Report (EIR), CCWD needs to address how mitigation will be provided to the satisfaction of the FC District and the downstream communities. We submit the following comments for your consideration:

Chapter ES.5 Issues of Known Controversy and Issues to be Resolved

Executive Summary (page ES-31)

1. This section of the DEIR should include a discussion regarding the inadequate flood capacity of Kellogg Creek and the requests from the nearby communities of Byron and Discovery Bay for CCWD to explore alternatives to lessen the risk of flooding to their residents. 1

Chapter 2.1 Existing Los Vaqueros Reservoir

Project Background (page 2-1)

2. This section of the DEIR states that the existing reservoir provides flood control benefits on Kellogg Creek, but the benefits are not quantified. Does the reservoir provide protection for a 10, 50, or 100-year storm event? What level of flood protection is provided when the reservoir is at capacity? 2

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Chapter 3.5.1 Los Vaqueros Reservoir Expansion / Dam Modification

Appurtenant Facilities — Inlet / Outlet Works (pages 3-49 and 3-50)

3. This section of the DEIR states that the potential emergency drawdown flows directed into Kellogg Creek will increase, as a result of this project, from 1,140-cubic-feet-per-second (cfs) to 1,500-cfs for at least a ten day period. The EIR should state that this flow will exceed the capacity of Kellogg Creek and lead to area-wide flooding, which is a potentially significant impact. 3

Chapter 3.7 Permits and Approvals Needed for Alternatives

State and Local Decision Processes and Local Permits (pages 3-91 and 3-93)

4. The DEIR discusses construction of a temporary bridge across Kellogg Creek to access a borrow site along Walnut Boulevard as well as construction of conveyance pipelines across Kellogg Creek, Brushy Creek, and many other unnamed drainage facilities. These activities require a permit under the County's 1010 Drainage Ordinance. The need for this permit should be discussed in Section 3.7.1 and listed on Table 3-8. 4

Chapter 4.5.1 Affected Environment

Regulatory Setting — FC District (page 4.5-6)

5. This section states that the FC District or "...FCWCD, is empowered to control flooding and storm water..." This should be revised to more accurately state that the FC District works with local communities to provide flood protection and stormwater management for their residents. 5

6. This section should also state that the proposed reservoir and transfer facility expansions are located within Drainage Area 109 (DA 109), for which a drainage fee is due in accordance with Flood Control Ordinance Number 94-75. The ordinance finds that new developments, with the associated increases in impervious surface, can have adverse effects on regional drainage systems, requiring those systems to be upgraded and maintained. The ordinance requires the collection of fees based on square footage of new created impervious area to address these effects. By ordinance, all building permits issued in this area are subject to the provisions of the drainage fee ordinance. Effective February 16, 1995, the current fee in this drainage area is $0.35 per square foot of newly created impervious surface. The expanded reservoir water surface will effectively create an impervious surface, and the new transfer facility will create a new impervious surface area. Prior to construction of these facilities, the drainage area fee for these new impervious surfaces should be collected. Additionally, our records indicate that drainage area fees were not collected for the previously constructed Interpretive Center and adjacent parking lot below the dam. These fees should be paid to the FC District with this project. 6

The FC District will consider waiving the drainage area fee for the reservoir water surface, provided the project includes improvements and operational criteria that mitigate the downstream flood impacts. 6 Cont.

Environmental Setting — Hydrology — Kellogg Creek Watershed (page 4.5-8)

7. This section of the DEIR should note that Kellogg Creek currently does not have adequate capacity to convey the 100-year design storm at locations downstream of the project and that a significant number of properties are subject to flooding.
8. The DEIR states that "with the attenuating effect of the existing dam, the 100-year peak runoff in lower Kellogg Creek would be about 150-cfs." Where along Kellogg Creek does this runoff quantity occur? At what stage in the reservoir storage does this attenuation occur? Please submit hydraulic studies that show this information to the FC District for review. 7

Environmental Setting — Hydrology — Flood Potential (page 4.5-9)

9. This section mentions the Letter of Map Revision (LOMR) submitted to FEMA as a result of the construction of the original Reservoir, but does not mention the effects on the floodplain during the 4-year construction period of the expansion project, during which water will not be stored in the dam. Because of the existing Kellogg Creek capacity issues, at least 100-year level of flood protection should be provided during construction of the expansion project.

Chapter 4.5.3 Impacts and Mitigation Measures

Impact 4.5.5: Project Alternatives 1, 2, and 3 could place structures within a 100-year flood hazard area as mapped on a federal Flood Insurance Rate Map, which could impede or redirect flood flows. (page 4.5-29).

10. The DEIR does not address the impact on the downstream floodplain during construction of the project. The floodplain was revised as a result of the original Reservoir and a LOMR submitted to FEMA. As currently proposed, storm runoff within the reservoir watershed will not be detained by the dam, but will be bypassed around the project site during the 4-year construction period. Not detaining the storm runoff during construction will negate the benefits provided by the original dam, as detailed in the LOMR. As previously stated, Kellogg Creek does not have the capacity to handle the additional runoff and not detaining the storm runoff would lead to downstream flooding. Flood protection for at least a 100-year storm event should be provided during construction of the expansion project. Mitigation measures should include preparing a hydraulic plan, to the satisfaction of the FC District, which demonstrates how flood protection will be provided during construction of the project. 8

11. This section states that "even at full operating capacity, the existing reservoir acts to decrease the magnitude of the 100-year peak flow event in Kellogg Creek below the dam by having the capacity to contain flood flow and controlling the release of water downstream," but due to recent State legislation, this facility needs to be constructed and operated such that it can provide at least 200-year level of flood protection for all downstream communities. Because of the existing Kellogg Creek capacity issues, the expanded reservoir should always provide enough freeboard to not only decrease, but entirely mitigate the impacts of the 200-year peak flow storm event. The Reservoir's Operations Plan should optimize storage while providing necessary flood protection. At the very least, a drainage study needs to be conducted to determine the amount of storage volume in the reservoir will be necessary to mitigate the 200-year storm event. This may require improvements to Kellogg Creek such that no homes or other improvements are impacted. 9

    Due to the vast existing, and future, community downstream of this project, this expanded reservoir should be operated jointly as a water-storage facility and as a flood control facility with the future in mind. The CCWD should provide a detailed analysis of the drainage facilities within the downstream communities and the capacity of Kellogg Creek so the flood risk can be better evaluated prior to publishing the Final EIR. The FC District and community desire to work with CCWD to potentially obtain a LOMR from FEMA and remove as much of the community as possible from the floodplain. The FC District should review any drainage studies prepared for this project for adequacy on behalf of the nearby communities.

Impact 4.5.6: The project alternatives would not substantially increase the exposure of people and/or structures to risks associated with inundation by dam or levee failure. (pages 4.5-33 and 4.5-34).

12. This section of the DEIR mentions that a revised inundation map will be submitted to the California Office of Emergency Services and that the County of Contra Costa has prepared an emergency evacuation plan that reflects the inundation scenario associated with the existing reservoir. A copy of the revised inundation map should also be submitted to the FC District for review. Additionally, with the proposed expansion more than doubling the existing reservoir capacity, the emergency evacuation plan should be reevaluated. The Final EIR must include coordinating with the Office of Emergency Services in evaluating and revising the emergency evacuation plan as a mitigation measure. 10

13. With regard to the facility's emergency drawdown (or evacuation), this section of the DEIR states that "the discharge rate to Kellogg Creek increases to 1,500-cfs under the additional 88-feet of reservoir head and that shallow flooding would occur along sections of Kellogg Creek during the emergency release." This is not adequate, because the extent of flooding caused by the emergency release has not been quantified and evaluated to determine what the impact will be. Since the release time period is at least ten days, the impacts are potentially significant. A hydraulic study with an inundation map that determines the extent of flooding along Kellogg Creek during drawdowns needs to be submitted to the FC District for review. Appropriate mitigation measures should be proposed after review of the study in conjunction with input from the FC District and nearby communities. Improvements should be made by the CCWD to Kellogg Creek such that all emergency releases are contained within the creek and no structures or roadways are impacted. The impacts associated with any creek improvements should also be included in the Final EIR, along with proposed mitigation measures. 11

Additional Comments

14. Raising the reservoir water surface will impact wetland, floodplain, and riparian habitat. As part of the proposed mitigation for this project, the FC District recommends that CCWD create wetland, floodplain, and riparian corridor habitat areas along Kellogg Creek. This mitigation work could include flood capacity enhancements in Kellogg Creek providing CCWD mitigation for both flooding and habitat and perhaps even a more overall cost-effective mitigation. Any proposed mitigation should be in alignment with the East County Habitat Conservation Plan. The FC District and community need to be included in the development of any mitigation alternatives. 12

15. The addition of the Los Vaqueros Reservoir into the Kellogg Creek Watershed has impacted the hydro-geomorphic characteristics of Kellogg Creek downstream of the dam, affecting sediment transport, erosion, vegetation, and wildlife habitat. Although this was constructed some time ago and was evaluated in the original EIR, the requirements and scientific capabilities to evaluate the impacts of the facility upon the watershed dynamics have increased. This project should be required to measure and evaluate the impacts of the existing and proposed facility to determine if the creek system is balanced, healthy, and naturally sustainable. One of the areas of investigation should be to evaluate the hydro-geomorphology of Kellogg Creek downstream of the expanded facility — especially in regards to potential sediment generation from the now sediment deficient section of stream downstream of the dam. What would be the potential erosion created by the now "sediment-starved" section of stream? How would this sediment transport downstream? Where would it likely settle? What affects 13

would the increased sediment downstream have upon flood protection for downstream communities? For any potentially significant impacts, CCWD should provide appropriate mitigation measures to ensure proper creek characteristics and function. The FC District should be provided the opportunity to review and provide comments on the hydro-geomorphic studies and proposed mitigation measures prior to publishing the Final EIR.

13 Cont.

We appreciate the opportunity to comment on the DEIS/DEIR and welcome continued coordination. If you should have any questions, please contact Jorge Hernandez at (925) 313-2304 or via e-mail at jhern@pw.cccounty.us; alternately, you can contact Teri Rie at (925) 313-2363 or trie@pw.cccounty.us.

Sincerely,

Tim Jensen
Senior Civil Engineer
Contra Costa County Flood Control
& Water Conservation District

TJ:JH:cw
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c: Supervisor Mary Piepho , District 3
Julia R. Bueren, Chief Engineer
R. Mitch Avalon, Deputy Chief Engineer
Greg Connaughton, Flood Control
Paul Detjens, Flood Control
Teri E. Rie, Flood Control
Rich Lierly, Flood Control, Watershed Program
Roberta Goulart, Department of Conservation and Development
Louis Moore
Bureau of Reclamation
2800 Cottage Way, MP-700
Sacramento, CA 95825
Attn: Los Vaqueros Reservoir Expansion Project DEIS/EIR

East Bay Regional Park District

2950 PERALTA OAKS COURT P.O. BOX 5381 OAKLAND CALIFORNIA 94605-0381 T: 1-888-EBPARKS F: 510-569-4319 TRS RELAY: 711 WWW.EBPARKS.ORG

August 24, 2017

Lisa Rainger
Bureau of Reclamation
2800 Cottage Way, MP-700
Sacramento, CA 95825

RE: Draft Supplement to the Final EIS/EIR for the Los Vaqueros Expansion Project

Dear Ms. Rainger:

The East Bay Regional Park District (EBRPD) appreciates the opportunity to provide comments on the draft Supplement to the final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Los Vaqueros Expansion Project. EBRPD recognizes that the Los Vaqueros Reservoir (Reservoir) is an important asset to the region, providing both recreational opportunities and water supply reliability. The Reservoir is located in the Los Vaqueros Watershed in southwestern Contra Costa County, near several EBRPD parks, including Vasco Hills and Vasco Caves Regional Preserve, Byron Vernal Pools Regional Preserve, Brushy Peak Regional Preserve, Morgan Territory Regional Preserve, and Round Valley Regional Preserve. EBRPD understands that the proposed project expansion and associated pipelines, transfer facilities, and other infrastructure may impact EBRPD parks and recreational facilities, and would like to work with CCWD and the U.S. Bureau of Reclamation on the following concerns:

- The proposed project includes temporary closure of the Los Vaqueros Watershed for approximately 5 years (estimated 1 year for drawdown, 3 years for construction, and up to 1 year to fill the reservoir). This temporary loss of recreational opportunities may affect nearby EBRPD facilities, including Contra Loma Regional Park's boat launch, Big Break Regional Shoreline's fishing pier and boat launch, and Del Valle Reservoir, with operational impacts and costs to include additional staffing requirements, and fish stocking costs. EBRPD will work with CCWD on developing the public outreach materials to inform public users of the temporary closure. L_EBRPD_01

- The portions of the Transfer-Bethany alignment along Armstrong Road and near Byron Airport include wetlands and a mitigation pond constructed by the East Contra Costa Habitat Conservancy (ECCHC) as habitat for vernal pool fairy shrimp, California tiger salamander, and California red-legged frog. Any temporary impact resulting from the pipeline construction could conflict with the provisions of the East Contra Costa County Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP). EBRPD requests that CCWD coordinate with the ECCHC in acquiring the compensatory mitigation lands for any offsite mitigation. L_EBRPD_02

- The proposed pipeline to Brentwood Water Treatment Plant and ECCID's Bixler Intake would affect vehicle and pedestrian access along the portion of EBRPD's Delta de Anza Trail that crosses State Route 4 along Neroly Road. As noted in the draft Supplement, the Delta de Anza Trail is the only east-west travel route available to bicyclists and pedestrians to cross the State Route 4 barrier for at least two miles north or south. The nearest alternative State Route 4 crossing for trail users is by way of Lone Tree Way, which is an approximately 5-mile detour. EBRPD requests appropriate signage be available to re-route pedestrians and bicyclists during that time. L_EBRPD_03

EBRPD commends the project's multi-agency efforts to provide local, regional, and statewide public benefits, including water supply reliability to the south-of-Delta wildlife refuges. Given the multi-agency partnerships and this project's role in the State Water Project, it will be critical for this project to also address other lakes owned by the State in the East Bay region. These state facilities, Lake Del Valle and Bethany Reservoir, are critical components of the State's water supply system while providing important recreational co-benefits that serve the growing populations in the East Bay and San Joaquin County. Investments in these facilities and in recreational infrastructure should be a focus of any public benefit investments associated with this project.

Lake Del Valle is a State Recreation Area owned by the State of California. EBRPD manages this State Park as Del Valle Regional Park on behalf of the State. It is an important water source for the East Bay and is also an important recreational resource providing boating, camping, and hiking to the region. Del Valle Regional Park hosts over half a million families annually. This facility is over 60 years old with aging infrastructure and need for investment of recreational infrastructure. Additionally, there is a need for commitments from Del Valle water contractors that lake levels be maintained at levels that can support recreation even in dry years. L_EBRPD_04

Bethany Reservoir State Recreation Area, located in far eastern Alameda County near the San Joaquin County line, is an underutilized State Recreation Area with the potential to serve a much greater population both in Alameda County and San Joaquin County. This State Recreation Area also has aging infrastructure and needs significant investments in recreational infrastructure to support enhanced use.

Lake Del Valle and Bethany Reservoir State Recreation Areas will be increasingly important recreational facilities as the population of the Bay Area and Central Valley grows and the need for water oriented recreation increases. These facilities are particularly important as they provide respite during summer months from the heat which will be an increasingly critical co-benefit of water supply facilities in the face of climate change and rising temperatures.

Thank you for your consideration of these comments. EBRPD looks forward to working with CCWD and the U.S. Bureau of Reclamation in addressing the concerns raised.

Respectfully,

Brian W. Holt
Principal Planner

Cc: EBRPD Board of Directors
Robert Doyle, EBRPD General Manager
Jerry D. Brown, CCWD General Manager
Marguerite Patil, Special Assistant to the CCWD General Manager
Bob Shaver, Alameda County Water District General Manager
Rick Gilmore, Byron Bethany Irrigation District General Manager
Alexander Coate, East Bay Municipal Utility District General Manager
Patricia Corey, East Contra Costa Irrigation District General Manager
Ric Ortega, Grassland Water District General Manager
Norma Camacho, Santa Clara Valley Water District Interim Chief Executive Officer
Harlan Kelly Jr., San Francisco Public Utilities Commission General Manager
Lon Martin, San Luis Water District General Manager
Jill Duerig, Zone 7 Water Agency General Manager

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

September 5, 2017

U.S. Bureau of Reclamation
Attention: Ms. Lisa Rainger
2800 Cottage Way, MP-700
Sacramento, CA 95825

Dear Ms. Rainger:

Comments on the Draft Supplement to the Final EIS/EIR:
Los Vaqueros Reservoir Expansion Project Phase 2, Contra Costa County, CA

The Metropolitan Water District of Southern California (Metropolitan) has reviewed the Draft Supplement to the Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) prepared by the U.S. Bureau of Reclamation to comply with the National Environmental Policy Act (NEPA) and by the Contra Costa Water District (CCWD) to comply with the California Environmental Quality Act (CEQA). The Los Vaqueros Reservoir Expansion (LVE) Project Phase 2 would involve expanding the existing Los Vaqueros Reservoir, increasing the capacity from 160,000 acre-feet up to 275,000 acre-feet, and adding new conveyance facilities. As a stakeholder in the State Water Project (SWP) and the Sacramento-San Joaquin Delta (Delta), Metropolitan is submitting comments in response to the Draft Supplement to the Final EIS/EIR (refer to **Attachment 1**).

Southern California has an important stake in the Delta region and its infrastructure. As a SWP contractor, Metropolitan has and will continue to invest significantly in the SWP, to support efforts to restore sensitive fish populations in the Delta watershed, to promote scientific research that contributes to understanding the causes of decline in fish native to the Delta, and to develop strategies and approaches to improve the Delta's water quality. Even with the diversification of Metropolitan's supply sources, water use efficiencies, and conservation efforts, the SWP will remain a critical source of water supply for Metropolitan. Hence, Metropolitan is generally supportive of water supply programs that provide local, regional and statewide environmental, water supply reliability, and water quality benefits to the Delta.

Metropolitan's comments in Attachment 1 are either requesting further clarification or updating statements in the environmental evaluation of LVE Project Phase 2 with more recent information from the approved California WaterFix Project. We appreciate the opportunity to provide input to your NEPA/CEQA planning process and we look forward to receiving future information concerning this proposed project. If you would like to discuss Metropolitan's comments, please contact me at sarakawa@mwdh2o.com.

Very truly yours,

Stephen M. Arakawa

Stephen Arakawa
Manager, Bay-Delta Initiatives

cc: Ms. Marguerite Patil
Contra Costa Water District
P.O. Box H2O
Concord, CA 94524

Attachment 1 -- Matrix of Specific Comments on the Draft Supplement to the Final EIS/EIR for Los Vaqueros Reservoir Expansion Project Phase 2, Contra Costa County, CA

ATTACHMENT 1

Matrix of Specific Comments on the Los Vaqueros Reservoir Expansion Project Phase 2 Draft Supplement to the Final EIS/EIR			
Location in Draft Supplement	**Statement in Draft Supplement**	**Comment or Recommendation**	
Page 1-31 1.3.11 Bay Delta Conservation Plan/California WaterFix	"A Final EIR/EIS for California WaterFix was issued in December 2016."	The California WaterFix Project Final EIR/EIS was certified and the project was approved by DWR on July 21, 2017. Refer to: http://baydeltaconservationplan.com/NoticeofDetermination.aspx References to the California WaterFix project and related analyses in conjunction with the proposed project (such as cumulative analyses) should be updated with information from the 2016 Final BDCP/California WaterFix EIR/EIS. Refer to: http://baydeltaconservationplan.com/FinalEIREIS/FinalEIR-EIS_VolumeI.aspx	L_MWD_01
Page 2-35	"In the Final EIS/EIR action alternatives and in the No Project/No Action Alternatives for the Phase 2 Expansion, the default timing specified in the Los Vaqueros biological opinions and incidental take permit (USFWS, 1993; NMFS, 1993; CDFG, 2009) of March 15 through May 31 for the no-fill period, with a concurrent no-diversion period in April, was assumed to be shifted to the first half of February and all of March and June for the no-fill period, with a concurrent no-diversion period in March. This shifted timing better coordinates Los Vaqueros Reservoir filling operations with CVP and SWP operations under the OCAP biological opinions, since the limit on the ratio of San Joaquin River inflow to exports often controls CVP and SWP exports in April and May, rather than OMR flow restrictions, and CCWD diversions are considered to be in-Delta diversions and therefore not included in total exports.	This narrative suggests that the proposed project would divert more water during April and May. Clarification is requested as such operation may be inconsistent with the objectives and the operations of the approved California WaterFix Project (including that project's biological opinions) that in turn may affect water supplies to the SWP and CVP. How would this affect potential diversions from water agencies who might partner with CCWD? Please clarify whether the proposed project would change Delta outflows during those months.	L_MWD_02
Page 2-35 2.3.2.1 Rock Slough Filling	"Rock Slough Intake is, like the Freeport Intake, north of the locations where Old and Middle River flows are measured for the purposes of monitoring CVP and SWP compliance with the 2008 USFWS and 2009 NMFS OCAP Biological Opinions. Los Vaqueros Reservoir filling from Rock Slough Intake and deliveries to partners south of the Delta would not be constrained when Old and Middle River flow restrictions control CVP and SWP south Delta export operations."	This statement implies that the project's proposed operations would not be constrained by the Old and Middle River restrictions. Please provide more details so that Metropolitan may understand the dynamics of this project on SWP operations and the Delta's hydrology.	L_MWD_03

ATTACHMENT 1

Matrix of Specific Comments on the Los Vaqueros Reservoir Expansion Project Phase 2 Draft Supplement to the Final EIS/EIR			
Location in Draft Supplement	**Statement in Draft Supplement**	**Comment or Recommendation**	
Page 4.2-4 Table 4.2-2	N/A	Table 4.2-2 summarizes the major CALSIM II assumptions used in developing each alternative. The assumptions for the CCWD No Fill/ No Diversion Period and the use of Freeport and Rock Slough intakes differ under the preferred alternative than in the no action alternative. Please explain the rationale for such differences and if such changes could potentially affect the SWP on a real-time operations basis.	L_MWD_04
Pages 4.2-9 through 4.2-24 Tables 4.2-5 through 4.2-20	Tables list numerical results of modeling as annual average values.	While the modeling simulations included shorter time scales (i.e., monthly time-step), the evaluation in the environmental documentation relies on annual average timeframes. Please provide the rationale for using a broader evaluation in the impact analysis.	L_MWD_05
Page 4.2-10 Table 4.2-6	N/A	Table 4.2-6 shows total project deliveries increasing from 121 TAF/yr on average in the no action alternative to 200 TAF/yr in the preferred alternative, a change of 79 TAF. The corresponding increase in diversions to Los Vaqueros Storage is 8 TAF/yr. Where will the remaining water that is not stored be delivered?	L_MWD_06
Page 4.2-12 Table 4.2-8	N/A	The increases in project deliveries achieved under the preferred alternative are predicated on the availability of "Delta Surplus Water." Table 4.2-8 shows the monthly availability of Delta surplus supplies. Corresponding surplus data is not provided for the Appendix B California WaterFix sensitivity analysis to further understand the conclusions. Please provide monthly data for the results of the Appendix B analysis.	L_MWD_07
Page 4.3-32 Impact 4.3.9	"The cumulative impacts of the Phase 2 Expansion combined with those of other reasonably foreseeable projects and conditions could adversely affect Delta fisheries and aquatic resources. The Draft Biological Assessment for the California WaterFix found that the Proposed Action is likely to adversely affect winter-run and spring-run chinook salmon due to incidental take associate with facility construction, operation and maintenance. Foreseeable climate change effects include sea level rise, reduced Sierra Nevada winter snowpack, and warmer water temperatures; these effects will tend to impair habitat quality and quantity for chinook salmon, delta smelt, longfin smelt and other Delta species. Increased temperatures and changes in Delta flows could also increase the frequency of noxious algae blooms in the Delta."	USFWS and NMFS released their final BOs and issued "no jeopardy" findings concerning the California WaterFix and affected listed species under their jurisdictions (USFWS-June 23, 2017 and NMFS-June 16, 2017). Refer to: http://cms.capitoltechsolutions.com/ClientData/CaliforniaWaterFix/uploads/CWF_PressRelease_BiOps6.26.17.pdf	L_MWD_08

ATTACHMENT 1

Matrix of Specific Comments on the Los Vaqueros Reservoir Expansion Project Phase 2 Draft Supplement to the Final EIS/EIR			
Location in Draft Supplement	**Statement in Draft Supplement**	**Comment or Recommendation**	
Page 4.6-46 Impact 4.6.18	"The California Waterfix project would result in the loss of 334 acres of kit fox habitat (identified as a significant impact); however, the mitigation program for that project focuses on the preservation of contiguous areas of unprotected grassland that connect to more than 620 acres of existing kit fox habitat that was protected under the East Contra Costa County HCP/NCCP. Thus, the residual impact of the California Waterfix project on the loss of kit fox movement corridors would support the goals of the East Contra Costa County HCP/NCCP. The kit fox habitat that would be lost due to Waterfix is concentrated around the Clifton Court Forebay, over 8 miles from the movement corridor lost under the Total Project, and in combination with the Total Project would not result in a significant cumulative impact on kit fox movement corridors."	Table 12-4A-58 of the Final EIR/EIS of the California WaterFix notes that 330 acres (temporary plus permanent) of modeled habitat will be lost to the kit fox. On page 12-3719 of the Final EIR/EIS, it states: "In the absence of the proposed Environmental Commitments, the effects on San Joaquin kit fox and American badger habitat from Alternative 4A would represent a significant impact as a result of habitat modification and potential direct mortality of a special-status species. However, with habitat protection, restoration, management, and enhancement guided by Resource Restoration and Performance Principles L2, VP/AW1, VP/AW6, VP/AW7, and G10, and guided by AMM1–AMM6, AMM10, and AMM24, which would be in place throughout the time period of construction and operations, and with implementation of Mitigation Measure BIO-162, the impact of Alternative 4A as a whole on San Joaquin kit fox and American badger would be less than significant." Refer to: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Final_EIR-EIS_Chapter_12_-_Terrestrial_Biological_Resources.sflb.ashx	L_MWD_09
Appendix B	N/A	Appendix B provides a six-page sensitivity analysis of the preferred alternative with California WaterFix. Such brevity does not allow for a full technical review of the analysis. Please provide full disclosure of the technical analysis and modeling outputs.	L_MWD_10
N/A =not applicable			

7/12/17 San Jose (1)

LOS VAQUEROS RESERVOIR EXPANSION PROJECT COMMENT CARD

Thank you for your interest in the Draft Supplement to the Final Environmental Impact Statement/ Environmental Impact Report for the proposed Los Vaqueros Reservoir Expansion Project - Phase 2. Persons wishing to submit oral or written comments are encouraged to do so.

Name ANDY GUERRA Phone Number _____ Email _____
Organization Represented SAN JOSE WATER COMPANY
Address 110 W. TAYLOR ST
City SAN JOSE State CA ZIP 95110

☑ I would like to provide oral comments (Each speaker is allowed up to three minutes.)

Public Comment _____

If you are not providing oral comments, leave this card in a drop box at the Public Hearing or add postage and place the stapled, self-addressed mailer in any U.S. mailbox. Written comments will be accepted until 5 p.m. September 5, 2017.

LOS VAQUEROS RESERVOIR EXPANSION PROJECT DRAFT SUPPLEMENT TO THE FINAL ENVIRONMENTAL IMPACT STATEMENT/ ENVIRONMENTAL IMPACT REPORT

PUBLIC HEARINGS

TRANSCRIPT OF PROCEEDINGS

JULY 12, 2017

7:30 P.M.

REPORTED BY: CAMBRIA DENLINGER, CSR 14009
Talty Court Reporters, Inc.
408.224.1900

SAN JOSE, CALIFORNIA, JULY 12, 2017

SANTA CLARA VALLEY WATER DISTRICT PUBLIC HEARING

P R O C E E D I N G S

***

MR. MOORE: Thank you very much. I would like to start by welcoming you all again to the official public hearing portion of tonight's meeting. This public meeting is on the "Draft Supplement to the Final Environmental Impact Statement/Environmental Impact Report for the Los Vaqueros Reservoir Expansion Project."

This hearing is being held in accordance with the requirements of the National Environmental Policy Act. Tonight we're holding the second of six public hearings. Information on the other hearing locations can be found on the information provided out on the front desk.

With us tonight is Cambria Denlinger. She is our court reporter. So please keep in mind if there are comments you want to make, we want to ensure she's able to capture that information. Please step to the microphone and she'll be able to record that effectively.

Today we're accepting oral and written comments on the draft supplement to the final EIS/EIR.

name. Spell your first and last name. Please remember this is a formal hearing and a court reporter is recording your comments. Please speak clearly so your comments will be captured accurately. I will be the timekeeper and will indicate when your time is up.

So at this time, the first speaker is Mr. Andy Gere. If you will please state your first name, last name, and spell it, please.

MR. GERE: May name is Andrew Gere. Last name is spelled G-E-R-E. I am the president and chief operating officer for San Jose Water Company, and we are a retailer of Santa Clara Valley Water District. On average, we purchase about half of the water they produce and resell this water which is collected locally. I'm here to speak in support of this project relative to alternatives, and so I know the EIR you always have to compare do we do it and mitigate any environmental impacts versus no project.

And my view of this project is that the benefit that it provides both for the water supplies perspective as well as the environmental impact far outweighs the no project decision.

So my view is that this project should go forward and that the mitigations are more than sufficient relative to the benefits that the project

L_SJWC_01

provides. And further, I think that understanding that it is a regional project and it supports many public water supply agencies as well as the environmental benefits that we described earlier, it makes a lot of sense to certify the EIR and EIS and move forward with the project. Thank you.

L_SJWC_01 cont.

MR. MOORE: Thank you, sir. Will our next speaker go to the microphone? Please state your first and last name and spell it, please -- and your affiliation.

MR. HALL: Good evening, my name is Garth Hall. G-A-R-T-H, H-A-L-L. So I am an employee of the Santa Clara County Valley Water District, one your interested partnership agencies. So thank you for being here tonight.

So the question really has to do with since we have recently received notice of the biological opinions for the California water from the Fish and Wildlife Service and also the National Green Fisheries on the official side. Has Contra Costa received its own biologic opinions related to the revised operation of Los Vaqueros expansion, or is that something that's on the plan? If that's -- if the answer is already in the draft EIR, you could simply point me to the page.

Secondly, I understand that there's a

7/12/17 San Jose (2)

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Name Gareth Hall Phone Number 408-630-2750 Email ghall@valleywater.org

Organization Representated

Address 5750 Almaden Expressway

City San Jose State CA ZIP 95118

☐ I would like to provide oral comments (Each speaker is allowed up to three minutes.)

Public Comment

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Secondly, I understand that there's a

L_SCVWD_01

complicated set of operating arrangements that are already applicable to the Old River, the Middle River as well as the Rock Slough intakes. For the Old River and Middle River, is there any indication that you will move away from the contractual arranged regulatory arrangements for intake period and move perhaps, to something that's more akin to the Old and Middle River requirements that are applied to the south Delta pumps? That would be of interest to me knowing the answer to that. And if that's the case, how will Contra Costa proceed to explore that or achieve that? Thank you. L_SCVWD_02

MR. MOORE: Thank you very much, sir. Are there any other speakers at this time?

We've heard the last speaker, so at this time we will remain here for the next -- until about 8:30. We'll go into recess at this point, so I would give you the opportunity to revisit the stations out with the staff here, and then we'll call back to order about ten minutes before 8:30 and actually reopen the hearing to close it out officially unless there are additional speakers at this time.

So please take a moment, and you can visit the stations with a staff outside.

(Recess taken at 7:34 p.m.)

Again, if you are interested in participating

KRONICK
MOSKOVITZ TIEDEMANN & GIRARD

400 Capitol Mall, 27th Floor
Sacramento, CA 95814

T | 916.321.4500
F | 916.321.4555

Hanspeter Walter
hwalter@kmtg.com

September 1, 2017

Marguerite Patil
Contra Costa Water District
P.O. Box H20
1810 E. Hazelton Ave.
Concord, CA 94524
lve@ccwater.com

Lisa Rainger
Bureau of Reclamation
2800 Cottage Way, MP-700
Sacramento, CA 95825
Fax: (916) 978-5094
lrainger@usbr.gov

Re: Woodbridge Irrigation District's comments on Los Vaqueros Reservoir Expansion Project Draft Supplemental EIS/EIR

To whom it may concern:

I. Introduction

This firm represents the Woodbridge Irrigation District ("Woodbridge"), and this letter contains Woodbridge's comments on Contra Costa Water District's ("CCWD") and the U.S. Bureau of Reclamation's ("USBR") Supplemental EIS/EIR on the Los Vaqueros Reservoir Expansion Project ("EIS/EIR"). As detailed in this letter, Woodbridge has several comments, concerns, and requested changes regarding the EIS/EIR and its underlying analyses of the impacts of expanding Los Vaqueros Reservoir, especially the so-called Phase 2 Expansion that proposes to integrate this new storage capacity with the East Bay Municipal Utility District's current water operations and facilities (the "Project"). In particular, Woodbridge is concerned about the EIS/EIR's characterization and modeling of Woodbridge's water rights and the related analyses of the Project's impacts to flows on the Mokelumne River, which in turn could adversely affect Woodbridge's ability to exercise its water rights to that surface water supply. Unless Woodbridge's concerns and comments are acknowledged and adequately addressed, Woodbridge must object to the adequacy and certification of the EIS/EIR and any lead, responsible, or action agency findings or determinations under the California Environmental Quality Act ("CEQA") or the National Environmental Policy Act ("NEPA") based upon them and any related agency approvals to implement the Project.

II. Overview of Woodbridge Irrigation District

Woodbridge was organized in 1924 under the California Irrigation District Act and provides water service within its service area, which extends to an area of approximately 63 square miles in San Joaquin County. Woodbridge diverts its water primarily from the Mokelumne River at Woodbridge Dam. Woodbridge is among the most senior water rights holders on the Mokelumne River. Woodbridge has both pre-1914 and post-1914 appropriative water rights for direct diversion from the Mokelumne River, as well as contract rights to minimum releases from the East Bay Municipal Utility District's ("EBMUD") Pardee and Camanche Reservoirs.

Woodbridge supplies water to landowners currently farming more than 13,000 acres within Woodbridge's territory. These farmlands produce a variety of crops including grapes, corn, alfalfa, tomatoes, and walnuts. Woodbridge also delivers water for municipal use to the cities of Lodi and Stockton through long-term agreements. Woodbridge has historically engaged in aggressive water conservation and conjunctive use efforts, continues to do so today, and is planning further conservation and conjunctive use projects and programs to address local water supply and resource issues in the County, including groundwater quality and sustainability, now required under the Sustainable Groundwater Management Act, for the benefit of local water users.

III. Comments

Woodbridge has reviewed the EIS/EIR, especially Appendices A and B, which purport to analyze and disclose the significant impacts of the Project. Because expansion of Los Vaqueros Reservoir would enable EBMUD to increase its diversions from the Mokelumne River, Woodbridge is concerned that the Project will impact its ability to fully exercise its water rights on the Mokelumne River, as well as adversely impact the surface water and groundwater supply supporting Woodbridge and surrounding portions of San Joaquin County.

A. The EIS/EIR Does Not Accurately Describe WID's Water Rights

The EIS/EIR makes a fundamental and fatal error in its description of Woodbridge's water rights and its related discussion and analysis of Project impacts to those rights. The EIS/EIR correctly states the general priority system applicable under principles of California water law:

L_WID_01

> "Before water can be put to use or diverted to storage under EBMUD's water rights, the needs of senior users (parties with older water rights priority) … must be met. … [A]gencies with appropriative water rights that predate EBMUD's rights,

> have claims on the river that are senior to EBMUD's rights." (EIS/EIR Appendix A at A-5.)

Woodbridge is such an agency with senior water rights to EBMUD. However, the EIS/EIR incorrectly describes Woodbridge's water rights as follows:

> "WID has pre-1914 water rights senior to EBMUD's Mokelumne River water rights, and also has two overlapping licensed water rights for direct diversions up to 414.4 cfs, the maximum capacity of WID canal. These entitlements are conditioned by the water rights settlement agreements with EBMUD, which, depending on inflow to Pardee Reservoir, provide WID with firm annual diversions of 60 TAF in normal water years and 39 TAF in dry years." (*Id.* at A-7.)

The EIS/EIR's conclusion or implication in this paragraph – namely that Woodbridge has through agreements with EBMUD limited its water rights to flows on the Mokelumne to a maximum of only 60 TAF[1] in normal years and only 39 TAF in dry years – is erroneous and unsupported. Woodbridge has water rights greater than this and has actually diverted greater amounts in years when additional waters were available for diversion from the Mokelumne River.

L_WID_01 cont.

The erroneous statements in the EIS/EIR arise from a misinterpretation of certain agreements between Woodbridge and EBMUD, specifically two water rights settlement agreements executed in the years 1938 and 1965, respectively. The EIS/EIR provides little detail on these two agreements even though they are at the heart of the EIS/EIR's conclusions regarding impacts to Woodbridge's senior water rights and water supply availability. Because this issue is critical to properly describing and analyzing these impacts, Woodbridge believes it is necessary to provide significant detail regarding these agreements to dispel the incorrect interpretation of these agreements repeated in the EIS/EIR. The EIS/EIR's mischaracterization of Woodbridge's water rights also necessarily creates inadequacies and errors in the EIS/EIR's analyses and modeling of potential impacts to Woodbridge's water supply and rights, which are also identified below.

1. The Woodbridge / EBMUD 1938 Agreement Did Not Limit Woodbridge's Right To Fully Exercise Its Water Rights

In 1938, Woodbridge and EBMUD entered into an agreement regarding the operation of Pardee Reservoir and the exercise of certain of Woodbridge's water rights. Importantly, Camanche Reservoir had not yet been constructed, so this agreement only involved

[1] TAF = Thousand Acre Feet

EBMUD's operation of Pardee Reservoir and related water rights. In the 1938 Agreement, Woodbridge and EBMUD agreed that Woodbridge had a "prior right" to set quantities of water, based on its pre-1914 water rights. EBMUD agreed to make releases from Pardee Reservoir sufficient to ensure Woodbridge had water available for diversion in normal and dry years in at least the quantities set forth in the agreement. The 1938 agreement is still in effect, although some portions have been modified or amended by the 1965 Agreement (discussed below).

While the 1938 Agreement established a quantity of minimum releases that EBMUD had to make available to Woodbridge, it did not in any sense quantify the full extent of Woodbridge's pre-1914 rights. Rather, the 1938 Agreement set forth terms under which Woodbridge would not assert that EBMUD was injuring Woodbridge's pre-1914 rights. Woodbridge's pre-1914 rights apply to both natural flow and augmented flow resulting from the operation of reservoirs that pre-date and are upstream of Pardee Reservoir. Under the 1938 Agreement, provided that Woodbridge had water available to it in the quantities and under the terms specified in the agreement, Woodbridge simply agreed it would not complain that EBMUD's upstream activities in accordance with the conditions of the then existing permits relating to Pardee Reservoir and related facilities were infringing on Woodbridge's pre-1914 rights. Woodbridge did not, however, waive its right to divert, pursuant to its pre-1914 rights or any other water rights, any additional water above the quantities set in the 1938 Agreement that might be available in the Mokelumne River downstream of Pardee Reservoir (recall that Camanche Reservoir did not exist at the time).

L_WID_01 cont.

2. Woodbridge's Water Right Permit 3890 (now License 5945) Predates Camanche Reservoir And Allows Woodbridge To Divert Water Released From Pardee Reservoir

Importantly, at the time of the 1938 Agreement, Woodbridge's rights were not limited to its pre-1914 rights. In addition it held an appropriative water right under its Permit 3890. In Section 7 of the 1938 Agreement, EBMUD expressly agreed to Woodbridge's full exercise of its rights under Permit 3890 (now License 5945) as rights "in addition" to Woodbridge's pre-1914 rights and the agreed upon minimum releases from Pardee Reservoir. The 1938 Agreement did not limit or define Woodbridge's rights under Permit 3890, other than to note that Woodbridge's rights under Permit 3890 were junior to EBMUD's rights under Permit 2459 (now License 11109) (i.e., EBMUD's Pardee water right).

The State Water Resources Control Board's files show that like its pre-1914 rights, Woodbridge's appropriative rights under License 5945 apply to both natural flow and augmented flow that results from regulation or releases from storage by upstream reservoirs. Woodbridge filed Application 5807 in 1928 to moot any question whether its pre-1914 rights applied to flows in the river that had been released from storage in

upstream reservoirs, including Pardee, as well as releases from other reservoirs upstream of Pardee that pre-dated Pardee (e.g., Pacific Gas & Electric reservoirs operated for hydropower generation). In 1932, in Decision 317, the State Water Board[2] confirmed that flow augmented by upstream regulation or releases from storage was subject to appropriation by Woodbridge, and granted Permit 3890.

In sum, the 1938 Agreement was a way for WID and EBMUD to avoid disputes over the effect of EBMUD's Pardee Reservoir (and related facilities) operations on WID's exercise of its pre-1914 rights. But it did not alter any of WID's water rights and expressly confirmed that Woodbridge could fully exercise its License 5945 water right, which attached to any flow downstream of Pardee Reservoir, including releases of stored water from Pardee Reservoir.

3. The 1965 Agreement Involved Settlement Of Woodbridge's Water Right Permit 6931 (now License 8214) And Operations Of Camanche Reservoir, But Did Not Affect Woodbridge's Right To Exercise License 5945

L_WID_01 cont.

In 1965 Woodbridge and EBMUD again executed an agreement regarding their water rights and operations of EBMUD's proposed Camanche Reservoir and its related water right, now Permit 10478. The context in which the parties entered the 1965 Agreement is important to understanding its terms. As explained in the preceding sections, in the years after the 1938 Agreement, Woodbridge's rights under Permit 3890 had been confirmed in License 5945 (in 1960). Thus, those rights were established by the time of the 1965 Agreement.

What was still an issue between Woodbridge and EBMUD at the time, however, was another water right Woodbridge sought to take to license under Permit 6931.[3] Woodbridge's Permit 6931 was senior to EBMUD's Permit 10478 for Camanche Reservoir. Thus, in 1961, EBMUD protested issuance of a license on Woodbridge's Permit 6931. EBMUD was concerned that Woodbridge's rights under Permit 6931 would interfere with EBMUD's planned operations of Camanche Reservoir under EBMUD's junior Permit 10478 (issued in 1956). Under Permit 10478, EBMUD hoped to capture in Camanche natural flow and augmented flow from releases by Pardee and other upstream reservoirs. But as discussed above, natural and augmented flows in the river below

[2] Decision 317 was issued by the State Water Resources Control Board's predecessor, the Division of Water Resources of the California Department of Public Works.

[3] In 1941, the Woodbridge Water User's Association filed Application 10240, for the diversion of 300 cfs. In 1947, the State Water Board issued Permit 6931 based on Application 10240. As with License 5945, the rights under Permit 6931 attach to both natural flow and flow augmented by the operations of upstream reservoirs, including releases from Pardee and reservoirs upstream from Pardee. By assignment and later a merger, Woodbridge acquired all rights under Permit 6931.

Pardee were (and still are) subject to Woodbridge's senior rights, including pre-1914 rights, and its rights under License 5945 and Permit 6931.

The 1965 Agreement resulted from discussions between EBMUD and Woodbridge to resolve EBMUD's objections to a license based on Permit 6931 (now License 8214). The 1965 Agreement introduced the Permanent Regulated Base Supply (RBS). The RBS defines EBMUD's obligation to make releases from Camanche, to address potential injury to Woodbridge's prior rights under Permit 6931/License 8214. The RBS is set at 60 TAF in normal and wet years and as little as 39 TAF in dry years. Under the terms of the 1965 agreement, so long as EBMUD makes these RBS releases from Camanche in accordance with the agreement, Woodbridge agreed not to claim injury under its pre-1914 rights or Permit 6931 based on operations by EBMUD that are within the scope of EBMUD's permits or licenses. But like the 1938 Agreement, the 1965 Agreement does not define the full extent of Woodbridge's rights, nor does it waive any of Woodbridge's rights to divert water available in the Mokelumne River over and above the RBS, especially under License 5945, full exercise of which by Woodbridge was expressly agreed to in the 1938 Agreement and left unchanged by the 1965 Agreement that dealt with the subsequent exercise of Woodbridge's License 8214 water right. Woodbridge's rights under License 5945 are senior to EBMUD's rights relating to Camanche, and Woodbridge did not compromise that seniority in the 1965 Agreement. L_WID_01 cont.

C. The EIS/EIR's Assumptions And Modeling That Woodbridge Only Diverts A Maximum of 60 TAF From The Mokelumne River Are Wrong And Present An Inaccurate Description Of Environmental Conditions And The Project's Potential Impacts

As detailed above, Woodbridge is not limited to diverting only the RBS quantities set forth in the 1965 Agreement; Woodbridge may and in many years has exercised its water rights to divert more than 60 TAF from the river. The EIS/EIR's incorrect water rights characterization, however, causes the analysis and modeling to cap Woodbridge's diversions at 60 TAF per year. This is exemplified best in Table A-1 (EIS/EIR at A-23), which unrealistically repeats the binary 60 TAF or 39 TAF values for every modeled year as if that is all Woodbridge is entitled to divert from the river. L_WID_02

The simplest way to show this is in error is a review of the historical record of Woodbridge's actual diversions, which establishes that in many years since 1967, Woodbridge has diverted well in excess of 60,000 acre-feet. (See Attachment A to this letter) For example, in 1993 and 2005 Woodbridge's actual diversions were approximately 85,113 and 79,300 acre-feet per year, respectively. Thus, the EIR/EIS's use of the 60/39 TAF dichotomy as representative of Woodbridge's water rights is demonstrably inaccurate, unrealistic, and inappropriate for use in a description of existing environmental conditions and analysis of potential physical effects from the Project on the environment as required by CEQA and NEPA.

This error not only presents an inaccurate description of existing conditions (i.e., the environmental setting), it also affects the EIS/EIR's significance conclusions, leading it to conclude that so long as Woodbridge can divert 60 TAF per year in normal years and 39 TAF in dry years, there can be – by definition – no impact to Woodbridge's water rights or water supply. Because of this error, the EIS/EIR finds:

> "With the EBMUD component of the Phase 2 Expansion, EBMUD would continue to meet obligations to senior water rights holders before making EBMUD diversions. As noted earlier, senior water rights holders include WID. Table A-1 indicates that EBMUD's obligations to WID remain the same under both the No Project/No Action Alternative and with the EBMUD component of the Phase 2 Expansion." (EIS/EIR at A-22.)

In effect, the error is in viewing the potential for impacts to Woodbridge's water rights too narrowly by constraining the analysis to only whether EBMUD will be able to assure that at least 60 TAF arrive at Woodbridge for diversion each year. Such an analysis totally avoids and obscures the potential impact of the Project to reduce the amount of water available to Woodbridge above the 60 TAF RBS amount, which (as detailed at length above) Woodbridge has a right to divert under its various water rights and that the historical record shows Woodbridge has actually diverted in many years when available.

Consequently, the EIS/EIR needs to be revised to recognize and more accurately reflect Woodbridge's water rights and historic and planned diversions from the Mokelumne River. As Attachment A to this letter shows, the EIR/EIS's assumption that Woodbridge will only take either 39 or 60 TAF per year from the river is erroneous. This error fatally infects the description of existing conditions (i.e., baseline), cumulative impacts, the EIS/EIR's modeling, and the no project/no action alternative, among others. It also renders the EIS/EIR's impacts analyses and significance conclusions regarding Woodbridge's water rights and water supply incomplete and flawed.

L_WID_02 cont.

D. The EIS/EIR Misrepresents North San Joaquin Water Conservation District's Water Rights And Diversions

The EIS/EIR uses modeling for a large portion of its effects analysis of river flows and water supply. That modeling assumes that NSJWCD diverts 20 TAF. (See Table A-2 at A-24.) However, the modeling for the no action and baseline scenario is revealed as incorrect and unrepresentative of actual baseline conditions by the EIR/EIS's admission that NSJWCD does not and never has diverted this much water:

L_WID_03

"NSJWCD has historically used as much as 9,488 AFY under Permit 10477, and in the last 10 years, diversions have declined to between 0 and 3,000 AFY." (EIS/EIR at A-7.)

This error fatally infects the description of existing conditions (i.e., baseline), cumulative impacts, and the no project/no action alternative and therefore also renders the impacts analyses and significance conclusions flawed. Furthermore, NSJWCD's water right based on Permit 10477 is junior to all of Woodbridge's rights, and the EIS/EIR should state so expressly. The EIR/EIS's modeling and assumptions should be revised accordingly (i.e., any water available for diversion in the lower Mokelumne (below Camanche) is first available to Woodbridge under License 5945, among others, before any water is diverted, for direct use or to storage, under NSJWCD's Permit 10477).

L_WID_03 cont.

E. The Project Will Have Significant Adverse Impacts To Woodbridge's Exercise Of Its Water Rights And Its Water Supply Reliability

The EIS/EIR reveals that implementation of the EBMUD Phase 2 Expansion Project will result in reductions in releases from Camanche, both directly and cumulatively when considered with other future conditions and projects. (EIS/EIR pp. A-20, A-64 ["Under cumulative with Phase 2 expansion conditions, Camanche releases are reduced in 364 months out of 1104 months in the period of record with an average reduction of 1257 AF per month"]) Nevertheless, the EIS/EIR finds no direct or cumulatively significant impacts from these reductions.

Woodbridge disagrees with the EIS/EIR's conclusions that such effects will be "negligible" or less than significant. First, as explained above, this conclusion is based on a misrepresentation of Woodbridge's water rights, which created a cramped and narrow impact analysis that failed to properly examine and disclose potential impacts. Furthermore, the EIS/EIR includes as a significance threshold "decreases in water deliveries for water users." (EIS/EIR at 4.2-5.) Other thresholds of significance include "changes in carryover storage, or timing or rate of river flows." (*Id.*) These thresholds are met by the EIR/EIS's current analysis (even though it is flawed). The EIS/EIR admits that the Project will reduce flows downstream of Camanche Reservoir. This will necessarily reduce water available for diversion by Woodbridge above the RBS amount and therefore this impact meets the significance threshold of decreasing water available for deliveries to water users, namely Woodbridge's water users that rely on Woodbridge's water rights for all or some of their water supply.

L_WID_04

In sum, the EIS/EIR's significance conclusion must be revised (after proper modeling of Woodbridge's water rights and use) to find a significant impact from a reduction in available water downstream of Camanche and mitigation measures must be explored and adopted.

F. The EIS/EIR's Analysis Uses Inappropriate Averaging Over Long Periods That Obscures The Potential Real World Impacts Of The Project

The EIS/EIR obscures these reductions in flow and water available downstream by inappropriately using monthly or annual averages over long periods of time to artificially create the impression of a small percentage change. (See e.g., p. A-20 ["With the EBMUD component of the Phase 2 Expansion, the total releases would be 47.670 MAF, resulting in a total reduction of 350,000 Acre-feet (i.e., a 0.7% reduction in total Camanche releases over the 92-year period of record."]) Such comparisons are misleading and inappropriate and fail to fully disclose and provide a true understanding of the impacts on water supply to Woodbridge and others at scales that actually matter. It should be no surprise that in California water is a very scarce resource and every drop counts. For the EIS/EIR to disclose that over a 92-year period releases downstream will be reduced by 350,000 acre-feet says nothing about when and how such reductions will occur on the daily or seasonal bases that water management and planning occur. Small reductions in dry years or during summer months can significantly affect water operations. The EIS/EIR must provide a more detailed, coherent, and practical analysis and discussion of potential impacts, including an analysis that shows impacts in different year types, to Mokelumne flows and Woodbridge's ability to divert water under its water rights so that Woodbridge may properly assess the impacts of this Project.

L_WID_05

G. The EIS/EIR's Reliance On EBMUD's 10478 Permit Extension EIR Is Inappropriate

The EIS/EIR relies on EBMUD's 10478 Permit Extension EIR for its conclusion that the cumulative impacts on groundwater recharge from the Project will be less than significant. (EIS/EIR p. A-70.) Reliance on that previous CEQA document here and elsewhere in the EIS/EIR is inappropriate for at least two reasons. First, EBMUD's 10478 Permit Extension EIR committed the same error as discussed above in characterizing Woodbridge's water rights as the binary 39 or 60 TAF of RBS. Second, to the extent that EBMUD's 10478 EIR is being incorporated by reference, much more detail and specific reference to analyses in that document (and where it appears in that document) is required to fully inform the reviewing public and decision makers regarding what exactly is being incorporated and relied upon to allow reasoned consideration and comment.

L_WID_06

H. The EIR/EIS's Conclusion That The Project Will Not Have A Significant Cumulative Impact To Groundwater Is Unsupported

Finally, given the fact that the Eastern San Joaquin Sub-basin has been classified by the State under the Sustainable Groundwater Management Act as being in a "critical condition of overdraft," the potential cumulative impacts of the Project on groundwater recharge needs to be better explained and more thoroughly examined. The EIS/EIR

L_WID_07

fails to discuss or acknowledge these current conditions. It also fails to support its conclusion that: "given the overall small (3 cfs) additional reduction in flows that would be attributable to the Phase 2 Expansion project under cumulative conditions, cumulative impacts on groundwater recharge would be less than significant." (EIS/EIR at A-70) Given that the basin is already in a critical condition of overdraft, it could be argued that any reduction in flows and potential groundwater recharge from those flows is a significant effect because it makes the critical condition even worse.

The EIS/EIR provides no rationale for its conclusion that this reduction is less than significant (i.e., not cumulatively considerable) other than its apparent or implied suggestion that the reduction is too small to matter. Such a rationale would lead to the proverbial "death by a thousand cuts" allowing many small impacts to create a significant impacts, which is precisely what the EIS/EIR's cumulative impacts analysis is intended to discuss and avoid through mitigation if possible. This appears to be a real concern given that the EIS/EIR discloses that the Project will reduce Mokelumne River flows by 350,000 acre-feet over a 92-year simulation period. Loss of this quantity of surface flows from the region surely have the potential to reduce groundwater recharge by a substantial amount over this same period. But whether this amount is 5,000 or 50,000 acre-feet is left unexplored by the EIS/EIR because it fails to properly analyze and address this issue. Accordingly, the analysis must be revised.

L_WID_07 cont.

I. The EIS/EIR's Analysis Of The Cumulative Effects Of The Protest Dismissal Agreement Is Inadequate

Woodbridge is also concerned that other projects will further alter the flows on the Mokulmne River in ways that could, cumulatively with this Project, further adversely affect Woodbridge's exercise of its water rights. One of these is briefly discussed in the EIS/EIR, the Protest Dismissal Agreement ("PDA"). However, the EIS/EIR provides no analysis of the impacts of the PDA and how those impacts may cumulatively combine with the Project. Instead, the EIS/EIR suggests that future "CEQA review must be completed before its various elements are implemented." (EIS/EIR at A-62.) The EIS/EIR therefore states that "the PDA is not considered in further detail in this cumulative analysis." (*Id.*)

L_WID_08

The fact that subsequent project-specific CEQA documents will be prepared for the future implementation of the PDA is no excuse for failing to analyze and discuss the potential for cumulative impacts from the PDA and the EBMUD Phase 2 Project in the current EIS/EIR. The PDA has already been executed and implementation of its elements are foreseeable for purposes of cumulative impact analysis; they should therefore be analyzed in this EIS/EIR.

Failing to analyze those cumulative impacts in this EIS/EIR deprives the public and decision makers of necessary information regarding those impacts and how they might

be mitigated when considering approval of the current Project, and is therefore improper under CEQA and NEPA. Put plainly, it is not sufficient or legally adequate under either law to defer environmental review and disclosure of cumulative impacts to a later date. Decision makers will use this EIS/EIR to decide whether to approve the Project and they need to understand and potentially address these cumulative impacts now. So too does the public. Waiting until some future time affords no opportunity for decision makers or the public to be informed or to comment upon these impacts, or to modify, consider or impose mitigation, or select an alternative to the current Project. Those issues must therefore be addressed and disclosed in the current EIS/EIR not post-hoc in a subsequent document when discretion to alter the current Project is no longer available.

L_WID_08 cont.

IV. Conclusion

In general, Woodbridge supports collaborative efforts to improve water supplies and water management for the benefit of water users and local agencies relying on the Mokelumne River. Woodbridge will continue to work with CCWD, USBR, EBMUD, NSJWCD, and others toward these ends. However, Woodbridge has a duty to ensure that any such efforts by others do not adversely affect Woodbridge's senior water rights to Mokelumne River water, and its obligations to its landowners and other water users to which it serves water. The EIS/EIR has revealed potential misunderstandings and issues regarding water rights on the Mokelumne River. Please revise the EIS/EIR according to the comments received in this letter. Woodbridge looks forward to your corrections, and is amenable to assisting you in addressing and resolving these inaccuracies.

Sincerely,

KRONICK, MOSKOVITZ, TIEDEMANN & GIRARD
A Professional Corporation

HANSPETER WALTER

HW

Attachment A

USGS Readings
Woodbridge Canal
Station # 11325000

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1926	0	0	0	0	5,420	5,710	3,880	4,110	3,950	2,210	24	0	27,230
1927	0	0	0	0	6,750	10,250	9,200	7,540	4,600	3,730	0	0	43,997
1928	0	0	0	992	6,660	9,530	5,150	4,230	5,410	2,900	0	0	34,872
1929	0	0	982	8,480	13,930	9,740	7,680	4,190	3,080	1,320	3,460	0	52,862
1930	0	0	0	4,080	8,340	12,880	13,590	11,000	9,180	6,940	1,140	423	67,573
1931	366	308	2,010	9,840	9,290	10,750	11,620	10,070	5,200	2,040	1,430	902	63,826
1932	0	0	1,610	8,910	10,300	11,630	11,910	11,710	11,180	9,080	7,590	3,070	86,990
1933	172	0	1,240	10,680	11,350	12,510	13,830	13,340	10,130	9,880	1,860	1,730	86,722
1934	163	0	2,270	12,870	13,200	12,130	14,140	14,040	11,750	8,350	2,930	1,270	93,113
1935	0	0	0	1,610	8,930	15,080	15,530	14,680	11,840	5,070	145	1,100	73,985
1936	0	0	825	5,500	11,900	14,520	17,070	14,810	10,290	7,780	1,830	552	85,077
1937	0	0	0	2,430	12,620	15,620	19,310	18,080	14,010	8,070	2,300	0	92,440
1938	0	0	0	791	11,220	14,410	16,710	15,990	11,450	5,100	-8	0	75,663
1939	0	0	1,250	11,450	15,290	16,560	17,330	15,290	11,620	8,320	2,770	44	99,924
1940	0	0	0	2,100	12,400	17,800	17,980	17,930	12,290	9,190	783	0	90,473
1941	0	0	0	369	11,820	18,130	20,120	17,940	14,800	9,860	1,740	0	94,779
1942	0	0	0	0	9,840	16,670	19,380	18,050	14,320	11,090	4,490	0	93,840
1943	0	0	0	2,470	15,530	17,530	19,600	18,260	14,570	9,870	5,340	0	103,170
1944	0	0	988	13,480	18,530	18,610	18,890	19,380	14,670	10,800	175	0	115,523
1945	0	0	0	7,140	18,550	19,490	21,270	20,220	15,910	9,580	0	0	112,160
1946	0	0	735	12,570	21,020	21,650	21,240	19,760	15,050	10,950	5,600	0	128,575
1947	0	0	0	13,080	21,040	13,830	18,900	19,330	15,430	6,580	262	0	108,452
1948	0	0	4,140	8,120	16,260	17,410	20,780	20,170	17,470	11,340	4,990	2,820	123,500
1949	0	0	0	12,690	20,750	23,550	21,230	18,660	16,180	11,920	5,990	0	130,970
1950	0	0	6,750	15,550	23,130	23,850	24,110	20,120	16,270	11,550	4,560	0	146,890
1951	0	0	0	15,220	18,050	22,380	15,470	15,950	14,870	11,340	3,870	0	117,150
1952	0	0	0	5,530	18,120	22,720	23,400	22,510	16,910	11,750	4,510	0	125,450
1953	0	190	9,710	17,560	19,110	21,020	25,340	23,220	16,520	12,130	3,490	0	148,290
1954	0	0	0	10,100	21,390	23,070	24,000	22,510	16,530	13,400	3,500	0	134,500
1955	0	0	1,790	7,630	11,790	12,890	17,370	16,360	12,330	9,500	3,500	0	93,180
1956	0	0	3,930	11,380	15,270	22,170	25,090	22,200	14,760	8,660	980	0	124,440
1957	0	0	1,560	11,290	12,720	18,220	21,290	19,490	12,840	6,670	2,670	0	106,750
1958	0	0	0	2,940	16,770	18,170	22,740	22,240	15,670	11,260	8,130	5,130	123,050
1959	0	0	6,030	7,760	10,990	14,960	15,610	14,630	8,870	7,400	3,150	1,750	91,150
1960	139	0	2,090	6,730	12,360	18,410	18,400	18,750	11,710	6,850	1,530	0	96,969
1961	0	0	2,390	4,290	5,490	11,650	11,250	10,600	8,980	5,650	2,400	61	62,761
1962	0	0	789	16,070	18,310	18,400	21,040	20,020	12,380	5,020	2,300	1,740	116,069
1963	202	0	2,060	2,920	13,600	20,520	22,710	19,190	12,890	5,410	1,130	0	100,632
1964	0	0	5,790	8,470	8,460	11,710	11,360	12,610	9,370	7,090	918	0	75,778
1965	0	0	1,860	3,350	16,830	16,350	10,190	18,240	13,200	8,470	2,460	0	90,950
1966	0	0	0	7,210	19,990	20,050	20,260	18,850	11,500	8,230	113	0	106,203
1967	0	0	0	454	13,270	19,940	20,920	22,130	15,200	9,630	0	0	101,544
1968	0	0	1,610	12,110	18,190	18,720	19,130	18,680	12,500	7,210	0	0	108,150
1969	0	0	0	7,380	18,680	19,520	22,390	20,310	13,100	7,340	0	0	108,720
1970	0	0	1,640	15,210	19,550	20,390	22,380	20,910	12,310	6,870	0	0	119,260
1971	0	0	5,500	13,640	17,380	20,500	23,480	21,270	13,040	7,820	0	0	122,630
1972	0	0	5,440	11,450	16,690	19,150	20,270	18,380	10,140	3,230	0	0	104,750
1973	0	0	710	9,620	18,750	21,540	22,550	20,390	11,950	7,060	0	0	112,570
1974	0	0	2,010	3,430	16,380	20,050	21,340	20,770	12,760	8,070	0	0	104,810
1975	0	0	684	4,270	17,040	18,580	20,160	19,040	11,630	5,070	0	0	96,474
1976	0	0	3,740	6,920	11,620	13,730	12,440	11,330	7,470	4,720	0	0	71,970
1977	0	268	6,480	6,460	4,700	7,440	8,950	7,580	4,840	0	0	0	46,718
1978	0	0	188	1,380	7,490	13,100	15,990	15,410	7,900	4,280	0	0	65,738
1979	0	0	0	5,140	11,290	14,230	16,710	15,320	9,240	3,900	0	0	75,830
1980	0	0	710	6,690	9,910	12,450	14,880	15,330	9,840	5,270	0	0	75,080
1981	0	0	50	4,880	11,380	14,550	17,480	16,700	10,400	3,960	0	0	79,380
1982	0	0	0	716	11,490	13,610	16,470	14,670	8,860	4,650	0	0	70,466
1983	0	0	0	976	5,300	10,960	14,460	14,780	8,050	4,440	0	0	58,966
1984	0	0	1,980	9,710	11,100	15,910	19,080	17,320	10,270	5,040	0	0	90,410
1985	0	0	274	5,600	12,310	15,010	17,690	14,380	7,180	3,570	0	0	76,014
1986	0	0	0	528	8,040	12,490	16,530	12,620	7,490	2,700	0	0	60,398
1987	0	0	0	7,380	12,550	14,010	14,310	12,420	9,460	2,190	0	0	72,320
1988	0	0	2,790	5,760	5,160	9,880	12,960	9,980	7,510	791	0	0	54,831
1989	0	0	0	4,700	9,790	12,620	11,470	10,330	5,670	1,930	24	0	56,534
1990	0	0	141	5,350	9,460	9,760	12,310	10,460	5,480	767	0	0	53,728
1991	0	0	0	2,120	6,210	10,340	8,610	8,190	2,870	0	0	0	38,340
1992	0	0	0	3,250	8,960	9,020	9,510	7,980	323	0	0	0	39,043
1993	0	0	2,050	6,570	9,620	14,180	17,060	14,440	12,380	8,710	103	0	85,113
1994	0	0	573	5,090	5,950	8,700	9,140	8,350	1,550	0	0	0	39,353
1995	0	0	0	2,510	7,230	12,480	15,920	16,160	9,930	7,720	101	0	72,051
1996	0	0	0	3,670	9,310	11,800	15,380	13,740	9,590	7,700	476	0	71,666
1997	0	0	2,940	5,690	8,780	10,560	11,510	8,800	5,660	4,040	504	0	58,484
1998	0	0	0	508	3,970	7,940	13,660	14,050	8,920	8,020	359	0	57,427
1999	0	0	0	3,270	9,770	11,560	13,890	12,930	8,120	6,860	36	0	66,436
2000	0	0	0	5,530	9,360	12,260	14,420	13,440	7,970	4,770	0	0	67,750
2001	0	0	232	3,680	10,400	14,730	12,040	8,330	5,780	4,000	555	0	59,747
2002	0	0	0	4,980	9,180	10,830	11,570	8,990	7,320	4,440	327	0	57,637
2003	0	0	1,140	4,440	5,910	8,900	10,810	10,050	10,050	4,313	385	0	55,978
2004	0	0	0	3,330	8,740	10,430	12,220	11,800	8,870	4,480	22	0	59,892
2005	0	0	0	5,320	17,930	17,570	15,020	11,960	8,400	3,100	0	0	79,300
2006	0	0	0	0	6,950	9,270	12,310	12,130	11,880	6,800	5	0	59,345
2007	0	0	1,430	4,190	5,140	11,410	12,280	11,890	11,660	101	0	0	58,101
2008	0	0	0	4,910	9,000	7,370	8,180	10,520	7,610	3,300	0	0	50,890
2009	0	0	347	5,570	7,370	7,620	12,310	10,200	12,110	5,820	0	0	61,347
2010	0	0	0	825	7,210	7,340	9,930	10,100	8,240	4,960	0	0	48,605
2011	0	0	0	1,220	6,030	7,030	10,840	11,440	9,450	6,140	91	0	52,241
2012	0	0	326	501	5,170	6,770	9,850	11,060	8,740	3,830	40	0	46,287
2013	304	0	3,203	4,103	7,798	8,306	10,618	9,182	10,810	4,066	252	231	58,873
2014	283	0	705	1,757	5,267	6,046	7,375	7,218	6,192	3,271	369	340	38,803
2015	66	22	1,714	4,337	6,913	7,011	8,681	6,382	2,527	542	434	287	38,916
											Cumulative Total		7,353,844

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7
100 NORTH CANYONS PARKWAY • LIVERMORE, CA 94551 • PHONE (925) 454-5000 • FAX (925) 454-5727

September 5, 2017

Marguelite Patil
Contra Costa Water District
P.O. Box H20
Concord, CA 94524
lve@ccwater.com

Re: Los Vaqueros Reservoir Expansion Project Draft Supplement to the Final EIS/EIR

Zone 7 Water Agency (Zone 7) has reviewed the referenced document in the context of Zone 7's mission to provide water supply, flood protection, and groundwater and stream management within the Livermore-Amador Valley. We have a few comments for your consideration:

1. **On Table 2-5**, under column for *Additional Source of Water Available for Phase 2 Expansion Diversions:* Add a second item for Zone 7, "Third-party water transfers from willing sellers" — L_Zone7_01

2. **On page 3-4,** add to last sentence of first paragraph: "or through exchange via the Delta and the South Bay Aqueduct" so that it reads — L_Zone7_02

   "Zone 7 has also indicated a need for up to 5 TAF of supplemental water supplies in all years. Supplies made available by the Phase 2 Expansion would be conveyed to Zone 7 via the Transfer-Bethany Pipeline and then through the South Bay Aqueduct, or through exchange via the Delta and the South Bay Aqueduct."

On behalf of Zone 7, I appreciate the opportunity to comment on this project. If you have any questions on this letter, please feel free to contact me at (925) 454-5005 or via email at erank@zone7water.com .

Sincerely,

Elke Rank

Elke Rank

cc: Carol Mahoney, Amparo Flores, file

C.4 Organizations

TABLE C-4
ORGANIZATIONS THAT SUBMITTED COMMENTS ON THE DRAFT SUPPLEMENT

Comment Format	Comment ID	Name of Commenter	Title	Organization/ Affiliation	Page Number
Letter	O_CEMC	Mike N. Oliphant	Project Manager	Chevron Environmental Management Company	C-93
Letter	O_CFBF	Justin E. Fredrickson	Environmental Policy Analyst	California Farm Bureau Federation	C-99
Letter	O_RTD	Barbara Barrigan-Parilla Tim Stroshane	Executive Director Policy Analyst	Restore the Delta	C-102
Letter	O_SMD	Juan Pablo Galvan	Land Use Manager	Save Mount Diablo	C-108

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Mike N. Oliphant
Project Manager
Mining and Specialty
Portfolio

Chevron Environmental Management Company
P.O. Box 6012
San Ramon, CA 94583
Tel (925) 842 9922
mike.oliphant@chevron.com

August 17, 2017

Stakeholder Communication –Bureau of Reclamation

Ms. Lisa Rainger
Project Manager
Bureau of Reclamation
2800 Cottage Way, MP-700
Sacramento, California 95825

Subject: **Comments on the Draft Supplement to the Final EIS/EIR for the Los Vaqueros Reservoir Expansion Project Phase 2**
Chevron Environmental Management Company
Historical Pipeline Portfolio–Bakersfield to Richmond

Dear Ms. Rainger:

On behalf of Chevron Environmental Management Company (CEMC), Leidos, Inc. (Leidos; CEMC contract consultant) recently became aware of the Draft Supplement to the Final Environmental Impact Statement/Environmental Impact Report for the Los Vaqueros Reservoir Expansion Project Phase 2. The information contained in this letter may help you to understand something about Chevron's former pipeline operations in Alameda and Contra Costa Counties, as residual weathered crude oil, abandoned pipeline, and asbestos-containing materials (ACM) could potentially be encountered during subsurface construction activities in the vicinity of these former pipeline locations within the existing former pipeline rights of way (ROW).

Portions of the former Old Valley Pipeline (OVP) and Tidewater Associated Oil Company (TAOC) pipelines existed within the vicinity of the proposed project area. These formerly active pipelines were constructed in the early 1900s and carried crude oil from the southern San Joaquin Valley to the San Francisco Bay Area. Pipeline operations for the OVP ceased in the 1940s, and in the 1970s for the TAOC pipelines. When pipeline operations ceased, the pipelines were taken out of commission. The degree and method of decommissioning varied: in some instances the pipelines were removed, while in others they remained in place. Because these pipelines have been decommissioned, with the majority of pipelines having been removed, they are not readily identified as underground utilities through the Underground Service Alert North System or utility surveys. Figures 1 through 4 illustrate the location of the former OVP and TAOC ROWs with respect to the proposed project areas in Alameda and Contra Costa Counties. The location of the pipelines shown on Figures 1 through 4 are based on historical as-built drawings and the approximated positional accuracy of the alignments is generally +/- 50 feet. The OVP and TAOC pipelines were installed at depths of up to 10 feet below ground surface. The steel pipelines were typically encased in a protective coating composed of coal tar and ACM.

O_CEMC_01

Working under the direction of State regulatory agencies, CEMC conducted risk assessments at numerous locations with known historical crude-oil release points along the former OVP and TAOC pipelines. Analytical results from these risk assessments indicated that the crude-contaminated soil was non-hazardous. Accordingly, it is likely that

if soil affected by the historical release of crude oil from these former pipelines is encountered during construction activities it may be reused as backfill on site. Properly abandoned crude-oil pipeline may be left in the ground. Parties conducting construction activities in the vicinity of these former pipeline ROWs may wish to use the information provided in this letter to help prepare for the possibility of encountering abandoned pipelines and pipeline-related ACM during the course of their work.

O_CEMC_01 cont.

For more information regarding these historic pipelines, please visit http://www.hppinfo.com/. If you would like additional information, or would like to request more detailed maps, please contact Leidos consultants Mike Hurd (michael.t.hurd@leidos.com) at (510) 466-7161 or Tan Hoang (tan.t.hoang@leidos.com) at (916) 979-3742.

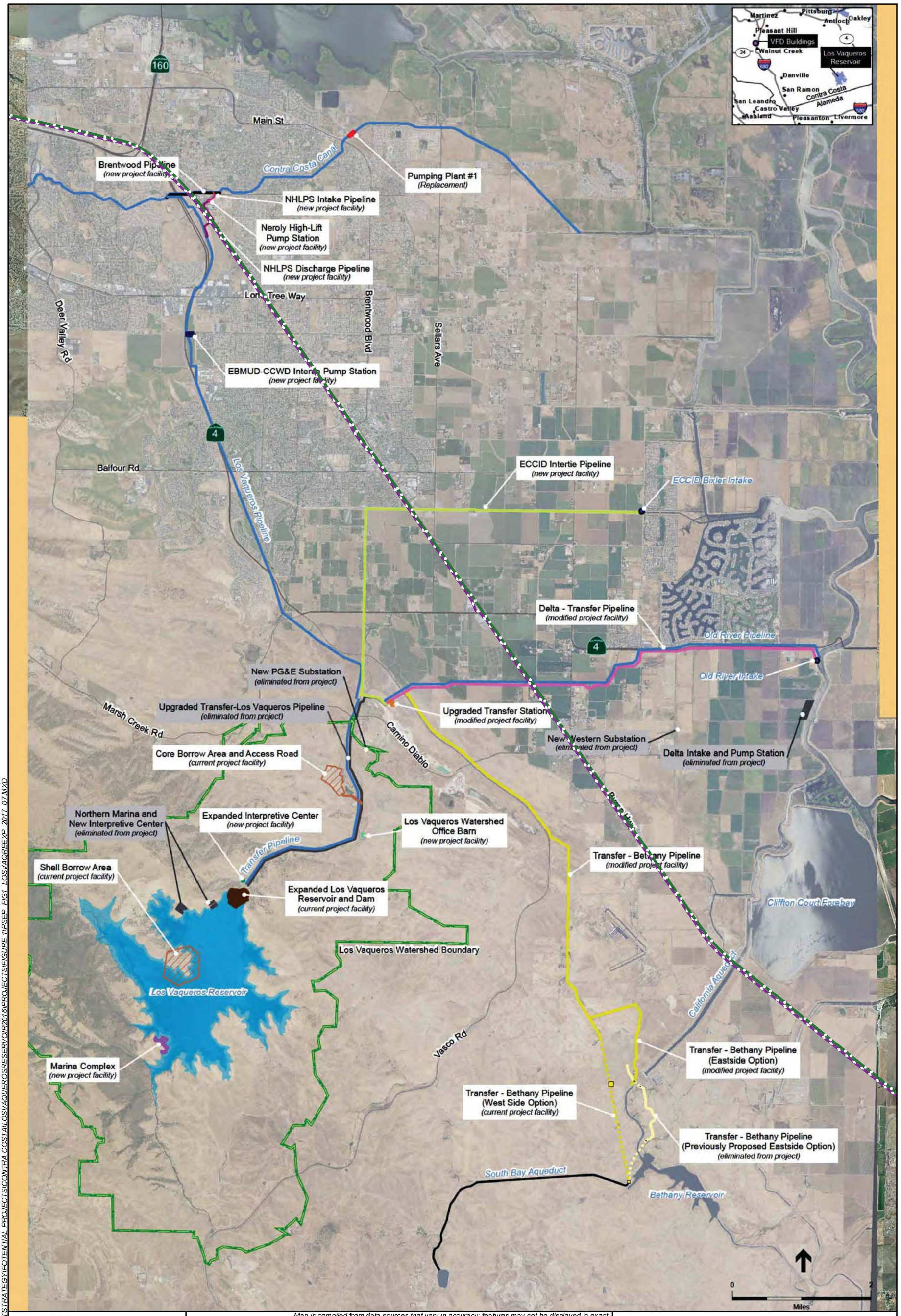
S

Mike Oliphant

MO/klg

Enclosures:
Figure 1. Historical Pipeline Rights of Way – Previously Proposed Facilities and Phase 2 Expansion Facilities
Figure 2. Historical Pipeline Rights of Way – Transfer-Bethany Pipeline Alignment Detail
Figure 3. Historical Pipeline Rights of Way – Neroly High-Lift Pump Station and Brentwood Pipeline
Figure 4. Historical Pipeline Rights of Way – ECCID Intertie Pipeline

cc: Mr. Mike Hurd – Leidos
475 14th Street, Suite 610, Oakland, California 94612



FILE: Q:\HPPBTR\MANAGEMENTSTRATEGY\POTENTIAL PROJECTS\CONTRA COSTA\LOSVAQUEROSRESERVOIR2016\PROJECTS\FIGURE 1\PSEP_FIG1_LOSVAQREEXP_2017_07.MXD

ANALYST: HOANGTA

DATE: 7/6/2017

leidos

Map is compiled from data sources that vary in accuracy; features may not be displayed in exact relationship to one another. Do not rely on map for legal information or underground work.

0 3,400 6,800

Feet

Historical Old Valley Pipeline (OVP)

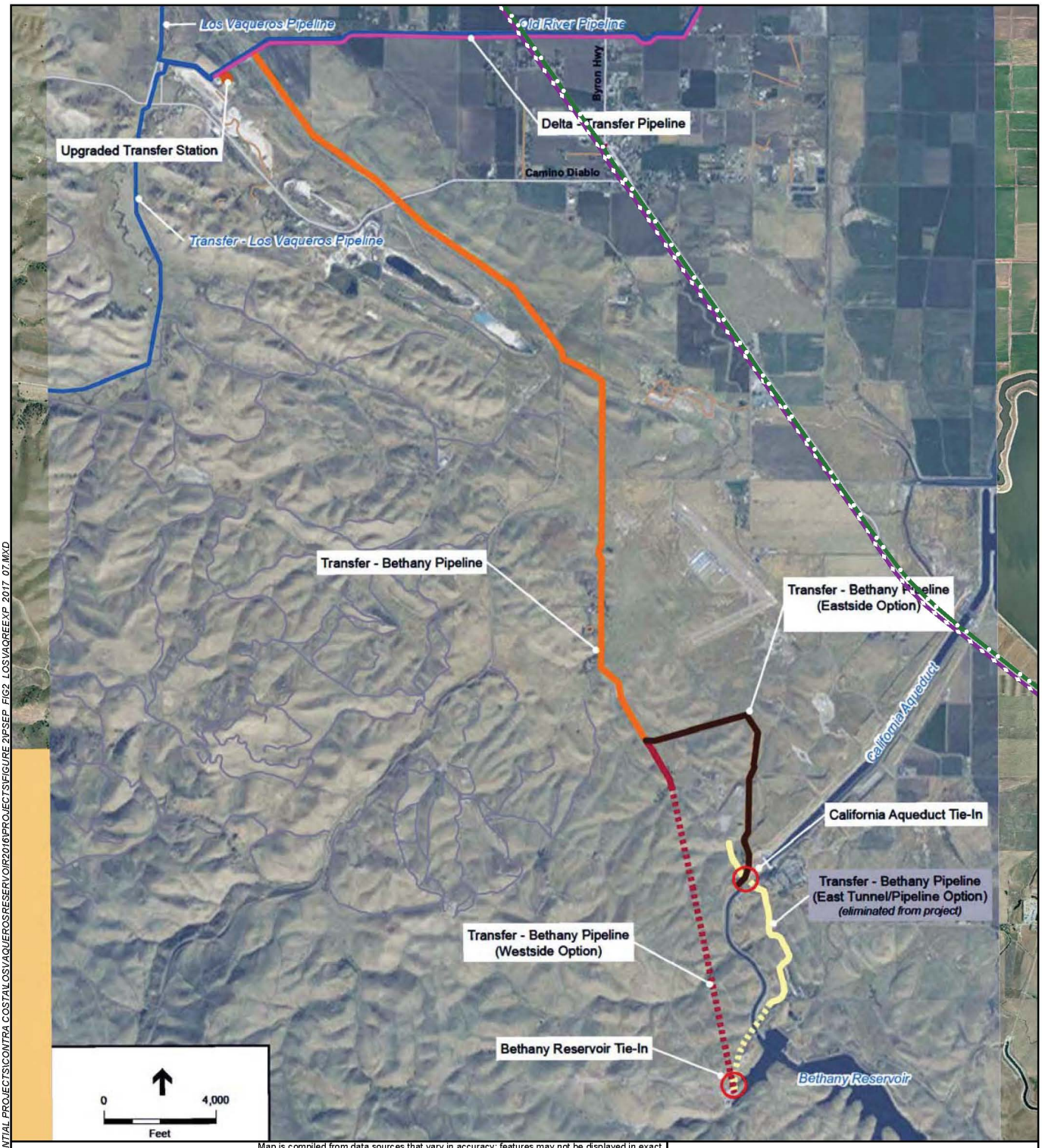
Historical Tidewater Associated Oil Company (TAOC) Pipeline

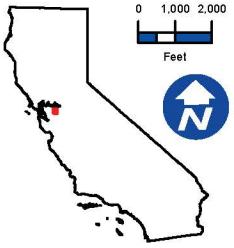
HISTORICAL PIPELINE RIGHTS OF WAY

PREVIOUSLY PROPOSED FACILITIES AND PHASE 2 EXPANSION FACILITIES

Alameda and Contra Costa Counties

FIGURE: 1





CALIFORNIA LOCATION MAP

Map is compiled from data sources that vary in accuracy; features may not be displayed in exact relationship to one another.

Historical Old Valley Pipeline (OVP)

Historical Tidewater Associated Oil Company (TAOC) Pipeline

HISTORICAL PIPELINE RIGHTS OF WAY

TRANSFER-BETHANY PIPELINE ALIGNMENT DETAIL

Alameda/Contra Costa Counties

DATE: 7/6/2017 | ANALYST: HOANGTA | FIGURE: 2

leidos

FILE: Q:\HPPBTRMANAGEMENTSTRATEGYPOTENTIAL PROJECTS\CONTRA COSTA\LOSVAQUEROSRESERVOIR2016\PROJECTS\FIGURE 2\PSEP_FIG2_LOSVAQREEXP_2017_07.MXD

Map is compiled from data sources that vary in accuracy; features may not be displayed in exact relationship to one another.

0 110 220
Feet

CALIFORNIA LOCATION MAP

Historical Old Valley Pipeline (OVP)

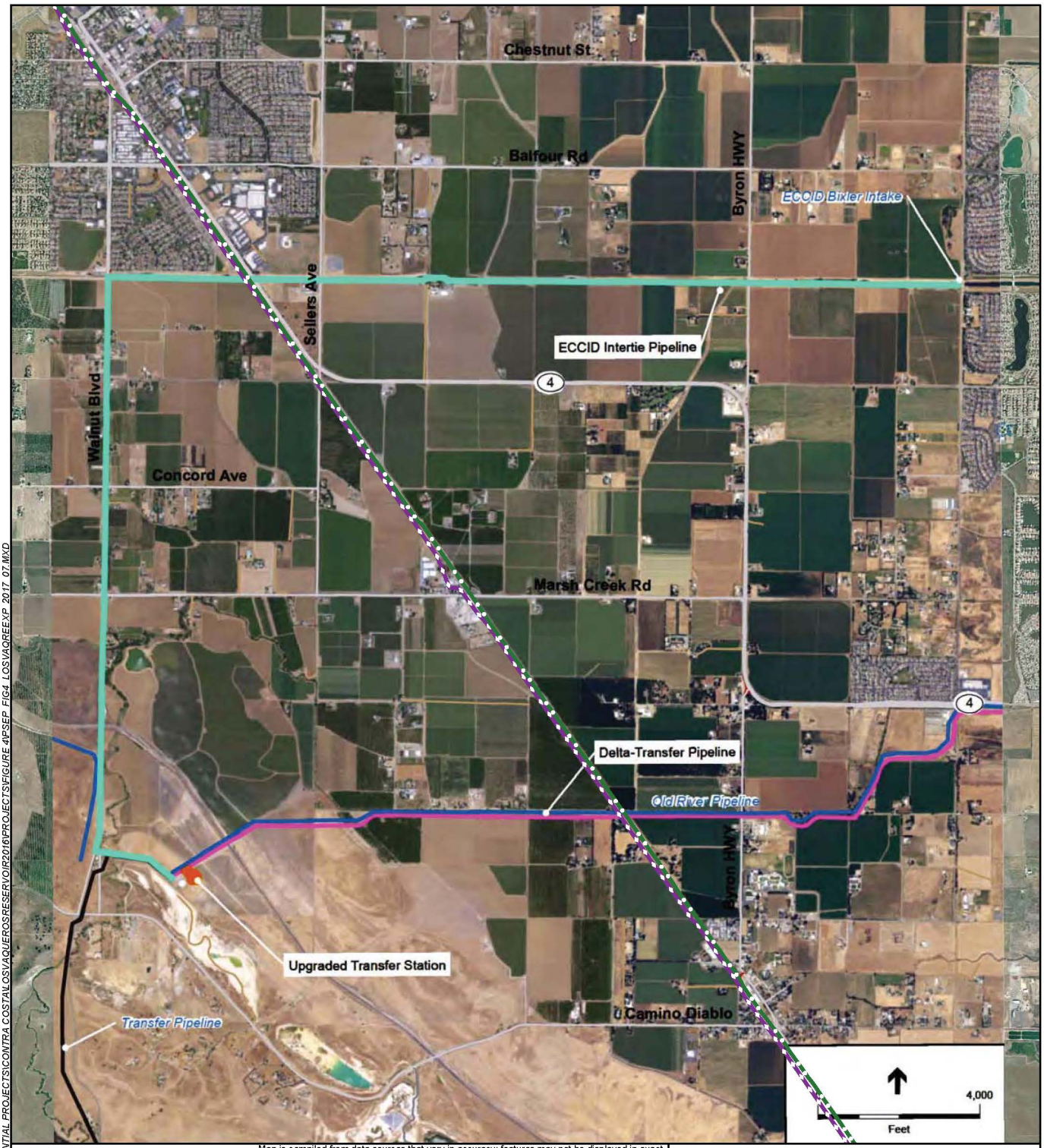
Historical Tidewater Associated Oil Company (TAOC) Pipeline

HISTORICAL PIPELINE RIGHTS OF WAY

NEROLY HIGH-LIFT PUMP STATION AND BRENTWOOD PIPELINE
Contra Costa County, California

DATE: 7/6/2017	ANALYST: HOANGTA	FIGURE:
leidos		3

FILE: Q:\HPPBTRMANAGEMENTSTRATEGYPOTENTIAL PROJECTS\CONTRA COSTA\LOSVAQUEROSRESERVOIR2016\PROJECTS\FIGURE 3\PSEP_FIG3_LOSVAQREEXP_2017_07.MXD



0 740 1,480
Feet

CALIFORNIA LOCATION MAP

Map is compiled from data sources that vary in accuracy; features may not be displayed in exact relationship to one another.

Historical Old Valley Pipeline (OVP)

Historical Tidewater Associated Oil Company (TAOC) Pipeline

HISTORICAL PIPELINE RIGHTS OF WAY

ECCID INTERTIE PIPELINE

Contra Costa County, California

DATE: 7/6/2017	ANALYST: HOANGTA	FIGURE:
leidos		4

FILE: Q:\HPPBTRMANAGEMENTSTRATEGYPOTENTIAL PROJECTS\CONTRA COSTA\LOSVAQUEROSRESERVOIR2016\PROJECTS\FIGURE 4\PSEP_FIG4_LOSVAQREEXP_2017_07.MXD

CALIFORNIA FARM BUREAU FEDERATION
OFFICE OF THE GENERAL COUNSEL
2300 RIVER PLAZA DRIVE, SACRAMENTO, CA 95833-3293 · PHONE (916) 561-5665 · FAX (916) 561-5691

Sent via E-Mail
lrainger@usbr.gov

September 1, 2017

Ms. Lisa Rainger
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

RE: Comments on Los Vaqueros Expansion Project EIS/EIR

Dear Ms. Rainger:

The California Farm Bureau Federation ("Farm Bureau") is a non-governmental, non-profit, voluntary membership California corporation whose purpose is to protect and promote agricultural interests throughout the state of California and to find solutions to the problems of the farm, the farm home and the rural community. Farm Bureau is California's largest farm organization, comprised of 53 county Farm Bureaus currently representing more than 48,000 agricultural, associate and collegiate members in 56 counties. Farm Bureau strives to protect and improve the ability of farmers and ranchers engaged in production agriculture to provide a reliable supply of food and fiber through responsible stewardship of California's resources.

Farm Bureau generally supports strategic investment increased storage capacity throughout the state, as defined by water users at the local and regional level. California agriculture faces many water challenges, including periodic droughts, increasing environmental water requirements and regulatory restrictions, and new limits on groundwater supplies under the Sustainable Groundwater Management Act. Meeting all of these challenges will require significant, sustained investment in a range of projects throughout state. Public funding from sources like Proposition 1 and the California WIIN Act, when paired with local cost-sharing, will help to give such investment a boost, and surface storage will be a key component of any successful strategy overall.

While primarily focused on Bay Area water supply reliability, environmental benefits, and municipal and industrial water quality, the Phase 2 Expansion Project phase of the Los Vaqueros Reservoir Expansion Project seems highly financeable and implementable, either with or without public funding—and, if completed, would appear to offer various incremental benefits in terms of system flexibility and resiliency. Some potential positive features of the Los Vaqueros Expansion Project include:

- The strategic value of the Los Vaqueros reservoir as a south-of-Delta facility with some potential short-term storage capacity available to regional partners outside of area.

- Regional and some limited interregional interconnection and integration across a wide geographic area (ranging all the way from the Freeport Water Diversion Project, Sacramento County, and the Mokelumne River to the Bethany and San Luis Reservoir Reservoirs, Valley refuges, and CVP contractors along the San Luis -Delta Mendota canal to the south).

- Some demonstrated capacity for drought water exchanges and transfers with agricultural partners including the Woodside Irrigation, the Byron-Bethany Irrigation District, and the Westlands Water District.

- Diversion capacity in multiple strategic locations, including modern screened diversions and flexibility to blend and access different levels of water quality at different times and under different conditions.

- Some potential capacity to off-set temporary curtailments associated with operational restrictions on CVP and SWP diversions in the South Delta through regional water exchange arrangements.

- Capacity to potentially improve and flexibly manage CVPIA refuge water deliveries, with possible direct or indirect benefits to other Ag and M&I CVP contractors and the system in general.

- Flexibility, compatibility, and potential synergistic benefits associated with a range potential California water futures.

- Potential direct or indirect SGMA benefits deriving from improved system flexibility and integration.

Regrettably, and notwithstanding the many possible incremental benefits enumerated above, from a statewide agricultural perspective, it is also apparent that the proposed Phase 2 Expansion Project could provide just one small piece of an overall diversified statewide water portfolio and long-term strategy for the rest of the state. In particular, the project's relative small size and tight regional focus on Bay Area water reliability, water quality, and refuge water supply unfortunately reduce the versatility of the project from a broader statewide perspective. O_CFBF_01

In closing, while Farm Bureau appreciates numerous incremental benefits associated the proposed Phase 2 Expansion Project, including some potential added flexibility for some agricultural water districts in the region, it is also clear that this

project alone would fall far short of the broader system overhaul required to restore the capacity and reliability of our state system for regions and all sectors of our California economy.

O_CFBF_01 cont.

Thank you for the opportunity to comment on the Phase 2 Expansion Project, and best of luck.

Yours truly,

Justin E. Fredrickson
Environmental Policy Analyst

42 N. Sutter Street, Suite 506
Stockton, CA 95202
(209) 475-9550
www.restorethedelta.org

September 5, 2017

Transmitted vial email: lve@ccwater.com

Marguerite Patil
Contra Costa Water District
P.O. Box H2O
Concord, CA 94524

Subject: Comments on Los Vaqueros Reservoir Expansion Project Draft Supplement to the Final EIS/EIR

Dear Ms. Patil:

Restore the Delta advocates for local Delta stakeholders to ensure that they have a direct impact on water management decisions affecting the water quality and well-being of their communities, and water sustainability policies for all Californians. We work through public education and outreach so that all Californians recognize the Sacramento-San Joaquin Delta as part of California's natural heritage, deserving of restoration. We fight for a Delta whose waters are fishable, swimmable, drinkable, and farmable, supporting the health of the San Francisco Bay-Delta Estuary, and the ocean beyond. Our coalition envisions the Sacramento-San Joaquin Delta as a place where a vibrant local economy, tourism, recreation, farming, wildlife, and fisheries thrive as a result of resident efforts to protect our waterway commons.

We write to comment on the above referenced project and to register Restore the Delta's support for Alternative 1B. As you know, this alternative's operational priority combines both environmental water management (especially for south-of-Delta wildlife refuges) as well as incremental water supply reliability for many Bay Area and Central Valley water agencies, particularly for drought periods. The existing Los Vaqueros Reservoir is already in place in southeastern Contra Costa County, and the project's proposals to provide some increased linkages between these water agencies combined with expanded Los Vaqueros storage will help these same agencies meet water needs in future droughts. In particular, Alternative 1B provides an estimated average increase of 36,000 acre-feet of drought period supply reliability benefit for urban agencies and south Delta irrigation districts (Chapter 3, Project Benefits, Table 3-1, p. 3-3).

We understand that this document will become part of CCWD's application to the California Water Commission for Prop 1 Water Storage Investment Program funds. The summary of new issues (p. 1-12) is helpful to understand what the key problems are that the Supplemental FEIS/R was to address. These include "questions about the benefits of the Phase 2 Expansion project for the specific project partners now identified; questions about whether the effects of climate change would change the project benefits or impacts and questions about whether implementation of California WaterFix would change the project benefits or impacts."

Attached please find our specific comments about the Supplemental FEIS/FEIR. If you have questions or concerns about these comments, please contact Tim Stroshane (tim@restorethedelta.org; 510.847.7556) or Barbara Barrigan-Parrilla (barbara@restorethedelta.org; 209.479.2053).

Sincerely,

 Barbara Barrigan-Parrilla Executive Director	 Tim Stroshane Policy Analyst

cc:

Attachment

Restore the Delta
Specific Comments on the
Los Vaqueros Reservoir Expansion Project Draft Supplement to the Final EIS/EIR

In General

We found the Draft Supplemental Final EIS/EIR (SFEIS/R) to be quite readable and well organized. Maps and tables were well presented and clear. Introductory explanations summarizing relevant portions of the earlier Draft EIR/EIS material gave meaningful context to descriptions in this supplement, and that too was very helpful—especially since RTD did not comment on earlier Los Vaqueros project documents.

Specific Comments

Chapter 1:
p. 1-1. We look forward to reviewing the final federal feasibility study for Los Vaqueros expansion, due out in November 2018. We request to be placed on your notice list so we may be informed of its release at that time.

The explanation of pilot projects (both new and those in progress) was helpful.

Section 1.3.1 Delta Stewardship Council Delta Plan

This section should be beefed up to capture the limitations of the eventual Delta Plan amendment on the DSC's conveyance, storage, and operations (CSO) that the Delta Stewardship Council (DSC) adopted. We attach Restore the Delta's comment letters of June 7 and April 17, 2017. Briefly stated, our comments were critical of this Delta Plan amendment because it ignored state policies fostering environmental justice and anti-discrimination actions in state policy plans (of which the Delta Plan is one). The Delta Plan also failed to situate the conveyance, storage, and operations amendment adequately in the overall Delta Plan and statewide water policy framework of reducing reliance on the Delta as the DSC sought to achieve the coequal goals of restoring Delta ecosystems and improving water supply reliability. These are the key limitations of the Delta Plan CSO amendments made by the DSC still, and we want to make CCWD aware of our concerns in this regard, especially with the upcoming Los Vaqueros expansion feasibility study and the unknown outcome of the WaterFix water rights change petition now before the State Water Resources Control Board (SWRCB). O_RTD_01

Section 1.3.6 ACWA [Storage] Integration Study

We reviewed, but did not write comments to ACWA on this study. the SFEIS/R briefly describes this study and comments that it "illustrated the potential to capture and store significantly more water in the Bay-Delta watershed. Integrating new storage projects into the system would increase flexibility and improve the timing and coordination of storage releases to improve the ability to meet the coequal goals of improving water O_RTD_02

supply and restoring the Delta ecosystem. Such integration also would provide enhanced opportunities for groundwater replenishment in furtherance of the Sustainable Groundwater Management Act [SGMA].” (p. 1-29)

This ACWA study appears to follow a grossly inadequate *Water Available for Replenishment* (WAFR) Report prepared by DWR last winter, which SGMA required DWR to prepare. We commented on that WAFR Report, and have attached those comments for your records. We found serious problems and distortions in that report. We have concerns about the ACWA Storage Integration Study as well. While it attempts to show the potential of integrative operations of new CalFED surface storage investigation projects, and a few other storage approaches like (conjunctive management, Tulare Lake, and the locally-proposed Centennial Dam on the Bear River), it omits “integration” of climate change into the analysis. It contains no treatment of flood control effects of the loss of snowpack and greater rainfall precipitation on existing and added storage projects. It provides no cost analysis, and no analysis whatsoever of water rights and yield of these various projects when several of them would be the most junior in the system (e.g., Centennial, Sites, Temperance Flat).[1] We don’t see this “integration study” as particularly integrative in the absence of such concerns. It is pretty much a marketing piece for a variety of storage projects.

Inclusion of the Los Vaqueros Expansion project in the ACWA Storage Integration Study does not reflect badly on the expansion project, however. We comment on the study here so that there is record of our critical comments of the study.

O_RTD_02 cont.

Chapter 2:

The project description and comparison of alternatives we found quite clear. The range of alternatives appear to us reasonable and well thought-out. Schematic diagrams of each alternative were helpful. The overview map in Figure 2-5 of proposed facilities for Phase 2 expansion was helpful as a reference from more detailed maps of individual facilities’ descriptions.

Figure 2-13, however, lacked sufficient information. It shows the location of the EBMUD-CCWD intertie pump station, but does not show either the Los Vaqueros pipeline or the Mokelumne Aqueduct connections that the pump station must draw from to function. The inset map at upper right did not help with this problem. This map should be updated in the Final SFEIS/R to provide that information.

O_RTD_03

2.3.2.6 Water Rights Permits

[1] We searched this study for terms like “flood control” and “climate change” with no results. There were just two results for “climate.” There were no results for searching the word “capital” and just one result for the word “cost.”

We appreciated seeing the impressive list of water rights permits and sources on which CCWD relies to divert water to storage at Los Vaqueros, displayed in Table 2-3. This section states, “Changes such as modifications to the place of use and point of diversion under these permits could be required.” Are such modifications likely for each of these water rights permits? If not applicable to all of them, which permits are most likely to be in need of submitting change petitions to the SWRCB, and for what kinds of changes in what locations? O_RTD_04

This section concludes, “Long-term transfer or exchange agreements would be needed for the water to be diverted, stored, and delivered for use by the Phase 2 Expansion.” Were such agreements covered by the long-term water transfer EIS process that US Bureau of Reclamation undertook in 2014 and 2015? If not, they may need additional environmental review. Also, this statement implies that such long-term transfer or exchange agreements would require CCWD be a signatory to long-term transfer agreements between other parties as buyers and sellers because of CCWD’s ownership of Los Vaqueros as a point of rediversion and place of storage. Is that a reasonable reading of this implication? If not, could you please explain this sentence further in your response to comments? O_RTD_05

Chapter 3:

One of this project’s great virtues is its increase in storage for use in drought years. According to Table 3-1, Alternative 1B will increase by a total of 36,000 acre-feet the drought year supplies of 9 other water agencies in the Delta and the Bay Area. This translates into over 11.7 billion gallons of water for urban and agricultural areas that will need it during future droughts. (Table 3-1)

In terms of long-term supply, the Los Vaqueros Phase 2 expansion would increase reliable supplies by a modest but helpful 31,000 acre-feet for its project partners, with the largest beneficiary being the San Francisco Public Utilities Commission, apparently receiving over half (16,000 AF) to supply water to the Hayward area, and the San Francisco Peninsula. O_RTD_06

Other Specific Comments

We agree that there would be less than significant or no impacts concerning operations of the Phase 2 expansion project on Delta diversions, inflows, outflows, hydrodynamics that affect fish populations or habitat in the Delta, nor on harmful algal blooms. The relative size of CCWD diversion activities are generally one to two orders of magnitude lower than Delta operations of the State Water Project and Central Valley Project, where impacts of changes to operations would be far greater, especially from the proposed California WaterFix project.

We agree that there would be less than significant or no impacts on land use and agriculture, provided that acquisition of lands for the project involve just compensation to property owners whose lands may be taken.

We agree there would be no long-term adverse impacts to recreation uses and facilities once the project is completed. Construction could generate some positive socioeconomic effects for the western Delta region through increased income and employment, minimal effects on agriculture (while upon completion modestly increasing water supply reliability for Byron-Bethany Irrigation District and East Contra Costa Irrigation District farmers and their employees), and somewhat increased recreational income.

Section 4.18, Environmental Justice, should have a map added to it that shows the locations of minority and poverty status populations by census tract and city in relation to proposed project facilities. Table 4.18-1 presents the data showing the presence of significant minority and low-income populations in the project vicinity, but fails to relate these data to specific locations. This would be a very efficient means by which readers can draw their own conclusions about where proposed facilities go and whether they may affect environmental justice populations disproportionately. A further omission from this section is the absence of populations for whom English is not their first language, and for whom public notice about the project may involve language barriers. We ask that you incorporate such estimates for these cities and census tracts in the Final SFEIS/R. They are available from the American Community Survey. O_RTD_07

Finally, we agree that Alternative 1B would improve water supply reliability only periodically. The amounts of supplemental water supply are just not large enough, to are spread throughout the Bay Area and the western San Joaquin Valley to such an extent that they do not represent removal of an obstacle to growth, planned or unplanned. O_RTD_08

Appendix B: California WaterFix Sensitivity Study

We agree with the SFEIS/R's conclusion that "Alternative 1B would not result in significant changes that would adversely affect deliveries to her water users and would not affect water supplies of other water users with or without the California WaterFix Proposed Action." (p. B-3) CCWD's Phase 2 expansion project, as well as its existing diversion rates on Old and Middle Rivers are too small relative to the scale of a project like WaterFix to have significant impacts. O_RTD_09

Thank you for considering our comments.

August 18th, 2017

Marguerite Patil
Contra Costa Water District
PO Box H2O
Concord, CA 94524

RE: Save Mount Diablo (SMD) Comments on the Draft Supplement to the Final EIS/EIR (dsEIR) for the Los Vaqueros Reservoir Phase 2 Expansion (Project) proposed by CCWD (Applicant)

Dear Ms. Patil,

Save Mount Diablo (SMD) is a non-profit conservation organization founded in 1971 which acquires land for addition to parks on and around Mount Diablo and monitors land use planning which might affect protected lands. We build trails, restore habitat, and are involved in environmental education. In 1971 there was just one park on Mount Diablo totaling 6,778 acres; today there are almost 50 parks and preserves around Mount Diablo totaling 110,000 acres. We include more than 8,000 donors and supporters.

We appreciate the opportunity to comment on the dsEIR for the proposed Project. SMD was highly involved in helping achieve high habitat mitigation goals during the creation of Los Vaqueros and its subsequent expansion to 160 TAF. During that process, it was recognized that any expansion proposed in the future would impact lands that had already been protected around the reservoir for the purposes of mitigation.

As such, we are very interested in details related to the scope of impacts and proposed mitigation for the Project. We note that aside from the lands surrounding Los Vaqueros that would be inundated by the proposed expansion, new pipelines would impact other lands that have been protected east of the reservoir through the East Contra Costa Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP).

The final sEIR should clarify if more mitigation is required to complete the Project than the Applicant has already acquired, and clarify the location, habitat type and acreage of the mitigation for the expansion of Los Vaqueros to 160 TAF and that intended for the current Project. It should also include and analyze an alternative alignment for the Transfer-Bethany Pipeline that avoids properties that have been protected or are under option by the HCP/NCCP.

O_SMD_01

We elaborate on these recommendations below.

1901 Olympic Blvd., # 320, Walnut Creek, CA 94596 • T (925) 947-3535 • SaveMountDiablo.org • Tax ID # 94-2681735

Scope of Impacts and Proposed Mitigation

Table 4.6-4 of the dsEIR indicates that about 7 acres of temporary and 77 acres of permanent impacts to sensitive vegetation communities would occur with implementation of the Project. Given that the Phase 2 expansion would inundate an approximate total of 580 acres, we assume that approximately 503 acres of grassland would be permanently impacted by implementation of the Project.

While impacts to sensitive plant communities are clearly identified, as mentioned above, the dsEIR does not clearly indicate the total impact of Project implementation to all plant communities, sensitive or otherwise. For example, our calculation that 503 acres of grassland are impacted is not reflected in the dsEIR. We had to subtract the permanent impact to sensitive plant communities from the total impact that was identified.

It would be helpful if the final dsEIR explicitly stated the scale of impact on each vegetation community type.

O_SMD_01 cont.

We understand that the Applicant has already implemented several habitat protection, restoration and enhancement projects as part of mitigation implementation for impacts associated with the creation and first phase expansion of Los Vaqueros. These include acquisition of 5,079 acres of habitat and creation or restoration of wetland habitats.

However, it is not clear what portion of this mitigation satisfies or exceeds impacts incurred by projects that have already happened, or if part of this mitigation is meant to cover impacts of the proposed Project that have not yet occurred. The final sEIR should clarify this, as well as how the Biological Opinion of the Fish and Wildlife Service will inform mitigation calculations and the level at which mitigation is deemed adequate, including proposed mitigation ratios for listed species.

O_SMD_02

Transfer-Bethany Pipeline Alternative Route that Avoids HCP/NCCP Lands

All the alternatives analyzed in the dsEIR include a new facility called the Transfer-Bethany Pipeline (Pipeline) with a capacity of 300 cfs. As shown in Figure 2-9 of the dsEIR, this new proposed Pipeline has three components: a new primary route for the pipeline which makes up the majority of its length, a westside option which connects the pipeline directly with Bethany Reservoir, and an eastside option that connected the pipeline to the California Aqueduct.

What the dsEIR fails to visually show is that part of the proposed route for the Pipeline runs adjacent to and through several large properties that have been protected in perpetuity with HCP/NCCP funds and managed by Contra Costa County and East Bay Regional Park District (EBRPD) (see Figure 1). These properties are important habitat for rare plant and wildlife species, including brittlescale, spearscale, California red-legged frog, California tiger salamander, vernal pool fairy shrimp and Midvalley fairy shrimp.

O_SMD_03

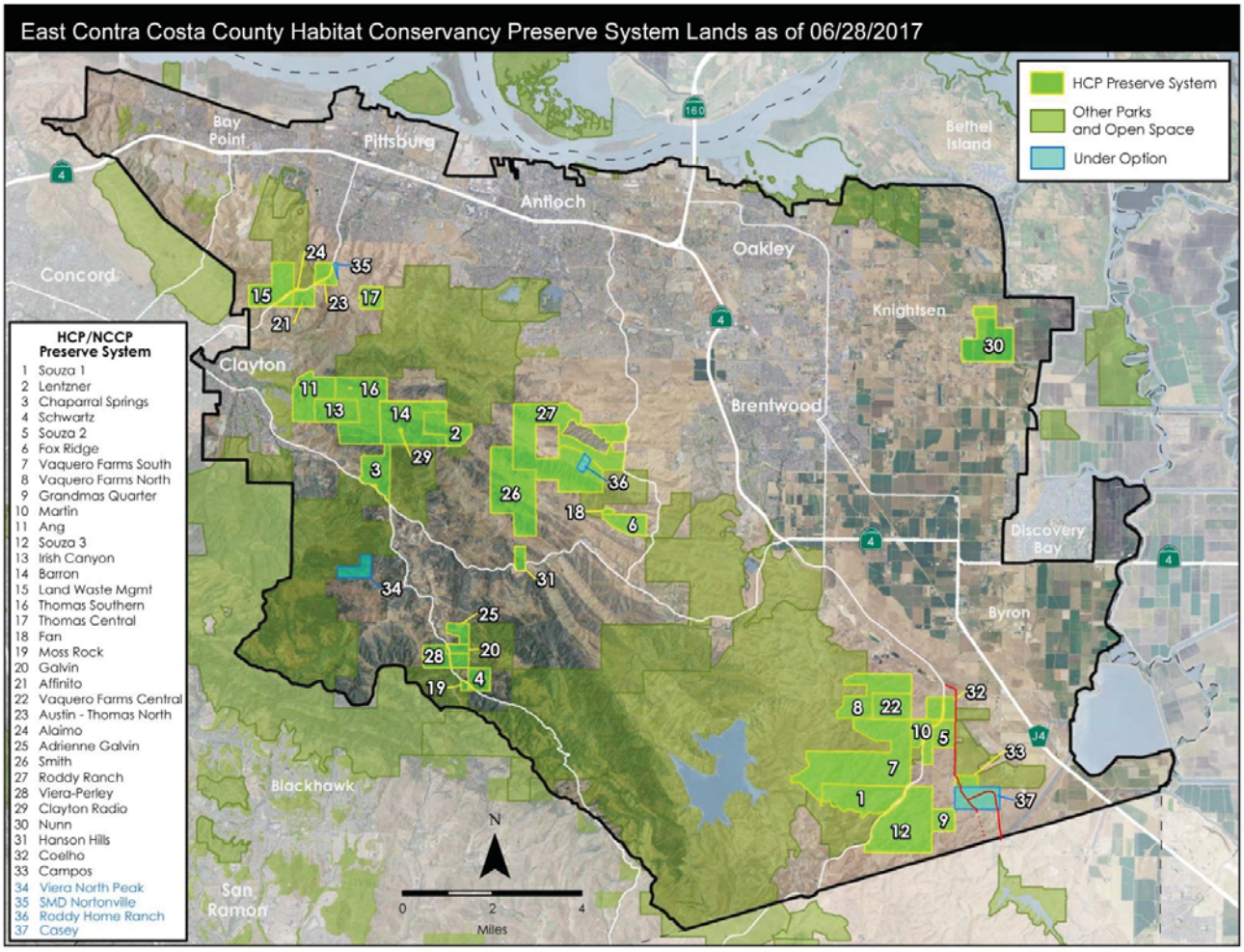


Figure 1. Map produced by HCP/NCCP Conservancy in June 2017 showing the HCP/NCCP Preserve System. The Preserve System consists of lands that have been protected in perpetuity for biological conservation purposes. The general location and route of the proposed Pipeline is shown in red, running adjacent to the Preserve System's Coelho and Souza 2 properties, and through the Campos and Casey (under option) properties. The alignment also runs adjacent to lands protected in perpetuity for the conservation of western burrowing owl and the Byron Airport Kit Fox Preserve.

Part of this proposed route follows Armstrong Rd. It is unclear if the Pipeline would run along or under the road. The final sEIR should clarify this. If the Pipeline runs along the road, it is more likely that aquatic habitat on either side of the road, which serves as habitat for California red-legged frog and California tiger salamander and forms part of the HCP/NCCP Preserve System and other protected lands, would be impacted. If the Pipeline went under Armstrong Rd these impacts could be greatly reduced and perhaps avoided, as long as the culverts that convey water from one side of the road to another are left intact.

In any case, the current Pipeline primary route and the eastside alignment both bisect the Campos (80 acres) and Casey (320 acres) HCP/NCCP properties (see Figure 2). Section 4.6 of the dsEIR indicates that newly created mitigation ponds found on HCP/NCCP Preserve System lands would be impacted by construction of the Pipeline. The concrete driveway and old concrete pad that the Pipeline seems to follow on the Campos property are planned for removal by the HCP/NCCP in order to restore vernal pool habitat. The primary route and eastside option would impact low-lying areas on the Casey property that are targets for wetlands restoration.

O_SMD_03 cont.

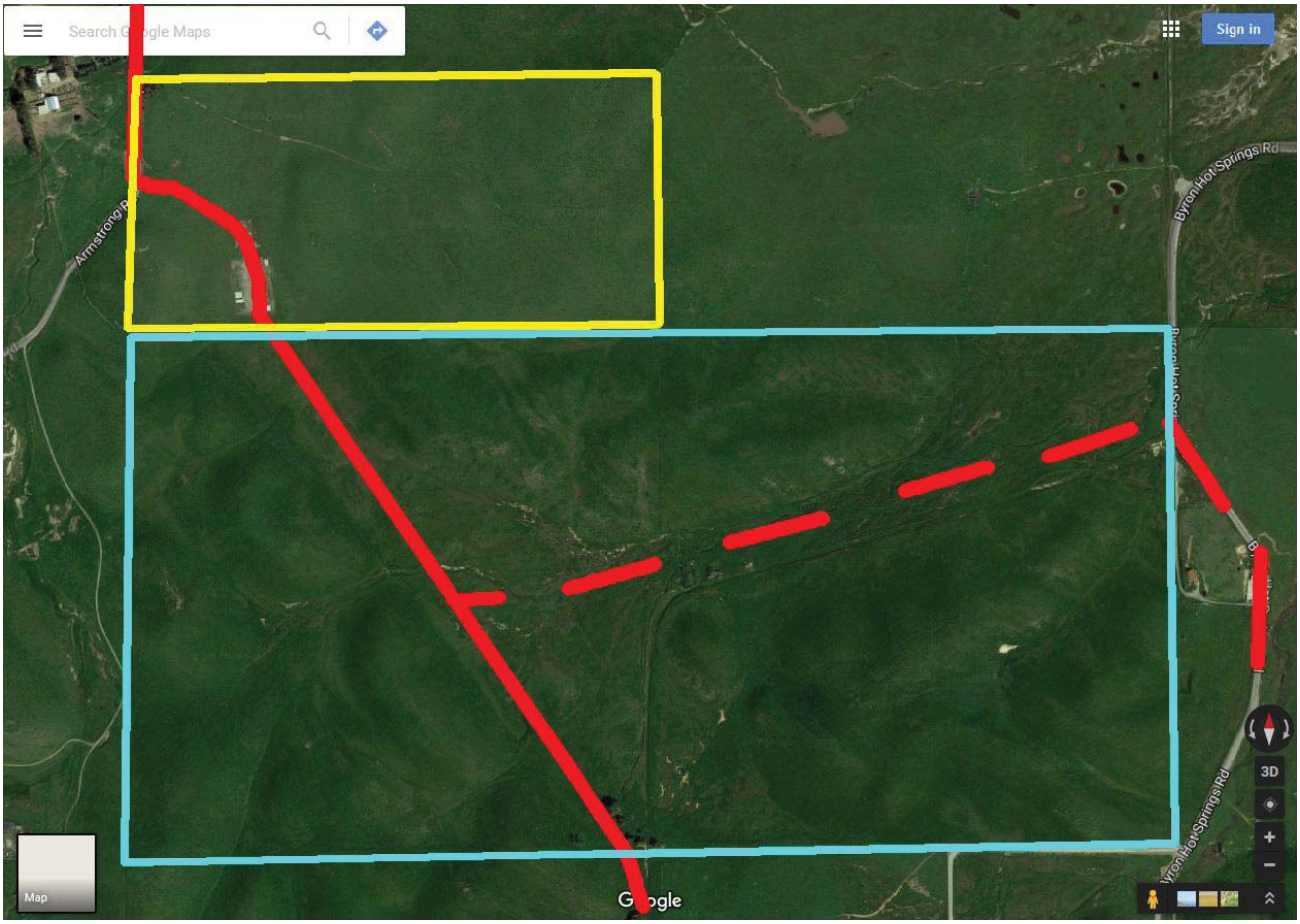


Figure 2. Aerial view of Campos (yellow outline) and Casey (blue outline) HCP/NCCP properties from GoogleMaps. Pipeline primary route and westside route are shown as red line. Pipeline eastside route is shown as dashed red line. Note the low-lying valley areas, targeted for wetlands restoration, that the Pipeline would pass through. The old concrete pad on Campos is also targeted for vernal pool restoration.

If the Pipeline follows the route proposed in the dsEIR, the conservation objectives these properties were purchased and are managed for, and the deed restrictions on them, could be put at risk. While proposed mitigation measures outlined in the dsEIR are intended to mitigation impacts, the fact that these lands have already been protected in perpetuity for biological resource conservation purposes makes this situation different than other projects seeking to mitigate for impacts to lands that are not under any kind of protection. If lands that have already been protected are impacted, were they really protected in the first place? It is imperative that these properties, which are already supposed to be protected in perpetuity, are protected in actuality.

O_SMD_03 cont.

To achieve this, the final sEIR should include and analyze an alternative alignment for the Pipeline that does not bisect HCP/NCCP lands or other properties that have been protected for conservation purposes. We would encourage such an alternative to be given full consideration as part of the preferred Project scenario.

O_SMD_04

Regards,

Juan Pablo Galván
Land Use Manager

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C.5 Individuals

TABLE C-5
INDIVIDUALS WHO SUBMITTED COMMENTS ON THE DRAFT SUPPLEMENT

Comment Format	Comment ID	Name of Commenter	Page Number
Email	I_Achziger	Kim Achziger	C-115
Oral comment	I_Collier	Gary Collier	C-116
Email	I_Deeble	Tom Deeble	C-122
Email	I_Frayseth	Leland Frayseth	C-123
Email	I_Gilmore	Dennis Gilmore	C-128
Comment card and oral comment	I_Grunwald	Bryan Grunwald	C-129
Comment card and oral comment	I_Harris	Gary Harris	C-133
Email	I_Hooper	Mike Hooper	C-140
Email	I_Jennings	Carolyn Jennings	C-142
Comment card	I_Johnson	Walter Johnson	C-143
Email	I_Keller-Moore	Stacy Keller-Moore	C-144
Email	I_Linder	C.A. Linder	C-145
Email, comment card and oral comment	I_Meade	John Meade	C-146
Email	I_Moran	Joe Moran	C-153
Oral comment	I_Ohlson	Bruce Ohlson	C-155
Email	I_Stoeffler	David Stoeffler	C-160
Comment card	I_Summers	Karen Summers	C-161
Email	I_Thomason	Thomas Thomason	C-162
Comment card and oral comment	I_Thuman	Linda Thuman	C-163

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Comment Letter I_Achziger

From: kim achziger
To: Marguerite Patil
Subject: Los Vaqueros Reservoir
Date: Wednesday, September 6, 2017 2:40:56 PM

Please please please give us bike riders a safe place to ride!!
Kim Achziger
Antioch Ca

I_Achziger_01

SACRAMENTO 7/11/17 (1)

LOS VAQUEROS RESERVOIR EXPANSION PROJECT COMMENT CARD

Thank you for your interest in the Draft Supplement to the Final Environmental Impact Statement/ Environmental Impact Report for the proposed Los Vaqueros Reservoir Expansion Project - Phase 2. Persons wishing to submit oral or written comments are encouraged to do so.

Name Gary Collier Phone Number ? Email ?
Organization Represented MO
Address
City Sacramento State CA ZIP 95838

☒ **I would like to provide oral comments** (Each speaker is allowed up to three minutes.)

Public Comment

If you are not providing oral comments, leave this card in a drop box at the Public Hearing or add postage and place the stapled, self-addressed mailer in any U.S. mailbox. Written comments will be accepted until 5 p.m. September 5, 2017.

CERTIFIED COPY

--o0o--

Public Hearing Regarding

THE LOS VAQUEROS RESERVOIR EXPANSION PROJECT

Tuesday, July 11, 2017

--o0o--

Reported by Vickey L. Benson, CSR No. 8076

BE IT REMEMBERED, that on Tuesday, July 11, 2017, commencing at the hour of 2:30 p.m., at the Tsakopoulos Library Galleria, 828 I Street, Sacramento, California, before me, Vickey L. Benson, a Certified Shorthand Reporter, empowered to administer oaths and affirmations pursuant to Section 2093(b) of the Code of Civil Procedure, the following procedures were had:

--o0o--

14:30: 36 MR. MOORE: I'm going use the microphone. I
14:30: 41 think I can speak loud enough that you might hear me,
14:30: 44 but I want to make sure that everyone has an
14:30: 47 opportunity to hear what we are saying today.
14:30: 50 So I'd like to welcome everyone here to this
14:30: 53 public hearing. It's the draft supplement to the Final
14:30: 57 Environmental Impact Statement/Environmental Impact
14:30: 59 Report for the Los Vaqueros Expansion Project. This
14:31: 2 hearing is being held in accordance with the
14:31: 6 requirements under the National Environmental Policy
14:31: 8 Act.
14:31: 10 This afternoon, this is the first of six
14:31: 12 public hearings. Information on other hearings will be
14:31: 16 available to you at the desk outside.
14:31: 18 Again, I don't want to reiterate that we've
14:31: 20 already been introduced. So if you would like to meet

14:35:20 1 with folks at the stations if we have no new speakers
14:35:24 2 coming up. One of the things that I'll do once all the
14:35:27 3 speakers have been heard, I will conclude the open
14:35:31 4 hearing. I will go into recess.
14:35:33 5 Before we finish today, I'll take about the last
14:35:37 6 five minutes, call the meeting back to order to close
14:35:42 7 the meeting officially. So I have to stop the hearing,
14:35:46 8 allow folks time to take a look around. And if no new
14:35:51 9 speakers come, then I will call to order and then close
14:35:54 10 the meeting officially.
14:35:56 11 When it is your turn, please clearly state your
14:35:59 12 name and affiliation into the microphone and spell your
14:36:03 13 first and last name. Please remember, this is a formal
14:36:06 14 hearing, and a court reporter is recording the comments.
14:36:09 15 Please speak clearly so your comments can be captured
14:36:13 16 accurately. I will be the timekeeper and will indicate
14:36:17 17 when your time is up.
14:36:18 18 So at this point, we can -- Mr. Gary Collier, if
14:36:29 19 you will please go to the microphone on that side,
14:36:35 20 please.
14:36:35 21 MR. COLLIER: Oh, gotcha.
14:36:38 22 MR. MOORE: Please spell your first and last
14:36:40 23 name and any affiliation you have.
14:36:42 24 MR. COLLIER: Well, I got a hell of a lot them.
14:36:45 25 But, Gary Collier. I'm a former state worker, and I'm

I_Collier_01

14:36:49 quite familiar with geography and issues with lakes and
14:36:54 streams, and I'm also a fisherman. But that's okay. I
14:36:57 love fishing.
14:36:59 And I'm wondering if this can be expanded down
14:37:03 south. We've got so many areas down south that we could
14:37:07 pump the water into and use it for environmental reasons
14:37:10 for doing things.
14:37:11 You go down I-5, you see all these opportunities
14:37:17 to do similar things as this. Can you do it? I'm very
14:37:21 happy with what I've read or seen about what's going on,
14:37:25 so I'm not going to have no complaints. But by God, we
14:37:29 got opportunities.
14:37:30 And the governor keeps talking about, oh, they
14:37:33 open this stupid pipeline. And I just want to know --
14:37:37 maybe it's stupid, maybe it's not -- but what we can do
14:37:41 in our city -- or in our state, I should say, to allow
14:37:47 this, to have another one or another three or another
14:37:51 four. They're not that expensive to do, and do this
14:37:55 more often and allow fishing opportunities for poor
14:37:59 people.
14:37:59 I'm very poor. I would love to go fishing. So
14:38:05 what can we do to -- I mean, I know you're Bureau of
14:38:09 Reclamation, most of you. But what can we do to reclaim
14:38:13 the water and make it work for us and do it more often,
14:38:17 not just in one area.

I_Collier_01 cont.

14:38:19 But this -- I have no problems with this program
14:38:23 going forward. I'm very impressed by the
14:38:28 professionalism of the staff here. And that's enough,
14:38:32 as I say.
14:38:34 MR. MOORE: Thank you very much, Mr. Collier.
14:38:39 Is there anyone else wishing to speak today?
14:38:45 At this time, there are no additional -- maybe?
14:38:53 MS. PATIL: No, no. That's my boss.
14:38:58 MR. MOORE: So you know. So at this time, we
14:39:02 have -- Mr. Collier has shared information with us. If
14:39:07 there are no additional speakers at this time, let's
14:39:09 take some time to visit the stations, visit with the
14:39:14 project team. And we will come back together at about
14:39:18 3:20, and then we can officially move toward closing out
14:39:23 the meeting for the day. Thank you.
15:19:05 (Recess taken.)
15:19:07 MR. MOORE: Okay. Ladies and gentlemen, we'll
15:19:11 go ahead and call the meeting to order, and we will
15:19:15 prepare to close the meeting out since we have no new
15:19:19 speakers.
15:19:19 One more chance: Anyone wanting to share?
15:19:23 Since there's none, we will go ahead and close up the
15:19:27 meeting.
15:19:28 So for all us that will probably be at the next
15:19:32 meeting, so if you know of someone wanting to come and

I_Collier_01 cont.

From: Wufoo
To: Jim Freschi; Jennifer Allen; Marguerite Patil
Subject: Los Vaqueros Reservoir Expansion Comments [#2]
Date: Monday, August 28, 2017 7:35:40 PM

Name	Tom Deeble
Phone Number	(925) 778-8977
Email	TDeeble@aol.com
Organization Represented	Ratepayer
Address	4749 Knollcrest Ct
City and State	Antioch, CA
Zip Code	94531-7663

Your Comment

When did CCWD change from a local supplier to being a regional supplier? I voted for LV back in the 80's and have been paying increased rates to help pay for it. Now it seems that everyone wants in on the action. Water to San Francisco, Santa Clara & EBMUD? If this goes ahead, and from the USA markings in the road below the dam it looks like it is, will CCWD lose control over the operation? I resent being part of the small group that went ahead and built LV, that didn't even include Brentwood, and now having others move in. I_Deeble_01

If the dam is going to be raised another 51' will there be more effort put into the dam to prevent damage from rain? I see that the plastic tarps have been removed from the face of the dam exposing the damage from this past winter's rain. While not catastrophic like the Oroville dam, any failure of LV would certainly make the Brentwood area look like Houston during hurricane Harvey going on now. I_Deeble_02

If this is approved I'd like to at least see a paved pedestrian/bike path from the museum to the Livermore side of LV to make it safe to ride a bike from Brentwood to Livermore. I_Deeble_03

Thank your,
Tom Deeble

From:	Leland Frayseth
To:	Rainger, Lisa; rwoodley@usbr.gov
Cc:	Jennifer Allen
Subject:	Downloaded LVE Supp EIS/EIR, 846 pages, $355.32 + tax to print color 3 hole punch, 3 preliminary comments
Date:	Friday, June 30, 2017 7:36:47 AM
Attachments:	Screenshot (4).png Screenshot (7).png

Hi Lisa and Richard,
Carbon Copy Jennifer,

I have downloaded the subject document from the CCWD web site and uploaded it to Staples to get an estimate on printing size and cost, see attachment. The document is not yet available at the Reclamation link in the Notice of Availability Marguerite signed 6/29/2017, see attachment.

I scanned the documents as I was downloading last night and I will have many comments to submit and share at the public hearings. Items that jumped out at me:

1. The geology is unchanged can't be right I saw a CCWD board meeting agenda item for a planned $40K study on the sink hole that formed on Los Vaqueros road.
2. The vulnerability to landslides is unchanged based upon a 2016 aerial survey can't be right as there were numerous landslides in the area 4 months ago closing roads into Los Vaqueros from the north and south.
3. No mining in the area can't be right the abandon Black Diamond mines are within 10 miles of the reservoir, maybe after the $40K Los Vaqueros road sink hole study the consultants will find a mine shaft caving in.

I_Frayseth_01

I look forward to seeing you, Lisa and Richard at the hearings and a full and frank exchange about the current reservoir and this expansion project.

Respectfully,
Leland Frayseth

From:	Leland Frayseth
To:	Rainger, Lisa; rwoodley@usbr.gov
Cc:	Jennifer Allen
Subject:	Re: Downloaded LVE Supp EIS/EIR, 846 pages, $355.32 + tax to print color 3 hole punch, 3 preliminary comments
Date:	Tuesday, July 25, 2017 8:24:48 AM
Attachments:	062817_RepMikeThompson_LosVaqueros.pdf 062717_RepJaredHuffman_LosVaqueros.pdf 061617_ACWD_LosVaqueros.pdf 061417_SFPUC_LosVaqueros.pdf 05.31.17-3 O-E Committee - Rock Slough Fish Screen Improvements.pdf

Hi Lisa and Richard please add these additional comments. Thank you, Leland

- Please provide the business case and financial analysis for CCWD ratepayers and taxpayers that shows recovery of $30M+ in your Construction in Progress account and how much money is annually recovered for each future LVE 275,000 AF partner and highlight the break-even point. I_Frayseth_02
- Please provide a detailed analysis of past and projected evaporation and seepage losses by AF and $ per year. I_Frayseth_03
- Appendix B.1 is irresponsibly void any discussion of how CCWD Los Vaqueros 275,000 AF expansion avoids conflict with WaterFix construction. Section 2.4 reads LV expansion construction would begin in 2021 and last 6 years and the existing reservoir would be drained. WaterFix construction may begin in 2018 and last 13 years. As a CCWD rate payer I do not want the existing reservoir that I am paying bonds on taken out of service when I will need it the most because WaterFix construction will be fouling Delta water quality. I think you should layoff everyone working on the LVE 275,000 AF project and put it on the back burner until WaterFix plays out. I_Frayseth_04
- What is the value of all buildings and facilities CCWD ratepayers are making bond payments on that will be demolished as part of the 275,000 AF project. Please show the amount of this lost value recovered from each future partner participant in the proposed 275,000 AF project. I_Frayseth_05
- Who on the LVE project team provided the form letter containing the words "fully screened Delta intakes" used in the attached testimonials? Why was that team member unaware of the attached bureaucratic finger pointing Rock Slough's fish screen is not working, CCWD has not accepted it and is blaming Reclamation per the attached Engineering and Operations meeting notes? What action is being taken to address this team member's error? I_Frayseth_06

On Fri, Jun 30, 2017 at 7:36 AM, Leland Frayseth <leland.frayseth@gmail.com> wrote:

> Hi Lisa and Richard,
> Carbon Copy Jennifer,
>
> I have downloaded the subject document from the CCWD web site and uploaded it to Staples to get an estimate on printing size and cost, see attachment. The document is not yet available at the Reclamation link in the Notice of Availability Marguerite signed 6/29/2017, see attachment.
>
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3. No mining in the area can't be right the abandon Black Diamond mines are within 10 miles of the reservoir, maybe after the $40K Los Vaqueros road sink hole study the consultants will find a mine shaft caving in.

I look forward to seeing you, Lisa and Richard at the hearings and a full and frank exchange about the current reservoir and this expansion project.

Respectfully,
Leland Frayseth

Comment Letter I_Frayseth

From: Leland Frayseth
To: Rainger, Lisa
Cc: Jennifer Allen; Marguerite Patil; John Burgh; rwoodley@usbr.gov
Subject: LVE Supp EIS/EIR additional LHF comments
Date: Thursday, August 31, 2017 8:53:21 AM
Attachments: Screenshot (26).png
Screenshot (19).png

Hi Lisa,
Copy Jennifer, John, Marguerite, Richard,

Below are my additional comments on the LVE Supp EIS/EIR

1. I have made repeated requests of Reclamation staff for CCWD's Water Management Plan that was submitted to Reclamation the past 6 months and have been told it is in the queue to be printed in the Federal Register soliciting public comments. It would be helpful for us taxpayers and ratepayers to be able to review the Water Management Plan, LVE Supp EIS/EIR and CCWD's Prop 1 application concurrently. I_Frayseth_07

2. I have made repeated requests of Reclamation and CCWD for the quarterly progress reports as described in 5(a)(1) of LVE-MOU-2015 and have only received 3. I have been told the other reports are being written and not available. It would be helpful for us taxpayers and ratepayers to be able to see which participants are contributing money and services to the LVE 275,000 AF expansion studies. According to the documentation I have received the only entities contributing to the studies are CCWD, EBMUD and Reclamation. I_Frayseth_08

3. There is a lot written about increasing CCWD Rock Slough turnout capacity in the documents, I told CCWD's Marguerite Patil at a CCWD Operations and Engineering team last year I fish all over the delta and water quality at CCWD's Rock Slough turnout is frequently poor, it is a dead end slough when CCWD is not pumping so the water stagnates. Which is what has happened these last 5 months of 2017, CCWD tried to resume pumping in early August but customer complaints forced them to shut it down. It seems a false premise to base the LVE 275,000 AF expansion on expanding Rock Slough when it is know water quality there is frequently poor. That is why us customers and ratepayers paid for the alternative intakes at Old River and Middle River several years ago and they are being used now as I write. I_Frayseth_09

4. There seems to be obfuscation on the way Los Vaqueros evaporation is presented in the documents so let me unpack it for readers of these comments from the 2 graphs in the Prop 1 application. The proposed 275,000 AF reservoir filled with spring runoff will loose 5.4 feet of elevation (13,604 AF) $2,095,042 annually at the $154/AF break even conveyance fee CCWD staff developed for the Westlands pilot. The Prop 1 application uses a 93 year time line so that is $194,838,875 over the life of the proposed expansion no one has that kind of money to loose. It is windy up there, there are windmill farms on the hills, it is extreme fire danger in the summer, no barbecues or smoking, heat and wind increase evaporation and will only increase with climate change. I_Frayseth_10

5. There is a statement in the Prop 1 application the reservoir will be refilled in 2 years, I believe that is unrealistic and certainly not historically accurate, the 160,000 AF expansion refill started October 2011 and as of this writing August 2017 is still in the initial fill stage and has not yet reached the 160,000 AF us ratepayers and taxpayers are paying bonds on for the next 40 years. I_Frayseth_11

6. Marguerite Patil, CCWD's project manager for this expansion has told me at board meetings and board committee meetings she only answers questions of the board members she has only replied to one of my emails and she wrote CCWD monitors water quality at the intakes which has since been proven false by the attached water quality red alert on CCWD's website. I_Frayseth_12

I may have additional comments to submit before the close of comments 5 Sept 2017 5 pm.
Thank you, Leland

1.

From: Jennifer Allen
To: Lucinda Shih
Subject: FW: LVE Supp EIS/EIR final LHF comments as comment period closes 5 pm 5 Sept 2017
Date: Friday, April 13, 2018 2:20:12 PM

From: Leland Frayseth [mailto:leland.frayseth@gmail.com]
Sent: Monday, September 4, 2017 6:37 PM
To: Rainger, Lisa <LRainger@usbr.gov>
Cc: Jennifer Allen <jallen@ccwater.com>; John Burgh <studie23@comcast.net>; Marguerite Patil <mpatil@ccwater.com>; rwoodley@usbr.gov
Subject: LVE Supp EIS/EIR final LHF comments as comment period closes 5 pm 5 Sept 2017

Hi Lisa,

Jennifer, John, Marguerite, Richard (copy)

I am a 30 year Contra Costa Water District customer. This past year I have attended many CCWD board meetings and some board committee meetings. I have come to know all of the board members and many of the staff. CCWD board meetings are like a Donald Trump news conference with paid staff in the public's seats just about every meeting I was the only member of the public in the audience. My comments and questions have been met with criticism, challenge and obfuscation so what this 275,000 AF Las Vaqueros expansion project boils down to for me is do I trust them to build it? The answer is a resounding No. I have developed so much distrust I recently canceled my direct debit bill pay for my water bill. I get an ebill now and I push the money out of my checking account with my bill pay service they are not welcome to reach in and grab whatever the bill says without me in the loop.

As a customer I do not know why they want to proceed with this expansion project no one has articulated the business case for us customers and how we will be reimbursed for our investment and bond debt. No one has told us who is going to pay for water needed for blending and emergencies while the existing reservoir we paid for is drained for construction. It makes no sense to me my state and federal tax dollars and bonds pay for the expansion as I see the source for water at their intakes is salty in dry years now and will be increasingly salty in the future.

I_Frayseth_13

Thank you for reading this and the preceding 16 comments I have submitted during this LVE Supp EIS/EIR comment period.

Leland Frayseth

Comment Letter I_Gilmore

From: Dennis [mailto:dgilmore7903@aol.com]
Sent: Tuesday, August 29, 2017 11:00 AM
To: Marguerite Patil <mpatil@ccwater.com>
Subject: Los Vaqueros Dam

I recently read about the proposed expansion of the dam and water surface. I have felt for a few years that a pedestrian and bicycle path would be a great addition to the area. I really enjoy the peacefulness and beauty of the area when I cycle on the information center side. I can only imagine what beauty is beyond the dam. Access to the area beyond the dam to the other side is what I hope will become part of the expansion. I_Gilmore_01

Dennis Gilmore
1470 Kent Pl
Brentwood, CA 94513

OAKLAND 7/20/17 ①

LOS VAQUEROS RESERVOIR EXPANSION PROJECT COMMENT CARD

Thank you for your interest in the Draft Supplement to the Final Environmental Impact Statement/ Environmental Impact Report for the proposed Los Vaqueros Reservoir Expansion Project - Phase 2. Persons wishing to submit oral or written comments are encouraged to do so.

Name BRYAN GRUNWALD Phone Number 510 420 1812 Email archaplan@gmail.com

Organization Representated

Address

City State ZIP

☒ I would like to provide oral comments (Each speaker is allowed up to three minutes.)

Public Comment EBMUD WANTS 30 TAF OF WATER ON RESERVE WHAT IS THE COST - WOULDN'T IT BE CHEAPER TO HAVE PETAL N OF THE RICHMOND WTP

If you are not providing oral comments, leave this card in a drop box at the Public Hearing or add postage and place the stapled, self-addressed mailer in any U.S. mailbox. Written comments will be accepted until 5 p.m. September 5, 2017.

LOS VAQUEROS RESERVOIR EXPANSION PROJECT DRAFT SUPPLEMENT TO THE FINAL ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT

PUBLIC HEARING

July 20, 2017

Taken by: Rajahnique Jones, CSR #13457

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comments to receive at this point, and what's important about that -- sir, are you wanting to make comment?

MR. GRUNWALD: Yes.

MR. MOORE: I'm happy about that.

MR. GRUNWALD: I have to write down my comment, though.

MR. MOORE: Yes, sir. Take your time.

While we're waiting, I would like to just say, anyone here wanting to make comments but don't want to do that today, please do so. You can take a comment card, fill out the top portion or attach existing comments to the card, and you can provide those through e-mail, fax, or through following the instructions on the card. Those comments are due by Tuesday, September 5th, close of business.

MR. GRUNWALD: Okay.

MR. MOORE: Yes, sir, please. And if you will state your first and last name and spell that so the court reporter can capture it.

MR. GRUNWALD: It's Bryan, B-r-y-a-n; Grunwald, G-r-u-n-w-a-l-d.

So anything else?

MR. MOORE: You're fine, sir. Continue.

MR. GRUNWALD: East Bay Mud, according to the presentation, wants a 30,000-acre feed of the storage

I_Grunwald_01

of the Los Vaqueros dam as a reserve for dry years, from what I understand from the presentation. What would that cost for the storage transmission and additional water treatment?

And, second, wouldn't it be cheaper for East Bay Mud to build their own diesel plant north of the Richmond sewage treatment plant, a stand-alone facility that they could turn on when they needed this reserve rather than being part of this regional system? Wouldn't this -- wouldn't this be more cost effective for them to do it?

And I don't know if that equates to a 30 mgd plant. I don't know what the comparison of storage versus what size a plant would be needed, but that would be good to know, what size plant would be needed for East Bay Mud to make up their -- their dry-year flows, their dry-year needs.

So --

MR. MOORE: Thank you, sir.

MR. GRUNWALD: I don't know if you got all that down, but, essentially, that's the point.

MR. MOORE: Any other speakers at this time?

So continuing with the process, a final supplement to the EIS/EIR is being prepared in accordance with the National Environmental Policy Act. This is a

I_Grunwald_01 cont.

I_Grunwald_02

LOS BANOS 7/27/17

LOS VAQUEROS RESERVOIR EXPANSION PROJECT COMMENT CARD

Thank you for your interest in the Draft Supplement to the Final Environmental Impact Statement/ Environmental Impact Report for the proposed Los Vaqueros Reservoir Expansion Project - Phase 2. Persons wishing to submit oral or written comments are encouraged to do so.

Name Cary L Harris Phone Number 408 252 9215 Email
Organization Represented Self
Address 10340 Stokes Ave
City Cupertino State CA ZIP 95014

☒ I would like to provide oral comments (Each speaker is allowed up to three minutes.)

Public Comment Will the Governor's Twin Tunnel effect the project. Does this project have the Governers approval.?

I_Harris_01

With this Project effect Temperance Flat Dam at Sikes Reservoir?

I_Harris_02

If you are not providing oral comments, leave this card in a drop box at the Public Hearing or add postage and place the stapled, self-addressed mailer in any U.S. mailbox. Written comments will be accepted until 5 p.m. September 5, 2017.

LOS VAQUEROS RESERVOIR EXPANSION PROJECT COMMENT CARD

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Name Cary L. Harris Phone Number 408 252 9215 Email
Organization Represented Self
Address 10340 Stokes Ave
City Cupertino State CA ZIP 95014

☑ I would like to provide oral comments (Each speaker is allowed up to three minutes.)

Public Comment When you drain water will that water go? Some to the Grasslands?
How long will it take to Reconstruct the Dam?

I_Harris_03

How long to Refill the Dam?

If you are not providing oral comments, leave this card in a drop box at the Public Hearing or add postage and place the stapled, self-addressed mailer in any U.S. mailbox. Written comments will be accepted until 5 p.m. September 5, 2017.

1

LOS VAQUEROS RESERVOIR EXPANSION PROJECT COMMENT CARD

Thank you for your interest in the Draft Supplement to the Final Environmental Impact Statement/ Environmental Impact Report for the proposed Los Vaqueros Reservoir Expansion Project - Phase 2. Persons wishing to submit oral or written comments are encouraged to do so.

Name GARY L. HARRIS Phone Number 408 252 9215 Email

Organization Represented SELF

Address 10530 STOKES AVE

City CUPERTINO State CA ZIP 95014

☑ I would like to provide oral comments (Each speaker is allowed up to three minutes.)

Public Comment HOW LONG WILL IT TAKE TO REFILL THE DAM AFTER THE CONSTRUCTION. I_Harris_03 cont.

ARE THERE ANY RESTRICTIONS ON THE AMOUNT OF WATER BEING TAKEN OUT OF OLD SLOUGH — THE DELTA. IF SO WHAT? I_Harris_04

If you are not providing oral comments, leave this card in a drop box at the Public Hearing or add postage and place the stapled, self-addressed mailer in any U.S. mailbox. Written comments will be accepted until 5 p.m. September 5, 2017.

LOS VAQUEROS RESERVOIR EXPANSION PROJECT DRAFT SUPPLEMENTAL TO THE FINAL ENVIRONMENTAL IMPACT STATEMENT/ ENVIRONMENTAL IMPACT REPORT

PUBLIC HEARING

TRANSCRIPT OF PROCEEDINGS

JULY 27, 2017

2:32 P.M.

REPORTED BY: ASHLEY WHATLEY, CSR No. 14026

Talty Court Reporters, Inc.

408.244.1900

LOS BANOS, CALIFORNIA, JULY 27, 2017

SANTA CLARA VALLEY WATER DISTRICT PUBLIC HEARING

P R O C E E D I N G S

---oOo---

MR. MOORE: So I'd like to say hello, and welcome again to the Draft Supplement to the Final Environmental Impact Statement/Environmental Impact Report for the Los Vaqueros Reservoir Expansion Project. This hearing is being held in accordance with the National Environmental Policy Act Requirements. Again, this is the last of the six meetings that we have scheduled.

Today we're accepting oral and written comments. At this time, I have one comment card. What we would like to do is if anyone else wants to speak, again, please fill out a comment card. If you do not wish to speak today and you have comments with you, please fill out the upper portion of the card, affix it to your written comments, and you can leave those with us today as well.

As we go through our list of speakers today, we are asking for consistency's sake across our meetings that the speaker uses three minutes of oral comment time. Additional comments are provided in written form.

The Final Supplemental to the Final EIS/EIR is

prepared, again, in accordance with the National Environmental Policy Act; the Final Supplement and Feasibility Report will be received by the OMB and will be circulated for a 30-day review period. This is important because the secretary of interior will issue a record of decision based on two primary focuses. One is to determine the consistency with the National Environmental Policy Act, and two as a recommendation to congress to approve as a preferred alternative or for no action. So we'll proceed in this manner.

Are there elected officials with us today? I see no elected officials, so we'll go in the order of the speaker cards that I have.

Again, please, oral comments for three minutes, and then we'll proceed to the next speaker. Once the final speaker has spoken, I will ask that we go into recess. If there are no other speakers going into recess, that will allow us the opportunity to reengage folks at the stations and continue discussions they had started earlier. If no other speakers arrive at the hearing, I will call the group back together if they do, and we will take comments again. About 20 minutes after 3:00, I will reassess the meeting -- regroup the meeting and close out the hearing for today.

At this time, Mr. Gary Harris, if you will please

stand and state your first and last name and spell that, please, and any affiliation that you have.

MR. HARRIS: Gary Harris, G-a-r-y H-a-r-r-i-s. No affiliation except I'm a duck hunter.

Can I ask questions? Is that how you want me to do it?

MR. MOORE: However you would like to make your commentary.

MR. HARRIS: Well, one thing. The governor, does he approve this? He's got the two twin tunnels that he wants to build, and does that affect his twin tunnel project at all? I_Harris_05

MR. MOORE: Again, today we are receiving comments. The question will be captured as part of the record.

MR. HARRIS: Another thing, I never really trusted Reclamation. Reclamation has really walked over the grassland for so long, killed the whole run of salmon that were up in the upper San Joaquin River, and I haven't been -- I don't trust these things. I mean, you say we're going to get some water, and maybe we will, but how much will it cost us? Will it be too absorbant for us to pay? So I just, kind of, wonder, is Reclamation behind this project? Are you really going to help the grasslands? That's what I would really like I_Harris_06

to know. Other than that, that's all I have to ask.

MR. MOORE: Thank you very much, sir.

Are there other speakers at this time?

Seeing no other speakers, we will at this point go into recess. Please take some time and reengage with folks at stations. If additional speakers show up, I will regroup everyone and take those comments. Please enjoy.

(A recess was taken from 2:36 p.m. to 3:20 p.m.)

MR. MOORE: On behalf of the Bureau of Reclamation, I would like to thank you for taking the time to attend and participate in this hearing. Please remember, if you still plan to provide written comments, they must be received by close of business Tuesday, September 5, 2017.

This concludes the hearing on the Draft Supplement to the Final Environmental Impact Statement/Environmental Impact Report for the Los Vaqueros Reservoir Expansion Project. Thank you, and good afternoon.

(Whereupon the public hearing concluded at 3:53 p.m.)

RECEIVED
AUG 11 2017
Contra Costa Water District
Public Affairs Department

Subject: Reservoir Expansion

From: Mike Hooper (mkhooper2003@yahoo.com)

To: lve@ccwater.com;

Date: Sunday, August 6, 2017 9:19 AM

I have read your recent flier in my current CCW billing statement and I have the following comments and concerns about the reservoir expansion.
It is my understanding that to build this new reservoir will require the draining and waste of the water currently in the reservoir [not to mention loss of fish, etc] which will put the current CCWD customers at risk with no apparent benefits. We have paid for the reservoir expansion to date, and this is enuf to fulfill our needs. If some other agency wants a reservoir, let them buy the land and build their own reservoir just as we did. I do not feel that I should be put in a position of having no water reservoir for several years during construction just to provide backup for others. I also do not believe your pitch that the funding for this venture will be 100% provided by others. I think if you print the negatives related to this project, all of CCWD customers would vote against it.

I_Hooper_01

Since your website isn't working and would not accept my email, I decided to waste a stamp and send this to you. I await your response.

Michael K. Hooper

Michael K. Hooper
1217 Pinecrest Dr.
Concord, CA 94521

OAKLAND CA 945
08 AUG 2017 PM 6 L

DC14

CONTRA COSTA WATER DISTRICT
1331 CONCORD AVE
CONCORD, CA 94520

94520-490731

From: C Sue Jennings [mailto:csuej3@gmail.com]
Sent: Saturday, September 2, 2017 11:59 AM
To: LV Expansion <lve@ccwater.com>
Subject: Los Vaqueros expansion

I don't know where the funding for this is coming from, but it seems we in the district have already paid our dues and those who want to share our water should pay for the extension. I_Jennings_01

Carolyn Jennings
Concord

LOS VAQUEROS RESERVOIR EXPANSION PROJECT COMMENT CARD

Thank you for your interest in the Draft Supplement to the Final Environmental Impact Statement/ Environmental Impact Report for the proposed Los Vaqueros Reservoir Expansion Project - Phase 2. Persons wishing to submit oral or written comments are encouraged to do so.

RECEIVED
AUG 17 2017
CONTRA COSTA WATER DISTRICT

Name WALTER JOHNSON Phone Number (925) 676-7522 Email

Organization Represented

Address 427 & SATINWOOD DR

City CONCORD State CA ZIP 94521

☐ **I would like to provide oral comments** (Each speaker is allowed up to three minutes.)

Public Comment I don't think this is a good idea first CCWD customers don't need to pay for a 3rd time to expand for the benefit of the same other water districts who told CCWD they weren't interested twice before, now because they need more water they want us at a low cost to ~~fix~~ them. you aren't concerned with use the rate payers you only care about how much more money you can use for. Also find the biggest point where the Hell will the water come from when the drought pops up while the reservoir is drained? you have no good answer for this except we will have to cut back more than we did in the past and pay more. A BAD IDEA

I_Johnson_01

I_Johnson_02

If you are not providing oral comments, leave this card in a drop box at the Public Hearing or add postage and place the stapled, self-addressed mailer in any U.S. mailbox. Written comments will be accepted until 5 p.m. September 5, 2017.

From: Stacey Keller-Moore [mailto:skellermoore@yahoo.com]
Sent: Monday, September 04, 2017 9:25 AM
To: 'mpatil@ccwater.com'
Subject: Las Vaqueros Dam Expansion Comments

I understand the need for increasing our dam's to store more water. However, I am concerned how this will affect bicyclists and the ability to enjoy the area recreationally. I know there had been access to a paved road through there in the past and it is no longer available. In addition, although promises were made when the dam was first built, cyclists have never been allowed off pavement in the watershed. I (and many of my cycling friends) cycle 2 to 4 times a week and currently ride up to Las Vaqueros Dam 1-2 times a week. We would like to have a paved path between the marina and visitor center areas to increase the opportunities for enjoyment of the area. Since it would be apved path, it could also be used by park personnel, maintenance, and emergency vehicles as needed. I would assume that it would be a necessity for them.

I_Keller_Moore_01

Please add a paved path during your planning process!
Stacey Keller-Moore

From: C Linder [mailto:calinder@gmail.com]
Sent: Tuesday, July 25, 2017 7:23 PM
To: LV Expansion <LExpansion@ccwater.com>
Subject: Bicycle Access on Los Vaqueros Reservoir

To Whom It May Concern:

I am writing in support of bicycle access on Los Vaqueros reservoir to connect the marina with the visitor center to avoid forcing cyclists onto Vasco Road. I_Linder_01

Thank you for your consideration of this matter,

C.A. Linder
Concord, CA

John F. Meade

2253 Lake Crest Ct.
Martinez, CA.94553

July 17, 2017

Contra Costa Water District
1331 Concord Avenue
Concord, CA. 94520

RE: Los Vaqueros Reservoir Expansion Project

ATTN: Marguerite Patel

Comments on the Draft Supplement to the Final Environmental Impact Statement/Environmental Impact Report for Expansion-Phase 2.

The June 2017 Draft does not address the impacts to the customers of Contra Costa Water District (CCWD) during the construction period of 3 plus years, and the refill period of 5 to 8 years. The ratepayers/ owners of Los Vaqueros funded the initial expansion 2011-2012 through increased rates for $450 million for Reliability, Water Quality, and Emergency Storage. If the expansion project is implemented, we would be without the use of Los Vaqueros Reservoir (LVR) for 5 plus years based upon the refill of a rebuilt LVR to its current level of operation. **What is the back-up plan during this rebuild, given the recent experience with drought conditions?**

I_Meade_01

The original expansion (Resolution No. 03-24) voted on by CCWD customers for reliability, water quality, and emergency storage, resulted in rate increases. Although the initial CALFED reviews (2000) offered alternatives for consideration, eleven water districts were offered partnership stakes. These potential partners decided that they did not want to invest in the 275,000 AF, citing the poor economy per CCWD news release. The CCWD ratepayer/owners voted to proceed with the 160- AF project. As a result, LVR was an expansion to serve CCWD. The recent drought validated the need and usefulness of the reservoir when water was released for CCWD system needs in 2015 and 2016.

When the ratepayers/stakeholders of CCWD, voted to proceed in 2004, it was a vote to obtain a reservoir for local use. It was never mentioned that LVR would be removed from service for 3-5 years for future expansion for regional use beyond the CCWD service area. The removal of the dam for Alternatives 1A, 1B, 2A would remove the drought (emergency), water reliability, water quality components as well as the recreational benefits currently in place with the 160-TAF facility. Alternative 4A does not appear to jeopardize use and operation of Phase 1 existing facilities, although the costs and funding component of the alternatives has not been provided in the document.

After releasing the document end of June, 2017, this expansion is being rushed through a series of meetings in July 2017. This is obviously to submit an application for California State funding under Prop. 1. The potential partners have only committed funding for studies. *The potential partners have not committed any funds for the construction*.

Specific Comments and Issues:

1. **Benefit/Cost Analysis:** This is missing and is essential to evaluate the Alternatives. Alt 4A may be a beneficial option, but this lacks cost, schedule and any operational constraints for the use of 160-TAF base case.

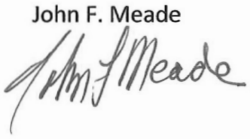
2. **Financial Reimbursement to Ratepayers who funded the 160-TAF Phase 1**: How will this happen? If we have been paying for the Phase 1 since 2004, are we expected to keep paying for a facility which is out of service for Phase 2 if the dam is replaced? How will Phase 1 work funding be reimbursed? I would expect that this be returned to ratepayers, and not used for other capital projects in the system. This would need direct reimbursement for that facility. I_Meade_02
3. **Growth Inducing Factor:** The potential partners listed (11) were not good performers in water reduction goals during the 2014-2017 drought years. Several of the potential partners are in an aggressive growth mode without accompanying infrastructure and utility services. How can this document state that this will NOT induce growth? I_Meade_03
4. **Benefits to CCWD:** This is very vague, and it appears from all sections that CCWD does not obtain benefits from Alternatives 1A, 1B, 2A. Alternative 4A has some marginal operational benefits, but the costs are not discussed. The Reliability, Water Quality, and Emergency Storage for dam replacement would be absent for 3-5+ years, as would the recreational facility Marina and hiking trails. This is a significant duration, and given the recent drought, these options should not be considered for CCWD ratepayers. As a regular hiker on L.V. watershed, these trails are important options for hiking groups for fitness and nature appreciation in our retired years. The vague benefits are mentioned as 2% in the CWD Board Presentation (Oct. 7, 2016) but never quantified in EIS draft. I_Meade_04
5. **CALFED:** These Agencies are mentioned as evaluation five other options for storage. Where are those studies and why are they not being referenced? If there is a regional review for water source alternatives, why is that not compared, rather than strictly focusing on LV-Phase 2 dam replacement? It is common sense to not remove and replace a perfectly new (2012) facility but instead add additional separate storage least there be some disruption as we saw with Orville Dam this year. Distributed storage reduces risks. I_Meade_05
6. **CCWD Ratepayers/Stakeholders Vote:** The disruption of Reliability, Water Quality, and Emergency Storage for dam replacement is monumental and needs a vote soon to validate this process before further resources are invested. I_Meade_06

As a CCWD ratepayer and homeowner since 1981, I find this document flawed and rushed. *The recommendations for LVR expansion are not in the best interests of CCWD.* As a retired Civil/Mechanical Engineer, the logic and EIS materials presented would not be sufficient for any of my previous major projects ($100m-$1.5B). I would hope that the Board of Directors takes a hard review about the benefits for CCWD of the LV dam replacement.

Thank you,

Respectfully

John F. Meade



CONCORD 7/18/17 (2)

LOS VAQUEROS RESERVOIR EXPANSION PROJECT COMMENT CARD

Thank you for your interest in the Draft Supplement to the Final Environmental Impact Statement/ Environmental Impact Report for the proposed Los Vaqueros Reservoir Expansion Project - Phase 2. Persons wishing to submit oral or written comments are encouraged to do so.

Name John Meade Phone Number 925 682-7621 Email JMeade22@Gmail.Co
Organization Representated Ratepayer - Homeowner
Address 2253 Lake Cross Ct
City Martinez State CA ZIP 94553

[X] I would like to provide oral comments (Each speaker is allowed up to three minutes.)

Public Comment CCWD - What do we obtain for benefits?
Written Comments previous Provided

I_Meade_07

If you are not providing oral comments, leave this card in a drop box at the Public Hearing or add postage and place the stapled, self-addressed mailer in any U.S. mailbox. Written comments will be accepted until 5 p.m. September 5, 2017.

LOS VAQUEROS RESERVOIR EXPANSION PROJECT DRAFT SUPPLEMENT TO THE FINAL ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT

PUBLIC HEARING

July 18, 2017

Taken by: Rajahnique Jones, CSR #13457

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predict that if you, as a mitigation, provide a path between the south and the north recreation areas, the bicyclists won't cause any problems there either.

This is an easy, reasonable request.

Thank you very much.

MR. MOORE: Thank you, sir.

Will the next speaker please come to the microphone. Please state your first and last name -- spell that -- and any affiliation.

Mr. John Meade.

MR. MEADE: Good evening. My name is John Meade, M-e-a-d-e. I've lived in Martinez, California a long time. Homeowner and rate payer for the Contra Costa Water District.

And I'm not strictly affiliated with any particular group. I network with a whole lot of people in my retired life hiking and doing other outside activities. We've discussed this potential reservoir and the impacts, and what we're seeing is some flaws in what's going forward.

And I've submitted written comments already, and they have been received. But I'm just going to paraphrase some of the topics that I feel are very vague and flawed.

Benefit cost analysis for Contra Costa Water

I_Meade_08

District is very vague. I don't think we're getting anything. What I see is, we're going to take our reservoir down, literally, out of service for two, three years of construction. A couple years to fill it, maybe more, and we're not going to have a backup supply which we've already built. That's the best case.

I'm real concerned about that. We've just experienced a drought. So what are these potential partners going to forfeit for us in the interim? Nothing. This is -- this is lopsided. How are we going to get reimbursed? Are we going to get a reduction in rates? Probably not.

They going to reimburse us somehow? The money will go to other capital projects here? You know, 400 million bucks. We're going to be paying for our reservoir while it's out of commission. Does that make sense? Not to me.

Growth-inducing factors. The potential partners have growth coming out of their borders, literally. You know, look at Dublin, Zone 7, Santa Clara Valley, you know, and you're saying that these -- this reservoir expansion is not going to expand growth? I think -- I think that's shaded over.

So, really, let me get this straight, we're going

I_Meade_08 cont.

I_Meade_09

I_Meade_10

I_Meade_11

I_Meade_12

to take the reservoir out of use for a while, our water quality is going to diminish, our storage capacity is not there, and what's the reliability if we have a drought? Nobody's addressed that. They weren't addressing that when we voted on it for the last two expansions.

I_Meade_12 cont.

I think that needs to be surfaced. I think we need to vote. I'm real strong about that. Now, CALFED mentions that they're studying these other projects, but I think they're just trying to shade over and slam through this quick expansion to take care of the money from Prop 1. I don't feel that we're given the full story. It's not even addressed or annotated in the -- this document, this draft.

I_Meade_13

MR. MOORE: Mr. Meade, so we thank you very much. We're trying to maintain consistency across the board. We greatly appreciate the comments that you're making, and we would like to receive those comments in full. I believe you already identified those as being received?

MR. MEADE: Yes.

MR. MOORE: If you will, in short, please close.

MR. MEADE: Okay. Well, thank you very much, and we look forward to the next step.

MR. MOORE: Thank you, sir.

Okay. So I thank you very much. I'll quickly go

-----Original Message-----
From: Contra Costa Water District [mailto:no-reply@wufoo.com]
Sent: Wednesday, July 12, 2017 1:21 PM
To: Jim Freschi <jfreschi@ccwater.com>
Subject: Contact CCWD E-Mail

Name: Joe Moran
Address: 75 Zander Drive Orinda, CA 94563 United States
Email: jamora54@hotmail.com
Comments: Hi
I am a bit confused about costs for the Los Vaqueros reservoir expansion from 160 TAF to 275 TAF. Can you explain the math by which you arrived at the range per acre foot for the 115,000 increase of water capacity of $500-$800 per acre foot?

I am not questioning accuracy; but I can't figure it out based on the published costs of the project. Briefly, can you tell me how the cost estimate per acre foot for the expansion project was calculated.

I_Moran_01

Can you help?
Thank you
Joe Moran, Orinda, CA. jamora54@hotmail.com; 925-254-1351. July 12, 2017

From: Joe Moran [mailto:jamora54@hotmail.com]
Sent: Sunday, September 3, 2017 7:34 PM
To: Jennifer Allen <jallen@ccwater.com>; Joe Moran <jamora54@hotmail.com>
Subject: Los Vaqueros addition - alternative

Jennifer September 3, 2017

This is a bit of a long shot; I am sure it will test your short-term memory. About 3 weeks ago, I had a several questions about proposed fees to consumers due to planned additions to Los Vaqueros Dam and reservoir. I was referred to you by the person who answered the CCWD phone, and you answered my inquiries.

I am not sure if you are the appropriate person to initially review my attached proposal about water-storage, but you are the only contact I know, even briefly, in the CCWD and your title seems appropriate, so I thought I would ask.

With a long-time interest in the Delta and water-storage, I have felt that alternatives to major dam-building have not been considered enough. The CCWD website has an email mechanism but it seems not designed for more than simple inquiries, e.g., no attachments and short inquiries. My proposal, which I think is well researched, would not fit in the space allowed.

I_Moran_02

I noticed on the site that you have a separate email address listed - and so, I have attached my water-storage proposal to this email. I hope you will at least scan it. I believe it has great merit and would like to have a brief exploratory conversation with someone at CCWD.

If you would be willing to spend an hour over coffee, perhaps somewhere near your office, I can explain the concept-proposal and rationale. I believe my proposal can save billions and insure

our East Bay water supply for (almost) forever. An outrageous claim, I certainly admit; but I think, doable.

Whether the organization has made a firm decision to expand Los Vaqueros, or not, my proposal is not dependent on that decision. It could be considered quite separately.

Please let me know whether any of this might be of interest.

Thanks again,

Joe Moran

75 Zander Drive, Orinda, CA 94563, 925-254-1351, jamora54@hotmail.com

Quick note: while now retired, I have a reasonably in-depth work-background directly applicable to many of the issues.

From: Joe Moran [mailto:jamora54@hotmail.com]
Sent: Tuesday, September 5, 2017 2:44 PM
To: Jennifer Allen <jallen@ccwater.com>
Subject: Re: Los Vaqueros addition - alternative

Dear Jennifer September 5, 2017
Thank you for your prompt response.

One additional comment about Los Vaqueros expansion to add to my previous email, if I may. I understand the reservoir would be drained since the work would involve access to the dam base. A quick calculation: if 160,000 acre-feet of water was drained, at your customer per-gallon charge of somewhere around $.005 and $.006, the value of such fresh-water inventory would be between $250-$300 Millions. (I hope my assumptions are reasonably accurate). As a comparison, when Jones tract(s) flooded in 2004, the authorities dumped, coincidentally, 160,000 acre-feet; that cost $100-$110 Million, excluding the value of the water lost (using the same per gallon rate).

Perhaps CCWD might consider, or at least be willing to discuss, the possibility of pumping that inventory to Jones, as a reservoir, assuming a deal could be struck with the owner. It is just 10 miles away and it would be a shame to waste the water. This, of course,would be quite separate from any dam expansion decision. My off the cuff calculations would indicate the farm-owner would be much better off being a water-entrepreneur than a farmer whose farm sinks each year. It will eventually breach again. I_Moran_03

Just a clarifying comment: I was not trying to shortcut your review process in asking to meet over coffee to explain my proposal rationale. My apologies if it sounded that way. I find having face-to-face dialogue makes it easier to answer questions and explore options.

Once again, thank you for your quick response. I hope to get a chance to discuss the ramifications of my proposal with CCWD.

Regards,

Joe Moran, Orinda, 925-254-1351

BRENTWOOD 7/25/17 (2)

LOS VAQUEROS RESERVOIR EXPANSION PROJECT COMMENT CARD

Thank you for your interest in the Draft Supplement to the Final Environmental Impact Statement/ Environmental Impact Report for the proposed Los Vaqueros Reservoir Expansion Project - Phase 2. Persons wishing to submit oral or written comments are encouraged to do so.

Name BRUCE OHLSON Phone Number 925-439-5848 Email BRUCEOLEOHLSON@HOTMAIL.COM

Organization Representated DELTA PEDALERS BICYCLE CLUB

Address 3829 LOS ALTOS PLACE

City PITTSBURG State CA ZIP 94565

☒ I would like to provide oral comments (Each speaker is allowed up to three minutes.)

Public Comment

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LOS VAQUEROS RESERVOIR EXPANSION PROJECT DRAFT SUPPLEMENT TO THE FINAL ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT

PUBLIC HEARING

July 25, 2017

Taken by: Rajahnique Jones, CSR #13457

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very dangerous for them coming in there, and there are some existing trails that we could use that would improve that access.

And we're curious if there's any other future plans for more expansion beyond this and if there's going to be any public access for us during the construction. We're immediate neighbors. We weren't allowed access the last time, and we -- we've seen the traffic. We know that there is -- there is some room there for public access. So we would just like to ask that.

And that's all I have.

MR. MOORE: Thank you, Ms. Thuman.

If you have additional comments, please, you can provide those.

MS. THURMAN: Okay.

MR. MOORE: Greatly appreciate that.

Our next speaker is Mr. Bruce Ohlson.

If you'll come to the microphone. Please state your first and last name and spell that, please.

MR. OHLSON: Yes. Good evening, Mr. Moore. Is this volume okay?

MR. MOORE: Yes, sir.

MR. OHLSON: Thanks.

MR. MOORE: Is the audience able to hear?

Thank you, sir.

MR. OHLSON: Thank you. My name is Bruce Ohlson. B-r-u-c-e O-h-l-s-o-n.

I'm here speaking for the Delta Pedalers Bicycle Club. We're based in Antioch, but we have bicyclists from all over East Contra Costa County. That's from Pittsburg to Antioch to Oakley to Brentwood and on out to Discovery Bay.

We have no problem with the expansion. We say go for it. We would like to be able to bicycle between the marina and the visitor center at the dam. We think that it would be a good idea, also, to be able to bicycle between the visitor's center that's at the north end at the dam and Round Valley Regional Park.

It would also be reasonable to allow horses on this route to Round Valley because once the bicyclist or the horse gets to Round Valley, we could access trails that go all the way to Diablo. Currently, the only way to bicycle between these two points, that is the marina and the visitor center, is via Vasco Road. For families and beginning bicyclists, this is not a reasonable alternative.

One of the potential funders, Proposition 1, lists recreation as one of its four public benefit categories. I would like to point out that bicycling

I_Ohlson_01

and horseback riding is considered to be a recreational activity, although some people use both to run errands and to commute and to get around town.

We understand that the CCWD allows bicycling only on paved roads. We have no problem if you want to pave the path between the marina and the dam.

Previous to the construction of the dam in 1998, we had a paved road through the valley that is now flooded by the reservoir. It would be a reasonable mitigation, although a bit late, to construct a bike path on the edge of the reservoir parallel to this former paved route that we could ride between the visitor center and the marina.

Thank you very much, and good luck with your project.

MR. MOORE: Thank you, Mr. Ohlson.

Anyone else wanting to speak at this time?

We have reached the last speaker. This is a formal hearing. At this time we'll go into recess, giving you more time to engage the technical staff at the various stations. If additional speakers are interested in coming up, please make sure you have a comment card filled out. Present that, and we will then come back together and receive your comments. And if not, we will go into recess at about 20 minutes

I_Ohlson_01 cont.

From: David Stoeffler [mailto:dstoeffler@sbcglobal.net]
Sent: Monday, July 31, 2017 9:02 PM
To: Marguerite Patil <mpatil@ccwater.com>
Subject: Reservoir

I ment to attend the meeting in Brentwood on July 25th regarding the construction of a new dam and the enlargement of the Los Vaqueros Reservoir, but was unable to attend at the last minute. I would lake to pass on the information that I intended to discuss.

When the original dam was built many recreational facilities were promised that never happened, and the ability of cyclist to ride through the beautiful valley disappeared under water. I would like to suggest that a paved trail from north to south be constructed to allow hikers, and even disabled people to make there way along the shore of the reservoir. As a cyclist I can guarantee that it would be well used by cyclist for recreation, fitness and even transportation. I also see no reason why Mt biking couldn't be permitted on most dirt trails. I also believe that these facilities would best be operated by the East Bay Regional Park District, who has experience supervising many trails. I_Stoeffler_01

Sincerely,
Dave Stoeffler
Delta Pedalers Bicycle Club

p1

LOS VAQUEROS RESERVOIR EXPANSION PROJECT COMMENT CARD

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Name Karen Summers Phone Number 925 363-0097 Email summerslo@comcast.net
Organization Represented
Address 2208 Lake Oaks Court
City Martinez State CA ZIP 94553

☐ I would like to provide oral comments (Each speaker is allowed up to three minutes.)

Public Comment Benefits to CCWD customers are small given disruption of water supply during reservoir dewatering and reconstruction. Could water supply for CCWD be increased from planned 2 TAF/yr of drought emergency supply? The reduction in chloride levels for CCWD (3 mg/l Cl for alternatives 1A or 1B or 2 mg/l chloride for alternatives 2A or 4A) is also small. Can there be a greater reduction in salinity levels? High sodium is a concern for people with heart disease. What would decreases in sodium be for the alternatives? If SCVWD drops out if they decide to apply for funds for Pacheco Reservoir expansion under CA Proposition 1, is project financially viable?

I_Summers_01

I_Summers_02

I_Summers_03

If you are not providing oral comments, leave this card in a drop box at the Public Hearing or add postage and place the stapled, self-addressed mailer in any U.S. mailbox. Written comments will be accepted until 5 p.m. September 5, 2017.

continued comments

p2

LOS VAQUEROS RESERVOIR EXPANSION PROJECT COMMENT CARD

Thank you for your interest in the Draft Supplement to the Final Environmental Impact Statement/ Environmental Impact Report for the proposed Los Vaqueros Reservoir Expansion Project - Phase 2. Persons wishing to submit oral or written comments are encouraged to do so.

Name Karen Summers Phone Number Email
Organization Represented
Address
City State ZIP

☐ I would like to provide oral comments (Each speaker is allowed up to three minutes.)

Public Comment What is estimated cost to CCWD customers for the alternatives with and without SCVWD?
What is expected water quality for CCWD customers while the reconstruction occurred for the expanded reservoir alternatives?
Does CCWD have first priority among water agency partners for water from Los Vaqueros Reservoir, if it was expanded to 275,000 acre-feet in capacity?

I_Summers_04

I_Summers_05

If you are not providing oral comments, leave this card in a drop box at the Public Hearing or add postage and place the stapled, self-addressed mailer in any U.S. mailbox. Written comments will be accepted until 5 p.m. September 5, 2017.

-----Original Message-----
From: Contra Costa Water District [mailto:no-reply@wufoo.com]
Sent: Tuesday, July 25, 2017 12:25 PM
To: Jim Freschi <jfreschi@ccwater.com>
Subject: Contact CCWD E-Mail

Name: Thomas Thomason
Address: 825 Hutchinson Rd. Walnut Creek, CA 94598
Email: tomthomason825@gmail.com
Comments: Instead of wasting money on projects that will never be self sustaining (e.g., bullet trains) and donating what water we have to SoCal and destroying what local resources remain (megatunnels), Brown and our legislators should have been focused on increasing storage facilities and researching new supplies(desalination) ever since the major shortages we experienced back in the 1970s. Of course this project should go forward.

I_Thomason_01

BRENTWOOD 7/25/17

(1)

LOS VAQUEROS RESERVOIR EXPANSION PROJECT COMMENT CARD

Thank you for your interest in the Draft Supplement to the Final Environmental Impact Statement/ Environmental Impact Report for the proposed Los Vaqueros Reservoir Expansion Project - Phase 2. Persons wishing to submit oral or written comments are encouraged to do so.

Name LINDA THUMAN Phone Number 918 0975 Email

Organization Representated

Address

City State ZIP

☐ **I would like to provide oral comments** (Each speaker is allowed up to three minutes.)

Public Comment

PUBLIC ACCESS, TRAILS, FUTURE EXPANSIONS!

If you are not providing oral comments, leave this card in a drop box at the Public Hearing or add postage and place the stapled, self-addressed mailer in any U.S. mailbox. Written comments will be accepted until 5 p.m. September 5, 2017.

LOS VAQUEROS RESERVOIR EXPANSION PROJECT DRAFT SUPPLEMENT TO THE FINAL ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT

PUBLIC HEARING

July 25, 2017

Taken by: Rajahnique Jones, CSR #13457

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Are there elected officials with us tonight that are wanting to provide comment? Part of our process requires we address any elected officials that might be interested in making comments. Additional speakers will come in order as their card has been provided.

The final supplement to the final EIS/EIR will be prepared, which is included -- which includes all comments received and the responses to them. The final supplement and final feasibility report will be reviewed by the Office of Management and Budget before circulating for a 30-day public review period.

After which, the Secretary of Interior will issue a record of decision for two reasons. One, to determine the consistency with the National Environmental Policy Act, and, two, as a recommendation to congress to approve the preferred alternative or no-action.

So the hearing will proceed in this manner: Since there are no elected officials that want to speak tonight, we will address the first speaker. That will be Linda Thuman.

MS. THUMAN: Thuman.

MR. MOORE: Thuman. Thank you very much, Ms. Thuman. Please --

MS. THUMAN: I'm probably going to take this out;

right?

MR. MOORE: Yes. Please say and spell your first and last name.

MS. THUMAN: Okay. Linda Thuman. T, like "Tom," h-u-m-a-n.

First of all, I would just like to say that we are close neighbors of Los Vaqueros Reservoir. They're wonderful neighbors. We get along great. We have a wonderful relationship with them, and we enjoy having them there. But we do have a couple of concerns -- comments, actually.

Originally, this reservoir was voted for on -- and pushed -- got a lot of push through the promises of recreation, and we do have some concerns that -- we understand the need for water, but we would also like to see if there's going to be plans to include the recreational use of this. I_Thuman_01

And I did also see that all of the agencies listed that are impacted by this, and I'm wondering if any of them -- I saw we're going down south a little bit, and I'm sure there isn't, but I'm just going to throw it out there, there's no connection to any of the twin tunnel issues involved in this or is there? That's a question that we have. I_Thuman_02

And also, on somewhat current news -- I'm sure I_Thuman_03

it's been addressed, but we're just going to ask -- being directly downstream, the improvements or situations regarding the spillway. We need to know if we have to get our surfboards ready, and I'm sure we don't.

But at any rate, we would like to -- I also have a concern -- we understand the reservoir is going to be completely drained, and we were talking about significant impacts. And is there -- there's a lot of wildlife that depends on that -- all of that water, and if the reservoir is empty, you know, we might be the closest people with water. So we're curious of the -- if there's any -- that's a pretty significant impact. What's going to happen with the wildlife?

We would also like to -- we know East Bay Regional is involved with this project, and we are hoping to, perhaps, work with them and increase the recreational use of this property. We have some of the original documents when this reservoir was originally proposed, and it did include more recreational use. Part of which was an equestrian facility at the north end of the reservoir, which we have yet to see anything happen with that. We would also like to -- we get a lot of bicycle traffic there. We would like to improve the safety for the bicyclists coming and using that. It's

I_Thuman_03 cont.

I_Thuman_04

I_Thuman_05

very dangerous for them coming in there, and there are some existing trails that we could use that would improve that access.

And we're curious if there's any other future plans for more expansion beyond this and if there's going to be any public access for us during the construction. We're immediate neighbors. We weren't allowed access the last time, and we -- we've seen the traffic. We know that there is -- there is some room there for public access. So we would just like to ask that.

And that's all I have.

MR. MOORE: Thank you, Ms. Thuman.

If you have additional comments, please, you can provide those.

MS. THURMAN: Okay.

MR. MOORE: Greatly appreciate that.

Our next speaker is Mr. Bruce Ohlson.

If you'll come to the microphone. Please state your first and last name and spell that, please.

MR. OHLSON: Yes. Good evening, Mr. Moore. Is this volume okay?

MR. MOORE: Yes, sir.

MR. OHLSON: Thanks.

MR. MOORE: Is the audience able to hear?

I_Thuman_05 cont.

I_Thuman_06

DELTA STEWARDSHIP COUNCIL
A California State Agency

980 NINTH STREET, SUITE 1500
SACRAMENTO, CALIFORNIA 95814
HTTP://DELTACOUNCIL.CA.GOV
(916) 445-5511

January 19, 2018

Marguerite Patil, Project Manager
Contra Costa Water District
P.O. Box H2O
Concord, CA 94524

Via email: mpatil@ccwater.com

RE: Comments on Draft Supplement to the Final Environmental Impact Statement/Environmental Impact Report for the Second Expansion of Los Vaqueros Reservoir, SCH#2006012037

Dear Mrs. Patil:

Thank you for the opportunity to review and comment on the Draft Supplement to the Final Environmental Impact Statement/Environmental Impact Report (Draft Supplement Final EIS/EIR) for the Second Expansion of Los Vaqueros Reservoir (Project). Contra Costa Water Districts (District) proposed Project to expand the capacity of Los Vaqueros Reservoir for environmental and water supply needs may assist in the achievement of the State mandated coequal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem.

Prior to Delta Plan approval in 2013, the District initiated discussions with the Delta Stewardship Council (Council) on the expansion of Los Vaqueros. We look forward to continuing to work with you through the Delta Plan consistency certification process. The following comments are intended to provide you with useful information for you to consider in filing a consistency certification.

Comments on the Draft Supplement to the Final EIS/EIR

The Council commends the District in acknowledging that the proposed Project is a covered action as stated in the Draft Supplement Final EIS/EIR. Based on the project description in the Draft Supplement Final EIS/EIR, Council staff believe your Project meets the definition of a covered action. (See Water Code section 85057.5.) In Section 1.3.1, *Delta Stewardship*

"Coequal goals" means the two goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The coequal goals shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place."

– CA Water Code §85054

Council Delta Plan, the Council and its authority over covered actions is recognized and acknowledges that the Project will need to be consistent with the Delta Plan.

We also recommend that the Draft Supplement Final EIS/EIR include the Delta Plan policies listed below under "Delta Plan Covered Actions and Consistency Certification" that could potentially be part of the "Regulatory Setting" sections for:

- 4.2 Delta Hydrology and Water Quality
- 4.6 Biological Resources
- 4.7 Land Use
- 4.8 Agricultural Resources

S_DSC_01

In Chapter 3, *Project Benefits*, of the Draft Supplement Final EIS/EIR the various benefits of the Project are discussed and summarized for each of the four alternatives.

Section 3.2 *Ecosystem Improvement (CWC Public Benefit)*, discusses the ecosystem improvement benefits for the four alternatives via deliveries of Incremental Level 4 supplies under the federal Refuge Water Supply Program (managed by the Bureau of Reclamation and U.S. Fish and Wildlife Service). Under the Refuge Water Supply Program, Incremental Level 4 supplies are the difference between Level 2 and Level 4 water supplies listed in the Dependable Water Supply Needs Table. The Project proposes to provide water supply for the Incremental Level 4 supplies dedicated for ecosystem benefits for the State and federal wildlife Refuges. The Project proposes to provide the supplies, but it would be helpful for the Draft Supplement Final EIS/EIR to clarify the type contractual obligation (e.g. exchange or transfer) that would be used to obligate the water supply for the Refuges. The document should provide further discussion and clarification on what entities would be involved and by what methods that this benefit would be reliably secured.

S_DSC_02

Section 3.3 *Delivered Water Quality Improvements*, discusses the Project's benefit of providing Local Agency Partners with water supplies to blend with their local supplies to meet salinity or water quality requirements for consumption or discharge of treated wastewater effluent. It would be helpful to clarify how the water quality improvements may benefit the ecosystem, or how the potential for additional discharge of treated wastewater effluent in a timely manner could improve water quality for the City of Brentwood.

S_DSC_03

Section 3.4 *State-wide and Regional Water System Integration*, discusses the integration of Project operations with the operation of regional water supply projects to increase flexibility of state-wide water operations. The Project proposes an ".additional way to store available Central Valley Project and State Water Project allocations for the project Local Agency Partners during wetter times for use at a later time". It would be helpful to clarify if the "later time" is during dry periods in a given year or in dry years when Delta exports are limited. Clarify that "the additional way to store available Central Valley Project and State Water Project allocations" would not be to use such supplies,

S_DSC_04

but save them for dry periods to limit diversions from the Delta, thus reducing the reliance on Delta water supply exports. S_DSC_04 cont.

Delta Plan Covered Actions and Consistency Certification

The Delta Plan includes regulatory policies that are applicable to all covered actions. Below, we have highlighted key regulatory policies from the Delta Plan that may be specifically relevant to the Project's certification of consistency with the Delta Plan. To better assist in your Certification of Consistency, we encourage you to review our recommendations and revisit the following Delta Plan policies before filing:

Detailed Findings to Establish Consistency with the Delta Plan: Delta Plan Policy **G P1** (23 Cal. Code Regs. section 5002) requires that ecosystem restoration and water management covered actions include adequate provisions for continued implementation of adaptive management, appropriate to the scope of the action. This requirement is satisfied through A) the development of an adaptive management plan that is consistent with the framework described in Appendix 1B of the Delta Plan (http://deltacouncil.ca.gov/sites/default/files/2015/09/Appendix%201B.pdf) and B) documentation of adequate resources to implement the proposed adaptive management plan. Funding of any monitoring, on-going mitigation, and the facilitation of the adaptive management plan needs to be identified and secure. S_DSC_05

Mitigations Measures: Delta Plan Policy **G P1** requires that actions, not exempt from California Environmental Quality Act and subject to Delta Plan regulations, must include applicable feasible mitigation measures consistent with those identified in the Delta Plan Program EIR or substitute mitigation measures that are equally or more effective. Mitigation Measures in the Delta Plan's Mitigation and Monitoring Report Program are available at: (http://deltacouncil.ca.gov/sites/default/files/documents/files/Agenda%20Item%206a_attach%202.pdf) S_DSC_06

Best Available Science and Adaptive Management: Delta Plan Policy **G P1** also states that actions subject to Delta Plan regulations must document use of best available science as relevant to the purpose and nature of the Project. The regulatory definition of "best available science" is provided in Appendix 1A of the Delta Plan (http://deltacouncil.ca.gov/sites/default/files/2015/09/Appendix%201A.pdf). We recommend that the Project have an adaptive management strategy and plan consistent with the framework in Appendix 1B of the Delta Plan. S_DSC_07

The Delta Science Program's Adaptive Management liaisons are available to provide further consultation and guidance to help the District with the appropriate application of best available science and adaptive management. Please contact Darcy Austin (Darcy.Austin@deltacouncil.ca.gov) of the Delta Science Program to schedule an appointment.

Reduce Reliance on the Delta through Improved Regional Water Self-Reliance: Delta Plan Policy **WR P1** (23 Cal. Code Regs. section 5003) requires proposed actions that export water from, transfer water through, or use water in the Delta shall contribute to reduced reliance on the Delta and improve regional self-reliance. The Project proposes to use Delta water as its source to store water for the various private and public uses. To be consistent with the Delta Plan, Project proponents should describe how operations and timing of their diversions of Delta water would provide improved regional water supply self-reliance particularly when the flow in the Delta is critical low. S_DSC_08

Delta Flow Objective: Delta Plan Policy **ER P1** (23 Cal. Code Regs. section 5005) requires that the State Water Resources Control Board's Bay-Delta Water Quality Control Plan (Water Board's Bay-Delta WQCP) flow objectives be used to determine consistency with the Delta Plan. Water Code sections 85057.5(a)(3) and 5001(j)(1)(E) cover a proposed action that could significantly affect flow in the Delta. The Draft Supplement Final EIS/EIR states two primary objectives of the Phase 2 expansion, which include increased water supplies for both environmental water management and Bay Area water providers, and a secondary objective to improve water deliveries to municipal and industrial customers in the Bay Area to meet water quality needs. Project alternatives' results in water deliveries should align with the Water Board's Bay-Delta WQCP. S_DSC_09

Restore Opportunities to Restore Habitat: Delta Plan Policy **ER P3** (23 Cal. Code Regs. section 5007) requires that, within the priority habitat restoration areas (PHRAs) depicted in Appendix 5 of the Delta Plan (http://deltacouncil.ca.gov/sites/default/files/2015/09/Appendix%205.pdf), significant adverse impacts to the opportunity to restore habitat must be avoided or mitigated. According to impact 4.6.7, "project construction would have temporary and permanent impacts on potential San Joaquin kit fox habitat and permanently reduce potential regional movement opportunities." These types of impacts in the PHRAs will need to be avoided or mitigated at equal or greater value to the mitigation measures outlined in the Delta Plan Mitigation and Monitoring Reporting Program (http://deltacouncil.ca.gov/sites/default/files/documents/files/Agenda%20Item%206a_attach%202.pdf). S_DSC_10

Avoid Introductions of and Habitat Improvements for Invasive Nonnative Species: Delta Plan Policy **ER P5** (23 Cal. Code Regs. section 5009) calls for avoiding introduction and habitat improvements for invasive, nonnative species or mitigating these potential impacts in a manner that appropriately protects the ecosystem. Analysis on this matter should address both nonnative wildlife species as well as terrestrial and aquatic weeds. To the maximum extent practicable, covered actions should avoid or mitigate for conditions that would lead to establishment of nonnative invasive species. In the event that mitigation is warranted, mitigation and minimization measures should be consistent with the Delta Plan Mitigation Measures and Monitoring Reporting Program 4-1, previously mentioned. S_DSC_11

Locate New Urban Development Wisely: Delta Plan Policy **DP P1** (23 Cal. Code Regs. section 5010) calls for locating new residential, commercial, and industrial development within areas designated for development in the Delta Plan, based on city and county general plans approved before adoption of the Delta Plan on May 17, 2013. Development is also permitted outside areas designated for development if it is consistent with the land uses designated in county general plans approved before adoption of the Delta Plan. The Draft Supplement Final EIS/EIR project alternatives states that activities will not occur in the Delta Primary Zone, but will occur in the Delta Secondary Zone. In addition, impact 4.8.2 shows the significant and unavoidable impact of permanent conversion of farmland of prime, unique, and statewide importance. Expansion components discussed in the Agricultural Resources section suggest that there are direct disturbance to agricultural lands and/or indirect disruption to agriculture lands and activities. For example, it appears that the Delta-Transfer Pipeline could affect agricultural lands for 6 to 12 months depending on the nature of the construction and timing of site restoration. S_DSC_12

Respect Local Land Use When Siting Water or Flood facilities or Restoring Habitats: Delta Plan Policy **DP P2** (23 Cal. Code Regs. section 5011) requires water management facilities, ecosystem restoration, and flood management infrastructure (must) be sited to avoid or reduce conflicts with existing uses or those uses described or depicted in city and county general plans for their jurisdictions or spheres of influence when feasible, considering comments from local agencies and the Delta Protection Commission. The Draft Supplement to the Final EIS/EIR reflects proposed facility improvements in the Delta, which should address this policy. S_DSC_13

Closing Comments

Council staff look forward to continued coordination through our early consultation process and discussions regarding the Project's applicable Delta Plan policies. I encourage you to contact Anthony Navasero (Anthony.Navasero@deltacouncil.ca.gov) of my staff with your questions, comments, or concerns.

Sincerely,

Cassandra Enos-Nobriga
Deputy Executive Officer
Delta Stewardship Council

BUREAU OF RECLAMATION

Appendix D – East Bay Municipal Utilities District Supporting Information

Los Vaqueros Reservoir Expansion Project
Final Supplement to the Final Environmental Impact Statement
Final Environmental Impact Report

U.S. Department of the Interior

February 2020

APPENDIX D

East Bay Municipal Utilities District Supporting Information

D-1 Description of Mokelumne River Partnership

D-2 Permit 10478 New Regulatory Term

D-3 Excerpt from Permit 10478 Time Extension Project Draft EIR Appendix E, Modeling Technical Appendix (Section 3.4, Camanche Reservoir Release Temperature Regression Model)

D-4 Tables for Response to Comment S_CDFW_15

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APPENDIX D-1
Description of Mokelumne River Partnership

EBMUD has been working with partners on a comprehensive fisheries management program on the Lower Mokelumne River since 1990. The program assumed its present form in 1998 with the development of the Lower Mokelumne River Partnership between EBMUD, CDFW, and the U.S. Fish and Wildlife Service (USFWS). This Partnership was codified in the Joint Settlement Agreement (JSA), a multi-pronged settlement between EBMUD and the resource agencies designed to enhance protection of Lower Mokelumne River fishery resources.

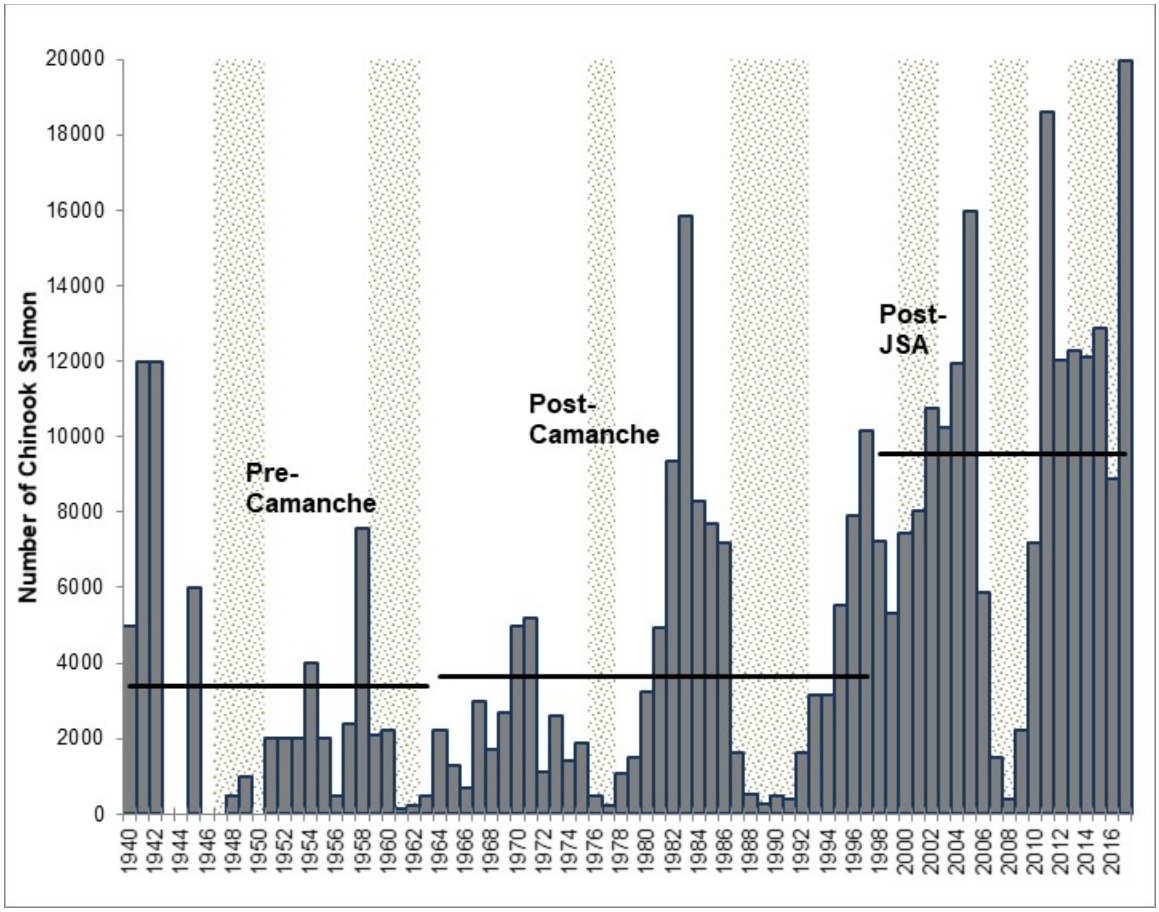
The JSA set a number of requirements, including both flow and non-flow measures, to improve the Lower Mokelumne River ecosystem. It establishes a complex schedule of flow releases from Camanche Dam to meet specified flows below Woodbridge Dam based on the time of year and water year types, tailored to the life stages of the anadromous fishery. In addition, to maximize EBMUD's ability to release cold water into the lower Mokelumne River, the JSA specifies hypolimnion management goals for Camanche Reservoir. The JSA also has a gainsharing provision that requires EBMUD to augment instream flows when it develops new water supplies.

The JSA requires riparian corridor habitat enhancement work which EBMUD has completed and continues to expand upon. EBMUD also conducts a detailed study and monitoring program of the anadromous fisheries and the riparian ecosystem. Monitoring activities include upstream migration counts, redd counts (salmon and steelhead nests), outmigration counts, and fish community surveys.

The JSA also established the Lower Mokelumne River Partnership to support the protection of anadromous fish and the ecosystem of the lower Mokelumne River, encourage stakeholder participation, and integrate Mokelumne River strategies with other programs. The steering committee for the partnership is composed of one representative each from EBMUD, CDFW, and USFWS. To facilitate operation of the JSA Partnership Steering Committee, a coordinating committee was formed. The JSA Coordinating Committee includes biologists and related staff of CDFW, EBMUD, USFWS, and NMFS. The Coordinating Committee meets in April and October of each year, and its work includes assessing the upcoming water year type and flow conditions; developing habitat projects and making recommendations to the JSA Partnership Steering Committee for expenditure of the Partnership Fund; and developing proposed adaptive management flow modifications to benefit the fishery.

As a result of the JSA and the efforts of the Lower Mokelumne River Partnership, habitat conditions have improved significantly, leading to increased salmonid populations. The annual

average adult Chinook salmon escapement to the lower Mokelumne River has more than doubled since the implementation of JSA measures, from a pre-JSA average of 3,636 fish to a post-JSA average of approximately 9,000 fish as of 2016 (**Figure 1**). The Mokelumne River is one of the very few that is close to obtaining its CVPIA doubling goal set by the USFWS AFRP. The doubling goal is standard criteria measured for all central valley rivers. For the Mokelumne the doubling goal target is 9,300 and as of 2015 the Mokelumne is at 8,976. The fishery experienced a string of record returns between 2011 and 2017. The 2017 fall run Chinook salmon return was the highest ever recorded since 1940, with an estimated 19,954 fish. The continued string of above average returns is indicative of the fishery's positive response to the adaptive management actions implemented by EBMUD and the Lower Mokelumne River Partnership.



Horizontal lines indicate pre-Camanche, post-Camanche, and post-JSA periods, respectively.

1. "Pre-Camanche" escapement (3,374) is the average estimate at Woodbridge Dam for the period from 1940 through 1963 (excluding years when no data were recorded: 1943, 1944, 1946, 1947, and 1950).
2. "Post-Camanche" escapement (3,636) is the average estimate at Woodbridge Dam for the period 1964 through 1997.
3. "Post-JSA" escapement (9,542) is the average estimate at Woodbridge Dam since implementation of the JSA in 1998.
4 Dithered shaded areas are periods of drought in California. Historical drought data are based on California Department of Water Resources, *California's most Significant Droughts: Comparing Historical and Recent Conditions*, February 2015.

Figure 1
Average annual escapement at Woodbridge Dam prior to construction of Camanche Dam, after construction of Camanche Dam but pre-JSA, and post-JSA.

APPENDIX D-2
Permit 10478 New Regulatory Term

The Draft Supplement referenced a new regulatory requirement that was included in EBMUD's Permit 10478 Mokelumne River water right. Following is additional information on this new term and how it has been incorporated into the revised analysis.

In 2013, EBMUD published the Permit 10478 Time Extension Project EIR, which analyzed potential environmental impacts of allowing EBMUD additional time to put water available under the Permit to beneficial use. That EIR identified a potentially significant impact on migration habitat for adult fall-run Chinook salmon and steelhead that could result from granting the extension of time. To mitigate that impact, the EIR identified a two-pronged mitigation measure requiring EBMUD to take certain actions, depending upon water year type:

1. EBMUD will release from Camanche Dam up to a total of 2,000 acre-feet of additional water above required releases during the September through February period in Below Normal and Dry water years to facilitate adult salmonid fish passage below Woodbridge Dam.

2. During Critically Dry water years, EBMUD will survey the reach below Woodbridge Dam prior to spawning season to identify any significant blockages or obstructions to instream passage. Adequate water depths of sufficient width are necessary to promote passage of adult salmonids at critical passage sites. At least 25% of the entire width of a potential passage impediment will be reconfigured to provide at least 0.9 foot in water depth. If a blockage is identified EBMUD will work with the appropriate entity to remove or reduce the impediment, to ensure that there is a depth of at least 0.9 foot to facilitate adult salmonid fish passage.

The SWRCB approved EBMUD's time extension request in 2016 and issued an amended permit which included new permit terms incorporating the mitigations measure from the EIR. As a result, EBMUD is now required to comply with this permit term to aid adult salmonid fish passage below Woodbridge Dam in Below Normal, Dry, and Critically Dry Years.

Since completion of the Draft Supplement for the Los Vaqueros Expansion Project, EBMUD has modified the Riverware model it uses for hydrologic analyses to incorporate relevant new permit terms, including the first prong of the new permit term described above. To respond to comments and complete the Final Supplement, EBMUD has rerun its modeling for the No Project/No Action Alternation and the Phase 2 Expansion, including the first mitigation measure described above.

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APPENDIX D-3
Excerpt from Permit 10478 Time Extension Project Draft EIR Appendix E, Modeling Technical Appendix

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Table 3.3-22. Calibrated Monthly Regression Parameters for Equation 5, Station Frandy

Regression Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
β_0	-0.009	0.816	-5.51	-5.94	-2.93	-6.79	-3.06	-5.27	-14.1	-22.8	10.9	1.90
β_1	1.13	0.994	1.59	1.61	1.32	1.52	1.30	1.42	1.87	2.64	0.375	1.02

3.4 Camanche Reservoir Release Temperature Regression Model

An important component of the environmental impacts assessment is the evaluation of potential project impacts on water temperature. Central to this evaluation is modeling the relationship of reservoir release temperature to changes in reservoir storage. This section presents the background information and regression model used to analyze how changes in Camanche Reservoir storage, as a result of the Project, could affect temperatures downstream of Camanche Dam. This section begins with an overview of the annual temperature cycle for Camanche Reservoir thus establishing the intra-annual temperature management period for the lower Mokelumne River. Then the concept of a critical Camanche Reservoir storage threshold is introduced. The regression model relating reservoir release temperature with end-of-month Camanche Reservoir WSE is presented next. The final section presents the methodology for the use of the regression model in the impacts assessment.

3.4.1 Identifying the Intra-annual Temperature Management Period

The next section, Section 3.4.2, introduces the concept of a critical reservoir storage threshold affecting reservoir release temperature for Camanche Reservoir. However, the concept is only relevant during periods where the reservoir is stratified. This section lays out the background information necessary to establish the intra-annual temperature cycle for Camanche Reservoir.

Camanche Reservoir is located in the foothills immediately below the Sierra Nevada mountain range in California. Like many such reservoirs, Camanche Reservoir exhibits a typical pattern of stratification for most of the year as a natural response to predictable meteorological forcing following seasonal patterns driven by the solar cycle (Deas and Lowney, 2000). In winter months, the difference in surface and bottom water temperatures in Camanche Reservior is typically less than ½°C and the reservoir is characterized as weakly stratified or de-stratified. Spring brings warmer temperatures and longer days, warming the surface waters of the Reservoir. The reservoir begins to stratify forming three distinct layers; the warm surface layer called the epilimnion, a transitional layer refered to as the metalimnion where temperature rapidly decreases with depth, and lastly the deepest, coldest layer called the hypolimnion. Peak surface water temperatures occur in summer before cooling is initiated in fall as stratification begins to weaken before the cyle restarts again in winter.

An illustration of the Camanche Reservoir annual temperature cycle is provided in Figure 3.4-1 based on data collected in 2002. The upper left corner shows an aerial view of Camanche Reservoir with a red dot indicating Station CAMD located immediately behind Camanche Dam where profiles

are collected. The contour plot on the right side represents the evolution of reservoir temperatures with depth for calendar year 2002 based on temperature profiles collected at Station CAMD. The isotherms are nearly vertical in winter months at the beginning and end of the calendar year representing an unstratified state. From March into May, reservoir stratification develops as three distinct layers become established. June through September marks a period of well-defined stratification as epilimnion temperatures are highest at this time of the year. The vertical profile in the lower left illustrates a single temperature profile collected August 14, 2002 at CAMD where a thick black line and caption is used to show the position of this profile on the contour plot to the right. The dashed lines on the figure delineate the approximate boundaries of the three stratified layers; epilimnion, metalimnion and, hypolimnion.

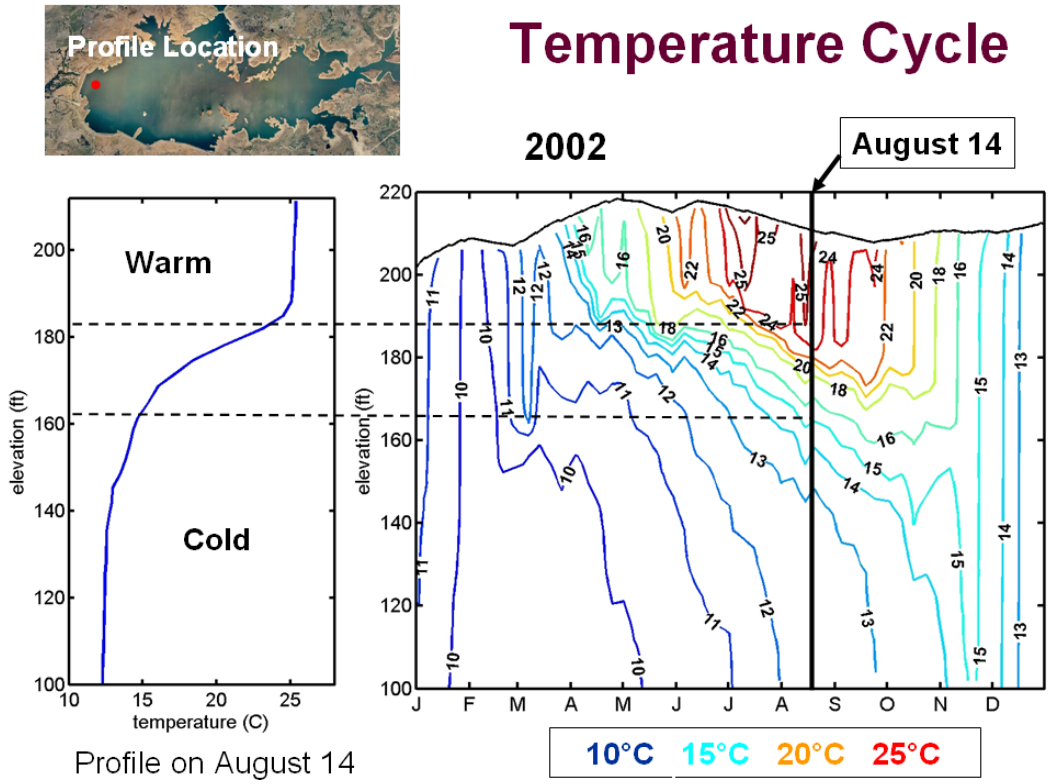

Figure 3.4-1. Camanche Reservoir Temperature Cycle Illustrated with Data Collected in 2002

Figure 3.4-2 shows the difference in surface and bottom water temperature, termed "stratification temperature" recorded immediately behind Camanche Dam at Station CAMD. The data plotted in Figure 3.4-2 is derived from vertical temperature profile data collected from 1988 through 2011. These data show that the difference in surface and bottom water temperature is typically 3°C or less from November through February. Reservoir stratification, therefore, typically begins in March and persists through October.

Monitoring data for Camanche Reservoir shows that the patterns of vertical stratification are generally consistent each year in terms of the relative depth of the stratified layers and both relative and absolute temperature range from top to bottom of the reservoir (Figure 3.4-2)[18]. Significant

[18] Relative depth means relative to the water surface; since the water surface is constantly changing in elevation, depth is relative to a axis of 0 depth that constantly changes in reference to a fixed datum used to determine

variations in stratification (*i.e.* temperature and extent) of both the epilimnion and metalimnion, however, can occur in the short-term – on the order of days or weeks – and are explained by short-term meteorological variation that govern the reservoir energy balance.

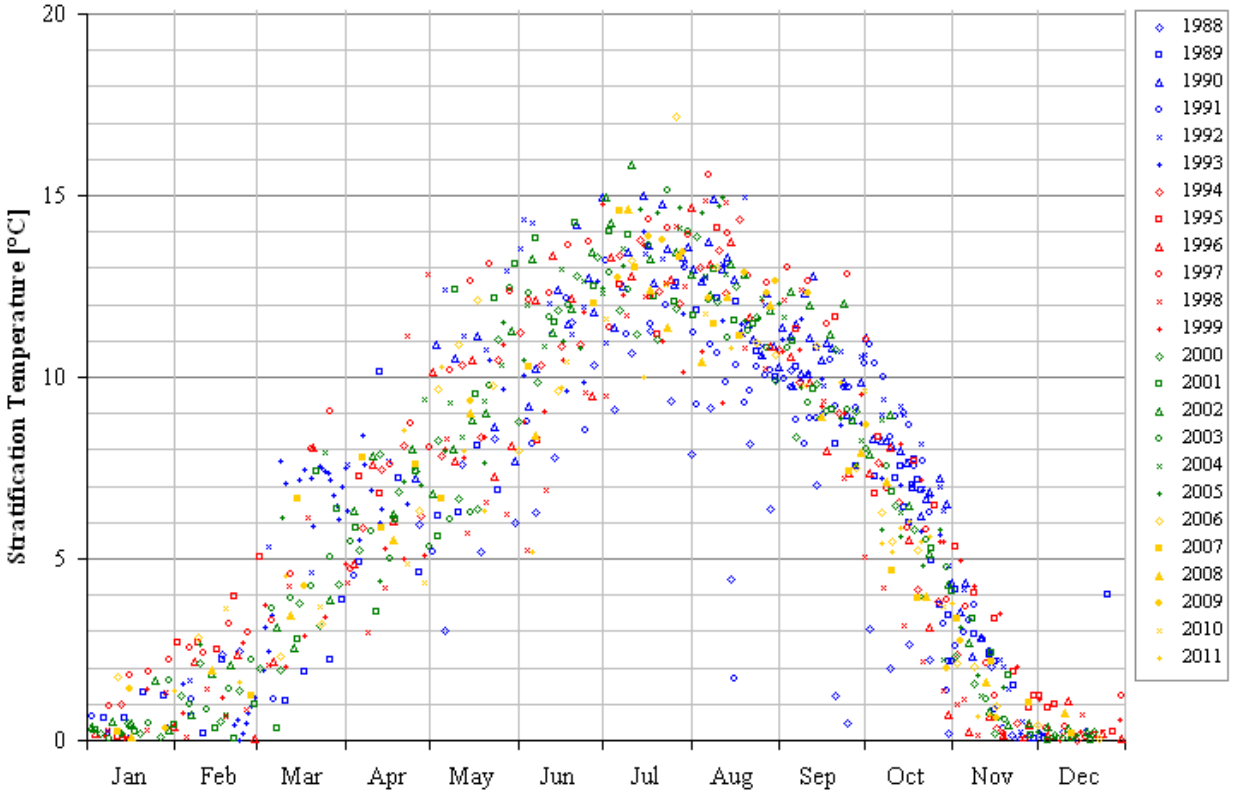

Figure 3.4-2. Annual Reservoir Stratification Temperature Measured at Camanche Dam from 1988 through 2011. Stratification temperature is defined as the bottom water temperature measurement subtracted from the surface water temperature

Camanche Dam has three reservoir outlets, a high level outlet that is 48 inches in diameter with center line elevation at 203 ft msl and a pair of 84 inch diameter low level outlets co-located at the bottom of the dam with center line elevations at 105 ft msl (see Figure 3.4-3). Releases downstream of Camanche Dam are dominated by the releases through the low level outlets, generally containing 96% or more of the total release[19]. Historically, the high level outlet is typically opened in winter months thus drawing upper level waters of Camanche Reservoir into the lower Mokelumne River and typically remains open through late spring or summer where its closure is adaptively triggered by thermal conditions monitored downstream of Camanche Dam. The magnitude of the flow through the high level outlet is a complex function of many factors that include the reservoir WSE, the outlet gate setting, and the magnitude of flow through the low level outlets. The flow through

elevation. In the context of relative and absolute temperatures, relative temperature of surface waters is in refernce to the bottom temperature in the context of "stratification temperature" as plotted in Figure 3.4-2. Absolute temperature means simply the temperature measured on the Celsius scale relative to 0°C.

[19] Estimate is based on daily average Camanche release records from January 2000 through December 2009. The high level outlet was opened for about 1,100 days over the ten year period (30%). When the high level outlet is closed, 100% of the release from Camanche flows through the low level outlets. During periods when the high level outlet is opened, 84% to 99% of the total release from Camanche Dam flows through the low level outlets.

the high level outlet can range from a few cfs to a maximum around 400 cfs. Figure 3.4-3 is a schematic diagram of Camanche Dam and Reservoir illustrating the high and low outlets in cross-section.

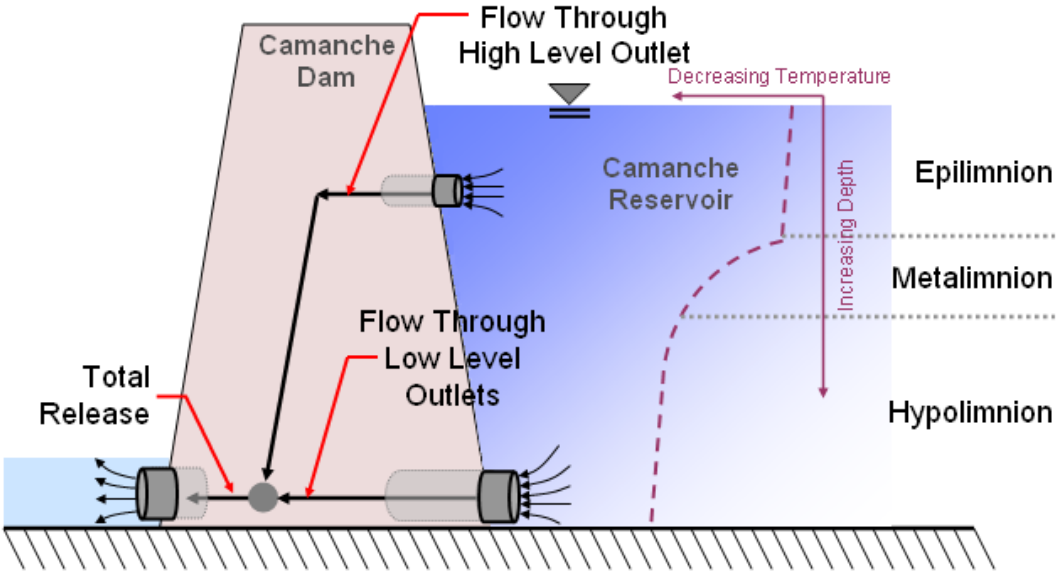

Figure 3.4-3. Camanche Dam and Reservoir Schematic Illustrating Dam Outlets and Reservoir Temperature Stratification (Note figure is not to scale)

The dashed line in Figure 3.4-3 illustrates the typical changes in water temperature with depth or elevation when the reservoir is thermally stratified. The different stratified layers are labeled on the right side of the figure. As reservoir storage decreases, the reservoir WSE can drop below the high level outlet. Once Camanche WSE is below the high level outlet, all reservoir releases must flow through the low level outlets. Low Camanche Reservoir storage could occur, for example, during a prolonged drought where carryover storage is depleted in successive dry or critically dry years.

The hypolimnion generally exhibits a small vertical temperature gradient from top to bottom and is insulated from short-term temperature variations by the metalimnion and epilimnion. Thus the average temperature of the hypolimnion displays a gradual rise in temperature over the year from a minimum in winter to a maximum in fall. As a result Camanche release temperature is reflective of this stable, gradual rise in hypolimnion temperature. Aside from short-term, sharp declines in temperature that typically occur when the high level outlet is closed in spring or summer, the consistent yearly rise in Camanche release temperature is because downstream releases are dominated by flow through the low level outlets, which withdraw water directly from the deepest point in the hypolimnion (see Figure 3.4-3). For example, Figure 3.4-4 shows the mean daily water temperature for station McIntire downstream of Camanche Dam for 2006 and 2007, an Above Normal/Normal JSA year type followed by a Dry year type. The closure date for the high level outlet in both years is indicated on the graph. Since the hypolimnion temperature variation with depth is generally small and releases through the low level outlet are essentially withdrawals from the bottom of the hypolimnion, release temperature is relatively invariant to reservoir storage given there is a sufficiently large amount of water in storage and, therefore, a deep hypolimnion. However, when Camanche storage drops below a critical level and the hypolimnion is depleted the release temperature is no longer insensitive to Camanche WSE.

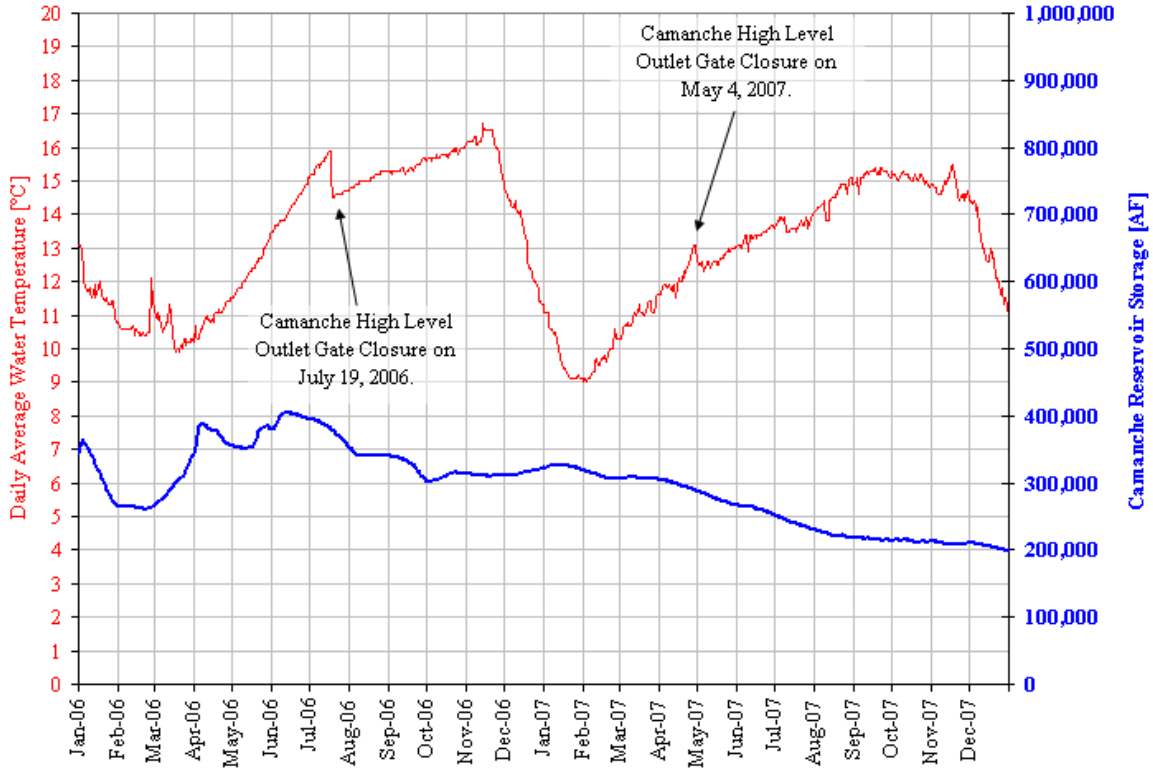

Figure 3.4-4. Mean Daily Water Temperature at McIntire Station Below Camanche, January 2006 through December 2007. Note short periods of missing data are linearly interpolated

During winter months when the reservoir is not stratified or well-mixed, reservoir release temperatures are not correlated with reservoir storage levels. In early winter, temperatures recorded along the lower Mokelumne River are generally highest immediately below the dam and decrease rapidly downstream. Thus, changes in flow or reservoir storage as a result of the Project will not significantly affect water temperatures downstream in winter months. The intra-annual temperature management period is, therefore, the period when the reservoir is typically stratified from March through October.

In the next section a threshold WSE is derived based on historical temperature data. Then the regression model relating reservoir WSE and downstream release temperature is introduced in Section 3.4.3 and the model calibration is presented in Section 3.4.4.

3.4.2 Critical Camanche Storage Threshold Concept

As Camanche Reservoir WSE drops, reservoir release temperature will only gradually warm at first, reflecting the small vertical variation in temperature exhibited by the hypolimnion. As reservoir levels continue falling and the hypolimnion volume is depleted, the much warmer metalimnion is drawn down into the low level outlets' zone of influence and Camanche release temperature begins to increase more rapidly. Thus, at some threshold WSE, the hypolimnion will reach a critical minimum volume and the release temperature will begin to increase at a faster rate. Assuming the Pardee hypolimnion is not depleted, cold water releases from Pardee Reservoir can be used to maintain the Camanche Reservoir hypolimnion; however, once the critical storage threshold is reached for Camanche, cold water releases from Pardee become less effective in maintaining

Camanche Reservoir hypolimnion and ultimately reducing the Camanche release temperature because of the thermal intertia accumuled in Camanche.

Temperature profiles recorded in September or October behind Camanche Dam from 2000 through 2011 are plotted together in Figure 3.4-5[20]. The months of September and October are selected because Camanche storage tends to be lowest during these months of the the intra-annual temperature management period, thus the hypolimnion volume tends to be lowest. Hence, focusing on these months is conservative in that the hypolimnion volume earlier in the intra-annual management period tends to be larger as reservoir storage tends to be higher. To the right of the figure, the stratified reservoir layers are labeled with grey shaded lines indicating the transition zone between each of the three stratified layers.

Over the 11 year period plotted in Figure 3.4-5, a consistent stratification pattern is clearly evident. A relatively narrow range of temperatures is seen in the hypolimnion of 12 to 16°C. A similiarly narrow range is observed in the metalimnion. As the hypolimnion warms from September to October, the lowest temperatures are associated with September profiles and the highest with October profiles. The range in temperatures shown for the epilimnion is about twice that of the lower layers, ranging from 17 to 25°C. The highest temperatures for the epilimnion are generally associated with measurements in September as the surface layer generally cools from September to October.

[20] Range in Camanche Reservoir WSE over the period of interest was 188.7-224.7 ft msl. Minimum Camanche WSE during the period of interest – September and October from 2000 through 2011 – occurred on September 24, 2008 when Camanche WSE dropped to 188.74 ft msl, the lowest level since February 9th, 1993 when Camanche refilled following the 1987-92 drought period.

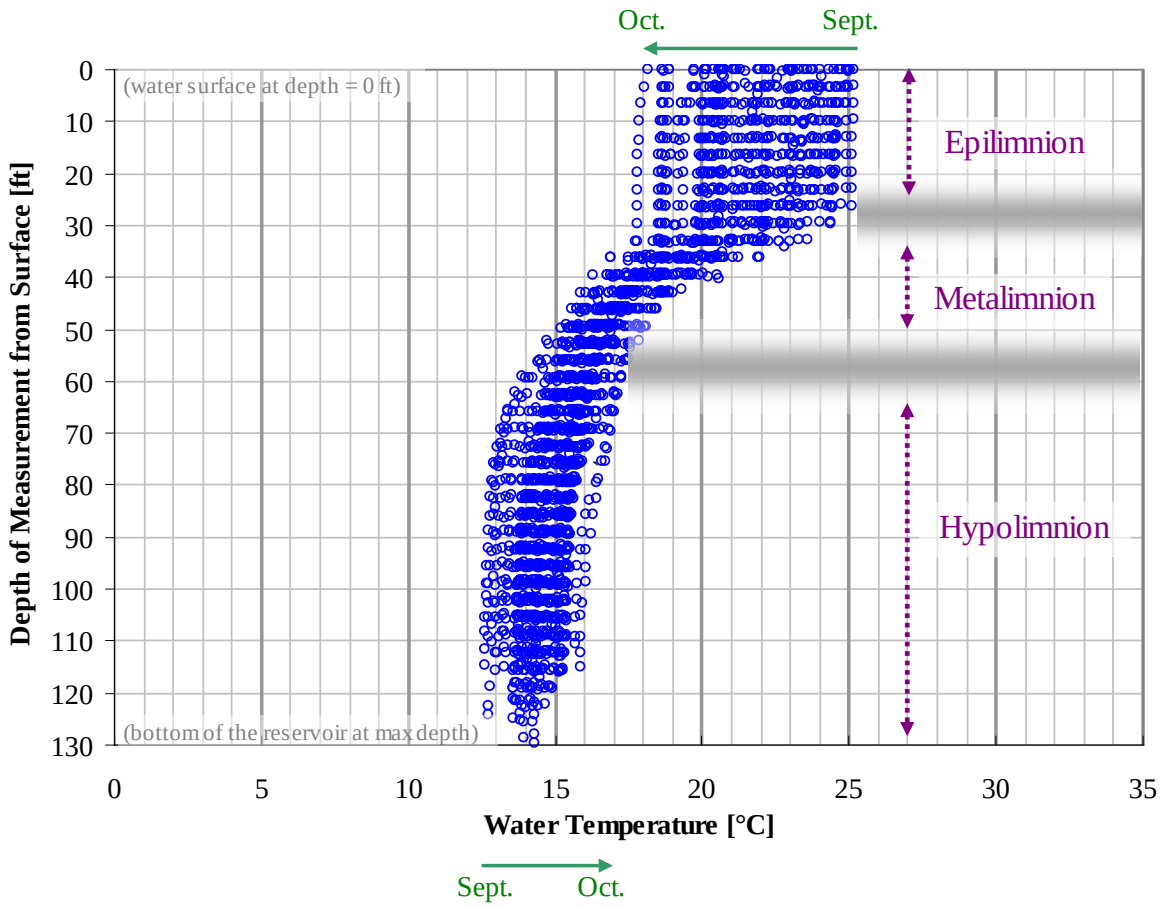

Figure 3.4-5. Water Temperature Profiles Collected Behind Camanche Dam in September and October from 2000 through 2011. Grey bars indicate transitional boundary between stratified layers

The zone of influence[21] for Camanche Dam's low level outlets is roughly 30 to 40 ft from the bottom of the reservoir for releases on the order of about 250 to 500 cfs. Of course the maximum depth is associated with the bottom of the reservoir. Thus the bottom of the reservoir up to the maximum depth less 40ft defines the vertical extent of the zone of influence. For example if the water surface elevation is 200 ft msl and the maximum depth is 100ft, then the zone of influence would extend from 100 ft msl up to 140 ft msl or from a depth of 60 ft to a depth of 100 ft. Note the maximum extent of the zone of influence equal to 40 ft is adopted as a worst case as this then leads to a *minimum* storage threshold.

As water surface elevation drops, the maximum depth decreases, and the hypolimnion volume thereby decreases. The vertical extent of epilimnion and metalimnion are driven by environmental factors and are therefore assumed to be fixed; decreasing water surface elevation therefore reduces the extent of the remaining layer, the hypolimnion. Assuming the maximum extent of the zone of influence is 40 ft following the discussion above and from Figure 3.4-5 the bottom of the metalimnion is at an approximate depth of 50 ft; the bottom of the metalimnion is expected to begin

[21] The zone of influence is defined as the volume of water in proximity to a reservoir outlet that is drawn into the outlet. The flow through the outlet therefore is influenced by this larger volume of water that is mixed turbulently as water flows through the reservoir outlet works. For more information, see Davis *et al.* (1987).

to drawn into the low level outles if the maximum depth is, therefore, reduced to 90 ft[22]. The bottom elevation of Camanche is roughly 100 ft msl[23]. Therefore, the *maximum* water surface elevation expected to result in elevated temperatures blending the metalimnion waters with the hypolimnion through the low level outlets is about 100 ft msl + 90 ft = 190 ft msl. Once Camanche WSE drops below elevation 190 ft msl and continues to decline, the release temperature, therefore, is expected to begin increasing at a much faster rate as a greater proportion of the metalimnion – and eventually the epilimnion – is drawn through the low level outlets. Therefore, the water surface threshold equal to elevation 190 ft msl is designated as the critical threshold where modeled Camanche Reservoir WSE would begin to affect reservoir release temperature. At elevation 190 ft msl, Camanche Reservoir storage is estimated to be 146,700 AF.

3.4.3 Regression Model #6 Description

Adjustments to mean monthly release temperature, used as input to SSTEMP (see Table 3.3-10), are necessary in cases where Camanche storage drops below critical levels thereby affecting release temperature. This section presents a regression model used to account for warmer mean monthly release temperatures due to low storage levels in Camanche Reservoir. The regression model is used to estimate the expected increase in monthly mean release temperature due to critical storage levels in Camanche Reservoir. The regression model is shown below in Equation 6.

Equation 6: $$T_i = \beta_0 + \beta_1 WSE_i, \quad i = 1, \ldots, N$$

In Equation 6, i is an index, T_i is the monthly average release temperature from Camanche Dam in degrees Celsius, WSE_i is the end-of-month Camanche water surface elevation in feet for the corresponding i^{th} month, and β_0 and β_1 are simple linear regression model intercept and slope parameters, respectively. The parameter N is the maximum number of observations which is equal to the intra-annual temperature management period (March through October) multiplied by the number of years available for calibration. The regression model parameter calibration is presented next followed by a description of the use of the regression model in the broader context of the water quality modeling component of this CEQA analysis.

3.4.4 Regression Model #6 Calibration

The first step was to compile monthly average water temperatures for the McIntire monitoring station from gauging records and reconstructed records derived from Mokelumne River Fish Hatchery datasets (presented above in Table 3.3-2 and Table 3.3-9, respectively). Next, corresponding end-of-month Camanche WSE records are assembled that correspond to each monthly average water temperature record for station McIntire.

As discussed above in Section 3.4.2, Camanche Reservoir is typically de-stratified during winter months; thus months of November, December, January, and February are screened out of the dataset compiled. Figure 3.4-6 presents the Camanche WSE dataset and corresponding monthly average water temperature at station McIntire following the procedure outlined above. The POR plotted in

[22] Where a maximum depth of 90 ft less the maximum extent of the zone of influence is 40 ft would mean that the upper bound of the water column drawn into the low level outlets is 90 ft – 40 ft = 50 ft which is roughly the bottom of the metalimnion.

[23] Center line elevation of the low level outlets is 105.13 ft and the diameter of the outlet pipe is 7 ft.

Figure 3.4-6 is October 1974 through October 2011[24]. A red vertical dashed line is shown to distinguish the two subsets of the data above and below Camanche WSE equal to 190 ft msl. Figure 3.4-6 reveals that release temperature is not correlated to WSE for high storage levels in Camanche. However, when Camanche Reservoir WSE drops to an elevation of about 190 ft msl, the release temperature generally begins rising with decreasing WSE. For WSE equal to 170 ft msl and lower, release temperature is clearly a function of Camanche WSE. Based on the assessment described above, the dataset was split into two parts, the first containing all measurement data where Camanche WSE is less than 190 ft msl and the second for all remaining data in which Camanche WSE is greater than 190 ft msl.

The calibrated regression model is plotted as a solid black line in the figure and the calibrated regression equation is presented above the plot legend. At the bottom of the plot the number of observations available in each subset is listed with the R^2 statistic and corresponding p value.

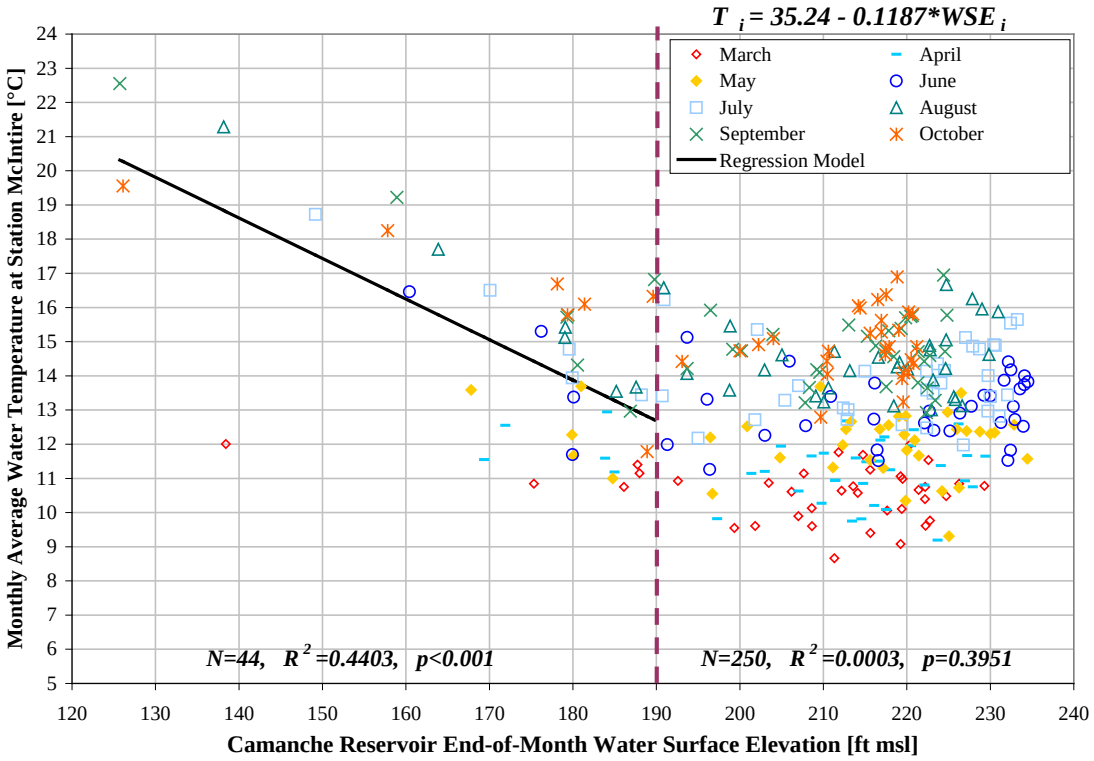

Figure 3.4-6. Regression Model Relating Camanche Reservoir Water Surface Elevation with In-Stream Temperature at Station McIntire. Dataset POR is October 1974 through October 2011 excluding winter months November through February. Monthly average temperature for station McIntire is not available in October 1975, October 1976, and August 1978

Historical data is insufficient to develop unique simple linear regression models to apply for each month of the stratification period (*i.e.* from March through October). Thus historical data for all relevant months are pooled as shown in Figure 3.4-6 and a single simple linear regression model is calibrated for only those data where Camanche WSE is less than 190 ft msl. The limitations on the available data necessarily limit the calibration to a single regression model. However, the

[24] Monthly average temperature data are not available for three months: October 1975, October 1976, and August 1978. Hence the total number of observations for the period-of-record is: N = (2011-1975+1)*8+1-3 = 294.

application of the model is considered to capture worst-case conditions as the Camanche release temperature will likely be over estimated in earlier months of the stratification period (*i.e.* months associated with spring) when surface waters tend to be cooler. The model is expected to be more accurate when applied to the later part of the stratification period (*i.e.* months associated with summer and fall). Since the objective of this study is to assess and disclose potential environmental effects of the Project, this model limitation was deemed acceptable conditional upon consistent application of the simple linear regression model among the various modeling cases simulated.

3.4.5 Water Quality Modeling Screening Methodology

The technical discussion in the preceding two sections establishes the foundation for the following statement that is fundamental to the water quality modeling procedure for this modeling study.

> If simulated end-of-month Camanche Reservoir water surface elevation is reduced to less than 190 ft msl then monthly average Camanche release temperature will be greater than the mean of the monthly average temperature when the reservoir is stratified (from March through October); and – in these instances – mean monthly average water temperature is necessarily adjusted to account for anticipated warming of reservoir releases.

The statement written above is the key to establishing months in which a potential impact to water quality could occur due to project conditions affecting Camanche Reservoir storage levels. Furthermore once these months are identified, the potential impact is then explored further using water quality modeling tools available. The next section describes how the calibrated regression model is implemented.

3.4.6 Regression Model Implementation

The regression model is used to correct for temperature effects of low storage levels which are anticipated to increase Camanche Reservoir release temperature above the mean monthly average in a given month when the reservoir is stratified. Equation 6 however is not unique to a given month of interest and the monitoring dataset is not large enough to justify developing separate regression models for each month from March through October. The effect is that the regression equation using WSE = 190 ft msl results in a singular mean monthly average value equal to 12.7°C. Monthly average Camanche release temperature, however, varies by month (see Table 3.3-10). Thus, implementing the regression model to adjust the reservoir release temperature – a necessary input to the SSTEMP model – requires a modification in order that the equation yields the mean monthly water temperature that is consistent with the month of interest at WSE = 190ft msl. Therefore, the following adjustment is made to Equation 6 such that it results in a unique monthly adjustment where the calibrated slope is retained to adjust the mean monthly average temperature as a function of end-of-month Camanche WSE[25].

First, Equation 6 is solved for the intercept, β_0.

Equation 7: $$\beta_0 = T_i - \beta_1 WSE_i$$

[25] The underlying assumption of this approach is that the intercept parameter *is unique* to each month over the intra-annual temperature management period whereas the calibrated slope *is not unique* over the period. Again, this approach is likely to overestimate the warming effect in spring months when a shallow slope would be expected, yet is expected to be more accurate when applied months associated with summer and fall.

Then *WSE_i is set to* 190 ft msl with the multi-year mean monthly average water temperature for the month *m* under consideration, μ_m. The parameters μ_m for each month of the stratification period is listed in Table 3.3-10. The resulting equation shown below is now unique to each month *m* over the stratification period (March through October).

Equation 8: $$\beta_0^* = \mu_m - \beta_1 (190\ ft\ msl), \quad m = 3, 4, \ldots, 10$$

Now substitute the form of the intercept shown above in Equation 8 back into Equation 6 and rearrange to yield an equation that is unique to each month *m* of the stratification period shown below.

Equation 9: $$T_m^* = \mu_m + \beta_1 (WSE_m - 190\ ft\ msl), \quad m = 3, 4, \ldots, 10$$

Equation 9 is used to estimate the adjusted release temperature, T_m^*, as a function of end-of-month Camanche WSE when end-of-month Camanche Reservoir WSE drops to 190 ft msl or lower. When Camanche WSE is greater than 190 ft msl or in winter months (November, December, January, and February), the mean monthly average water temperature μ_m is assigned as the release temperature. Camanche release temperature is then input to the SSTEMP model along with the appropriate modeled monthly average discharge outputs from the water balance model, EBMUDSIM, to simulate model temperature effects downstream.

APPENDIX D-4
Tables for Response to Comment S_CDFW_15

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Baseline: September through February flows in cfs below Woodbridge Dam
Less than 100 cfs flows are highlighted

Normal and Above

Year	Jan	Feb	Sept	Oct	Nov	Dec
1922			26			
1927			94			
1932				321	307	267
1933	274	271				
1935				593	366	267
1936	315	1,475	191	533	394	270
1937	274	516		554	506	1,242
1938	496	1,365	208	584	439	267
1939	272	272				
1940			167	475	379	271
1941	406	948		573	454	803
1942	907	2,049	270	583	656	688
1943	1,009	1,572	182	552	393	279
1944	273	275				
1945				640	771	1,092
1946	1,515	493		536	379	342
1947	283	271				
1948				500	345	273
1949	271	272		285	376	266
1950	275	329		854	2,322	4,169
1951	2,409	1,752	26			
1952			395	614	433	345
1953	654	512		665	504	342
1954	316	346				
1956			314	683	468	329
1957	345	318		642	477	475
1958	380	844	324	658	382	265
1959	289	451				
1963				819	711	304
1964	300	345				
1965			585	874	840	579
1966	511	461				
1967			264	630	535	343
1968	366	561				
1969			447	822	579	890
1970	2,189	2,045	233	603	764	1,046
1971	867	844		652	481	460
1972	446	346				
1973				850	862	1,052
1974	1,421	845	453	590	430	342
1975	302	325		767	558	340
1976	326	271				
1980			309	642	374	267
1981	285	346				
1982			796	950	1,155	1,530
1983	1,498	2,758	893	1,070	1,637	2,155
1984	2,531	1,284	293	742	766	487
1985	341	330				
1986			526	622	393	339
1987	301	273				
1993			389	461	501	343
1994	301	274				
1995			376	633	435	384
1996	694	1,946	327	464	799	2,236
1997	4,663	3,435	291	691	591	423
1998	741	2,277	448	610	578	532
1999	735	1,989		617	519	340
2000	435	1,341		603	537	341
2001	297	274				
2003				602	390	578
2004	653	619				
2005			404	559	392	1,248
2006	2,664	1,169	222	602	373	498
2007	413	326				
2009				465	351	269
2010	459	597		787	758	1,141
2011	1,261	1,111	245	830	423	265
2012	272	271				

Below Normal

Year	Jan	Feb	Sept	Oct	Nov	Dec
1921	522	1,204	45	162	194	193
1922	202	247		142	196	193
1923	315	390	39	142	195	191
1924	199	198				
1925			71	161	197	194
1926	198	197		199	199	192
1927	199	553		149	274	193
1928	197	213	20	161	197	194
1929	198	197				
1932			21			
1933				400	283	198
1934	203	211				
1935			195			
1937			183			
1941			246			
1944				352	756	193
1945	196	1,290	277			
1946			161			
1947				518	400	192
1948	196	198	63			
1949			21			
1950			420			
1951				347	526	405
1952	1,257	1,334				
1953			240			
1954			65	364	515	196
1955	282	224		352	378	1,114
1956	2,949	1,980				
1957			188			
1962			21	657	411	194
1963	206	1,678	416			
1964				475	668	1,025
1965	3,161	1,441				
1966				356	548	195
1967	349	1,003				
1968				382	614	195
1969	793	2,290				
1971			345			
1972			114	425	638	193
1973	489	1,290	332			
1975			528			
1979			119			
1981				458	761	483
1982	1,461	2,116				
1985				399	595	193
1986	269	2,867				
1989			197			
1999			314			
2000			359			
2001				287	251	197
2002	197	198	23	322	393	196
2003	244	503	272			
2004				372	335	195
2005	410	1,040				
2007				239	315	194
2008	201	197				
2009			105			
2010			272			
2012				308	450	322

Dry

Year	Jan	Feb	Sept	Oct	Nov	Dec
1924				169	163	166
1925	168	169				
1926			20			
1929			20	168	163	163
1930	170	168	20	131	165	161
1931	169	168				
1933			25			
1934			20	169	336	163
1935	169	168				
1939			51	169	163	162
1940	174	184				
1944			36			
1947			20			
1955			20			
1959			134	211	309	161
1960	169	169	20	318	454	161
1961	167	167				
1964			28			
1966			28			
1968			28			
1976				168	164	161
1977	166	166				
1979				525	579	163
1980	436	1,631				
1981			28			
1985			93			
1987				169	164	163
1988	168	166				
1989				286	504	161
1990	170	168	185	290	164	162
1991	166	167	177			
1992			139			
1994				169	341	164
1995	176	648				
2001			39			
2004			54			
2007			27			
2008			20	319	432	163
2009	171	170				
2012			24			

Critically Dry

Year	Jan	Feb	Sept	Oct	Nov	Dec
1924			15			
1931			48	47	78	82
1932	78	81				
1961			149	167	77	77
1962	77	85				
1976			15			
1977			16	46	77	80
1978	83	79	17	46	81	76
1979	81	84				
1987			18			
1988			75	173	78	78
1989	77	78				
1991				222	293	77
1992	78	82		164	75	81
1993	84	83				
1994			64			

Project: September through February flows in cfs below Woodbridge Dam
Less than 100 cfs flows are highlighted

Normal and Above							Below Normal							Dry							Critically Dry						
Year	Jan	Feb	Sept	Oct	Nov	Dec	Year	Jan	Feb	Sept	Oct	Nov	Dec	Year	Jan	Feb	Sept	Oct	Nov	Dec	Year	Jan	Feb	Sept	Oct	Nov	Dec
1922			26				1921	522	1,204	48	162	194	193	1924				169	163	166	1924			15			
1927			90				1922	202	247		142	196	193	1925	168	169					1931			48	47	78	82
1932				429	328	267	1923	315	369	39	142	195	191	1926			20				1932	78	81				
1933	274	271					1924	199	198					1930	170	168	20	131	165	161	1961			149	167	77	77
1935				590	366	267	1925			71	161	197	194	1931	169	168					1962	77	85				
1936	315	1,475	196	534	396	270	1926	198	197		199	199	192	1933			25				1976			15			
1937	274	466		552	506	1,223	1927	199	553		147	281	193	1934			20	169	329	163	1977			16	46	77	80
1938	496	1,325	207	583	439	267	1932			90				1935	169	168					1978	83	79	17	46	79	76
1939	272	272					1933				395	282	198	1939			51	169	163	162	1979	81	84				
1940			155	462	376	271	1934	203	211					1940	174	184					1987			18			
1941	369	929		572	458	787	1935			191				1944			36				1988			76	174	78	78
1942	891	2,031	273	586	656	688	1937			181				1947			20				1989	77	78				
1943	1,009	1,558	184	554	393	279	1941			251				1955			20				1991				222	275	77
1944	273	275					1944				347	756	193	1959			134	174	328	161	1992	78	82				
1945				650	773	1,092	1945	196	1,290	291				1960	169	169	20	321	453	161	1994			64			
1946	1,482	493		535	379	342	1946			162				1961	167	167											
1947	283	271					1947				518	400	192	1964			28										
1948				495	344	273	1948	196	198	60				1966			28										
1949	271	272		285	376	266	1949			21				1968			28										
1950	275	329		858	2,323	4,152	1950			424				1976				168	164	161							
1951	2,377	1,752	26				1951				347	526	400	1977	166	166											
1952			387	605	433	345	1952	1,239	1,348					1979				329	528	163							
1953	638	462		662	504	342	1953			238				1980	452	1,740											
1954	313	346					1954			65	365	521	196	1981			28										
1956			313	682	468	329	1955	277	224		346	381	1,114	1985			93										
1957	333	307		634	477	475	1956	2,949	1,980					1987				169	164	163							
1958	377	844	325	660	385	265	1957			180				1988	168	166											
1959	274	433					1962			21				1990			20	382	235	162							
1962				656	413	268	1963			414				1991	166	167	175										
1963	297	1,862		818	710	302	1964				475	668	988	1992			120	250	163	167							
1964	300	345					1965	3,145	1,422					1993	173	172											
1965			579	867	840	566	1966				356	548	195	1994				169	343	164							
1966	495	447					1967	333	1,003					1995	176	606											
1967			268	634	535	343	1968				382	614	195	2001			39										
1968	366	523					1969	793	2,251					2004			54										
1969			444	819	579	872	1971			345				2007			27	232	317	164							
1970	2,195	2,013	233	602	764	1,046	1972			114	425	638	193	2008	171	167	20	319	429	163							
1971	867	844		652	481	460	1973	489	1,290	332				2009	171	170											
1972	446	346					1975			527				2012			24										
1973				850	862	1,052	1979			118																	
1974	1,421	845	446	583	429	339	1981				461	761	462														
1975	290	317		763	558	340	1982	1,479	2,116																		
1976	323	271					1985				399	595	193														
1980			308	643	374	267	1986	269	2,867																		
1981	285	346					1989			198	286	522	191														
1982			792	950	1,161	1,501	1990	200	198																		
1983	1,498	2,722	891	1,069	1,637	2,143	1999			314																	
1984	2,497	1,261	293	742	766	487	2000			361																	
1985	341	330					2001				290	250	197														
1986			519	614	393	334	2002	197	198	23	322	393	196														
1987	301	273					2003	244	503	273																	
1993			388	457	498	343	2004				369	335	195														
1994	296	274					2005	410	1,040																		
1995			364	629	435	365	2009			115																	
1996	678	1,907	312	450	792	2,233	2010			273																	
1997	4,630	3,428	295	695	591	424	2012				308	450	322														
1998	741	2,292	447	609	578	532																					
1999	735	1,989		618	519	340																					
2000	432	1,297		605	537	341																					
2001	297	274																									
2003				603	391	578																					
2004	653	619																									
2005			404	560	392	1,231																					
2006	2,635	1,164	224	605	373	492																					
2007	400	326																									
2009				478	355	269																					
2010	475	580		788	758	1,141																					
2011	1,261	1,111	245	830	423	265																					
2012	272	271																									

Baseline: January through March Camanche Releases in cfs
Greater than 800 cfs releases are highlighted

Normal and Above			
Year	Jan	Feb	Mar
1933	325	325	325
1936	325	1,192	1,194
1937	325	325	469
1938	325	1,088	2,034
1939	325	325	325
1941	325	676	936
1942	631	1,779	597
1943	734	1,301	1,873
1944	325	325	325
1946	1,246	325	325
1947	325	325	325
1949	325	325	325
1950	325	325	325
1951	2,136	1,481	689
1953	381	325	325
1954	325	325	325
1957	325	325	372
1958	325	575	575
1959	325	325	325
1964	325	325	325
1966	325	325	325
1968	325	325	325
1970	1,915	1,776	848
1971	597	575	465
1972	325	325	325
1974	1,150	575	745
1975	325	325	417
1976	325	325	325
1981	325	325	325
1983	1,222	2,486	3,294
1984	2,263	1,013	580
1985	325	325	325
1987	325	325	325
1994	325	325	325
1996	420	1,674	1,487
1997	4,388	3,168	920
1998	463	1,999	1,298
1999	461	1,715	918
2000	325	1,063	995
2001	325	325	325
2004	381	344	546
2006	2,391	899	1,568
2007	325	325	325
2010	325	325	325
2011	990	837	2,034
2012	325	325	325

Below Normal			
Year	Jan	Feb	Mar
1921	324	1,008	1,278
1922	250	250	250
1923	250	250	250
1924	250	250	250
1926	250	250	250
1927	250	353	1,002
1945	250	1,091	250
1952	1,058	1,138	877
1955	250	250	250
1956	2,753	1,785	707
1963	250	1,480	250
1965	2,966	1,247	566
1967	250	809	746
1969	590	2,089	1,047
1973	287	1,089	938
1982	1,262	1,919	2,466
1986	250	2,664	3,856
2002	250	250	250
2003	250	307	250
2005	250	843	1,342
2008	250	250	250

Dry			
Year	Jan	Feb	Mar
1925	220	220	220
1930	220	220	220
1931	220	220	220
1935	220	220	220
1940	220	220	964
1960	220	220	220
1961	220	220	220
1977	220	220	220
1980	265	1,462	1,669
1988	220	220	220
1990	220	220	220
1991	220	220	220
1995	220	484	2,522
2009	220	220	220

Critically Dry			
Year	Jan	Feb	Mar
1932	130	130	140
1962	130	130	140
1978	130	130	139
1979	130	130	140
1989	130	130	140
1992	130	130	139
1993	130	130	523

Baseline: January through March Camanche Releases in cfs
Greater than 800 cfs releases are highlighted

Normal and Above			
Year	Jan	Feb	Mar
1933	325	325	325
1936	325	1,192	1,194
1937	325	325	456
1938	325	1,048	2,034
1939	325	325	325
1941	325	657	936
1942	615	1,761	597
1943	734	1,286	1,883
1944	325	325	325
1946	1,212	325	325
1947	325	325	325
1949	325	325	325
1950	325	325	325
1951	2,104	1,481	671
1953	365	325	325
1954	325	325	325
1957	325	325	369
1958	325	575	575
1959	325	325	325
1963	325	1,589	325
1964	325	325	325
1966	325	325	325
1968	325	325	325
1970	1,920	1,744	830
1971	597	575	465
1972	325	325	325
1974	1,150	575	745
1975	325	325	372
1976	325	325	325
1981	325	325	325
1983	1,222	2,450	3,310
1984	2,229	989	580
1985	325	325	325
1987	325	325	325
1994	325	325	325
1996	404	1,635	1,487
1997	4,356	3,161	885
1998	463	2,014	1,281
1999	461	1,715	918
2000	325	1,019	995
2001	325	325	325
2004	381	344	546
2006	2,362	894	1,568
2007	325	325	325
2010	325	325	325
2011	990	837	2,034
2012	325	325	325

Below Normal			
Year	Jan	Feb	Mar
1921	324	1,008	1,278
1922	250	250	250
1923	250	250	250
1924	250	250	250
1926	250	250	250
1927	250	353	1,002
1934	250	250	250
1945	250	1,091	250
1948	250	250	250
1952	1,040	1,152	877
1955	250	250	250
1956	2,753	1,785	707
1965	2,950	1,228	566
1967	250	809	730
1969	590	2,050	1,066
1973	287	1,089	938
1982	1,280	1,919	2,498
1986	250	2,664	3,856
1990	250	250	250
2002	250	250	250
2003	250	307	250
2005	250	843	1,342

Dry			
Year	Jan	Feb	Mar
1925	220	220	220
1930	220	220	220
1931	220	220	220
1935	220	220	220
1940	220	220	959
1960	220	220	220
1961	220	220	220
1977	220	220	220
1980	281	1,572	1,699
1988	220	220	220
1991	220	220	220
1993	220	220	220
1995	220	441	2,505
2008	220	220	220
2009	220	220	220

Critically Dry			
Year	Jan	Feb	Mar
1932	130	130	140
1962	130	130	140
1978	130	130	139
1979	130	130	140
1989	130	130	140
1992	130	130	139

Baseline: March through April flows in cfs below Woodbridge Dam
Greater than 3000 cfs flows are highlighted

Normal and Above			
Year	Mar	April	May
1922		963	
1927		1,372	2,428
1933	261		
1936	1,453	1,425	1,972
1937	735		
1938	2,297	2,759	2,725
1939	263		
1940		1,823	1,567
1941	1,197		
1942	857	733	1,877
1943	2,136	1,339	1,522
1944	260		
1946	449		
1947	263		
1949	264		
1950	372		
1951	948	584	598
1952		2,598	
1953	324		
1954	441		
1956		713	1,712
1957	635		
1958	833	1,754	1,780
1959	313		
1964	299		
1965		733	809
1966	269		
1967		1,746	2,329
1968	573		
1969		2,382	2,473
1970	1,108	539	350
1971	728		
1972	314		
1973			
1974	1,007	1,397	743
1975	681		
1976	261		
1980		717	902
1981	315		
1982			
1983		2,501	2,771
1984	839	630	499
1985	328		
1986		1,431	1,557
1987	264		
1993		1,192	1,518
1994	260		
1995		2,817	
1996	1,747	873	2,142
1997	1,178	556	499
1998	1,559	2,064	2,588
1999	1,175		
2000	1,254		
2001	260		
2004	805		
2005		1,230	2,295
2006	1,833		
2007	349		
2010	576		
2011	2,297	2,704	2,691
2012	265		

Below Normal			
Year	Mar	April	May
1921	1,464	984	2,156
1922	354		
1923	382	1,004	2,272
1924	187		
1925		801	2,354
1926	188		
1927	1,186		
1928	958	2,044	1,154
1929	188		
1932		151	201
1933			
1934	185		
1935		156	363
1937		525	1,630
1941		606	1,774
1944			
1945	405	527	914
1946		472	252
1947			
1948	189	155	203
1949		167	498
1950		666	1,143
1951			
1952	1,064		
1953		449	250
1954		492	497
1955	213		
1956	890		
1957		449	203
1962		151	200
1963	438	452	1,434
1965	751		
1967	934		
1969	1,231		
1971		505	399
1972		350	250
1973	1,125	494	504
1975		450	773
1979		151	200
1982	2,654		
1986			
1989		151	200
1999		538	768
2000		712	499
2001			
2002	308	447	400
2003	390	452	399
2005	1,529		
2008	185		
2009		151	201
2010		452	563

Dry			
Year	Mar	April	May
1925	158		
1926		272	274
1929		152	150
1930	157	158	151
1931	157		
1933		150	151
1934		150	151
1935	158		
1939		150	152
1940	1,121		
1944		153	151
1947		151	150
1955		153	151
1959		151	150
1960	157	152	150
1961	158		
1964		151	151
1966		151	150
1968		150	150
1977	157		
1980	1,823		
1981		151	150
1985		163	150
1988	156		
1990	157	152	153
1991	167	151	151
1992		151	150
1995	2,682		
2001		152	150
2004		349	150
2007		156	150
2008		150	150
2009	157		
2012		155	150

Critically Dry			
Year	Mar	April	May
1924		78	24
1931		78	24
1932	76		
1961		77	24
1962	78		
1976		77	23
1977		75	24
1978	81	80	23
1979	78		
1987		76	23
1988		78	24
1989	80		
1992	78		
1993	461		
1994		78	24

Baseline: March through April flows in cfs below Woodbridge Dam
Greater than 3000 cfs flows are highlighted

Normal and Above			
Year	Mar	April	May
1922		953	
1927		1,372	2,345
1933	261		
1936	1,453	1,425	1,878
1937	722		
1938	2,297	2,759	2,725
1939	263		
1940		1,823	1,493
1941	1,197		
1942	857	733	1,860
1943	2,146	1,328	1,522
1944	260		
1946	433		
1947	263		
1949	264		
1950	356		
1951	930	584	598
1952		2,598	
1953	321		
1954	441		
1956		713	1,658
1957	631		
1958	833	1,747	1,727
1959	313		
1963	454		
1964	294		
1965		742	725
1966	264		
1967		1,742	2,258
1968	554		
1969		2,363	2,425
1970	1,091	539	350
1971	728		
1972	314		
1974	1,007	1,397	692
1975	636		
1976	261		
1980		704	828
1981	310		
1982			
1983		2,501	2,739
1984	839	621	499
1985	328		
1986		1,431	1,493
1987	264		
1993		1,069	1,487
1994	260		
1995		2,817	
1996	1,747	873	2,106
1997	1,142	556	499
1998	1,542	2,081	2,572
1999	1,175		
2000	1,254		
2001	260		
2004	805		
2005		1,249	2,208
2006	1,833		
2007	351		
2010	578		
2011	2,297	2,704	2,691
2012	265		

Below Normal			
Year	Mar	April	May
1921	1,464	984	2,077
1922	334		
1923	361	986	2,284
1924	187		
1925		782	2,357
1926	188		
1927	1,186		
1932		151	201
1933			
1934	185		
1935		156	408
1937		525	1,557
1941		595	1,758
1944			
1945	405	538	851
1946		472	252
1947			
1948	189	155	203
1949		167	498
1950		695	1,063
1951			
1952	1,064		
1953		449	250
1954		492	497
1955	209		
1956	890		
1957		449	203
1962		151	200
1963		452	1,412
1965	751		
1967	918		
1969	1,251		
1971		505	399
1972		350	250
1973	1,125	494	504
1975		450	671
1979		151	200
1982	2,687		
1986			
1989		151	200
1990	187		
1999		538	680
2000		712	499
2001			
2002	303	447	400
2003	390	452	399
2005	1,529		
2009		151	201
2010		452	563

Dry			
Year	Mar	April	May
1925	158		
1926		272	274
1930	157	158	151
1931	157		
1933		150	151
1934		150	151
1935	158		
1939		150	152
1940	1,117		
1944		153	151
1947		151	150
1955		153	151
1959		151	150
1960	157	152	150
1961	158		
1964		151	151
1966		151	150
1968		150	150
1977	157		
1979			
1980	1,853		
1981		151	150
1985		163	150
1988	156		
1990		152	153
1991	167	151	151
1992		151	150
1993	335		
1995	2,665		
2001		152	150
2004		345	150
2007		156	150
2008	155	150	150
2009	157		
2012		155	150

Critically Dry			
Year	Mar	April	May
1924		78	24
1931		78	24
1932	76		
1961		77	24
1962	78		
1976		77	23
1977		75	24
1978	81	80	23
1979	78		
1987		76	23
1988		78	24
1989	80		
1991			
1992	78		
1994		78	24

Baseline: Below Camanche Dam flows in cfs
Greater than 2000 cfs releases are highlighted

Normal and Above

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1922				1,085	3,648	4,240	1,098	377	260			
1927				1,495	2,706	2,113	818	377	328			
1932										464	364	325
1933	325	325	325									
1935										736	423	325
1936	364	1,517	1,519	1,549	2,250	1,635	661	428	426	675	452	325
1937	325	563	794							697	561	1,299
1938	548	1,413	2,359	2,883	3,003	2,480	1,152	441	443	726	496	325
1939	325	325	325									
1940				1,948	1,845	1,350	462	396	402	617	436	325
1941	458	1,001	1,261							717	511	858
1942	956	2,104	922	854	2,152	2,041	1,182	569	505	726	709	745
1943	1,059	1,626	2,198	1,462	1,800	1,539	497	446	417	695	450	337
1944	325	325	325									
1945										782	826	1,148
1946	1,571	546	513							679	434	400
1947	337	325	325									
1948										643	402	330
1949	325	325	325							428	432	325
1950	325	381	435							994	2,375	4,226
1951	2,461	1,806	1,014	708	873	676	455	377	260			
1952				2,723	3,745	3,449	1,571	618	629	758	489	400
1953	706	568	388							807	561	400
1954	369	400	503									
1956				836	1,987	2,354	1,051	555	548	826	526	388
1957	398	371	697							785	535	532
1958	435	900	900	1,879	2,057	2,603	1,238	673	559	802	440	325
1959	340	502	378									
1963										961	764	364
1964	352	400	364									
1965				854	1,086	1,794	1,004	661	820	1,019	894	635
1966	565	514	335									
1967				1,864	2,606	2,151	2,555	493	499	773	590	400
1968	416	614	636									
1969				2,505	2,752	3,162	1,270	672	682	964	634	946
1970	2,240	2,101	1,173	662	625	676	714	463	468	746	816	1,101
1971	922	900	790							796	537	513
1972	500	400	381									
1973										991	916	1,106
1974	1,475	900	1,070	1,519	1,019	1,946	994	809	689	732	487	400
1975	356	376	742							908	615	400
1976	381	325	325									
1980				840	1,178	1,640	1,627	555	544	786	431	325
1981	335	400	376									
1982				3,287	3,506	2,367	1,656	1,022	1,028	1,090	1,208	1,587
1983	1,547	2,811	3,619	2,623	3,048	4,417	3,771	1,407	1,129	1,214	1,688	2,210
1984	2,588	1,338	905	753	774	1,119	901	767	528	884	819	545
1985	395	384	390									
1986				1,554	1,834	1,859	689	550	758	765	451	398
1987	354	325	325									
1993				1,316	1,794	2,235	1,033	744	624	605	557	400
1994	354	325	325									
1995				2,940	3,468	3,690	3,305	738	611	777	492	439
1996	745	1,999	1,812	995	2,418	1,492	637	597	562	606	853	2,290
1997	4,713	3,493	1,245	680	774	875	522	578	526	833	646	481
1998	788	2,324	1,623	2,187	2,861	2,610	2,565	752	683	754	633	590
1999	786	2,040	1,243							760	574	400
2000	484	1,388	1,320							742	594	400
2001	349	325	325									
2003										746	447	632
2004	706	669	871									
2005				1,354	2,571	1,832	1,290	710	639	703	449	1,300
2006	2,716	1,224	1,893	3,817	4,284	2,568	1,212	821	457	745	429	555
2007	468	376	415									
2009										608	408	325
2010	509	650	640							928	813	1,195
2011	1,315	1,162	2,359	2,830	2,968	1,979	3,022	653	479	973	480	325
2012	325	325	325									
65												
80												

Below Normal

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1921	574	1,258	1,528	1,104	2,434	2,279	698	319	245	284	250	250
1922	250	288	419							284	250	250
1923	366	443	445	1,123	2,529	1,138	687	372	273	284	250	250
1924	250	250	250									
1925				921	2,632	1,544	660	320	271	284	250	250
1926	250	250	250							284	250	250
1927	250	603	1,252							289	328	250
1928	250	266	1,019	2,167	1,431	873	374	319	220	284	250	250
1929	250	250	250									
1932				273	475	576	868	394	255			
1933										522	341	250
1934	250	250	250									
1935				273	617	1,548	514	417	430			
1937				639	1,907	1,392	513	418	418			
1941				726	2,051	1,631	728	486	481			
1944										491	808	250
1945	250	1,341	468	650	1,190	1,383	735	557	512			
1946				595	525	928	457	382	396			
1947										602	456	250
1948	250	250	250	273	475	576	756	376	297			
1949				290	773	576	452	406	255			
1950				788	1,419	1,977	795	609	655			
1951										489	580	460
1952	1,308	1,388	1,127									
1953				570	525	576	986	479	475			
1954				614	773	576	379	326	270	491	571	250
1955	332	277	279							475	434	1,165
1956	3,003	2,035	957									
1957				570	475	576	487	409	422			
1962				273	475	576	528	373	255	796	469	250
1963	260	1,730	500	570	1,710	1,910	743	651	651			
1964										596	722	1,076
1965	3,216	1,497	816									
1966										480	602	250
1967	396	1,059	996									
1968										505	668	250
1969	840	2,339	1,297									
1971				628	674	626	1,050	739	580			
1972				472	479	511	365	319	313	549	691	250
1973	537	1,339	1,188	617	780	1,377	702	543	567			
1975				571	1,050	1,794	1,128	889	764			
1979				273	420	498	388	545	319			
1981										580	813	539
1982	1,512	2,169	2,716									
1985										522	648	250
1986	321	2,914	4,106									
1989				273	420	498	365	319	395			
1999				661	1,044	1,767	989	630	549			
2000				835	773	724	748	631	593			
2001										409	305	250
2002	250	250	371	570	645	535	366	319	223	446	449	250
2003	298	557	455	570	674	915	495	492	507			
2004										492	391	250
2005	460	1,093	1,592									
2007										361	372	250
2008	250	250	250									
2009				273	475	676	510	440	340			
2010				570	838	1,409	1,086	570	507			
2012										430	504	376
14												

Dry

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1924										254	220	220
1925	220	220	220									
1926				396	462	268	278	232	172			
1929				275	338	268	278	232	172	254	220	220
1930	220	220	220	273	370	328	363	319	220	254	220	220
1931	220	220	220									
1933				273	370	328	376	319	224			
1934				275	338	268	278	232	172	254	390	220
1935	220	220	220									
1939				275	338	268	278	232	203	254	220	220
1940	220	232	1,184									
1944				273	418	396	438	365	265			
1947				275	338	268	278	232	172			
1955				273	370	328	363	319	220			
1959				273	370	328	363	319	332	334	367	220
1960	220	220	220	273	370	328	363	319	220	442	509	220
1961	220	220	220									
1964				273	370	328	363	319	228			
1966				273	370	328	363	319	228			
1968				273	370	328	363	329	228			
1976										254	220	220
1977	220	220	220									
1979										647	634	220
1980	485	1,682	1,889									
1981				273	370	328	363	319	228			
1985				286	370	328	363	320	292			
1987										254	220	220
1988	220	220	220									
1989										407	560	220
1990	220	220	220	275	338	268	278	232	338	376	220	220
1991	220	220	220	275	338	268	278	340	330			
1992				275	338	269	278	251	292			
1994										254	395	220
1995	220	704	2,742									
2001				273	370	328	363	319	238			
2004				472	370	328	363	319	253			
2007				277	370	328	363	319	227			
2008				275	338	269	278	232	172	405	489	220
2009	220	220	220									
2012				273	370	328	363	319	223			

Critically Dry

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1924				200	211	269	241	208	158			
1931				200	211	268	241	281	190	131	132	134
1932	130	130	140									
1961				200	211	268	278	315	302	253	132	134
1962	130	130	140									
1976				201	211	269	241	208	158			
1977				200	211	268	241	208	158	131	132	134
1978	130	130	139	200	211	268	241	208	158	132	134	134
1979	130	130	140									
1987				201	211	268	278	238	169			
1988				200	211	269	241	217	218	258	132	134
1989	130	130	140									
1991										306	350	134
1992	130	130	139							249	132	134
1993	130	130	523									
1994				201	211	268	278	232	216			

Project: Below Camanche Dam flows in cfs
Greater than 2000 cfs releases are highlighted

Normal and Above

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1922				1,076	3,565	4,100	1,092	377	260			
1927				1,495	2,623	2,041	796	377	324			
1932										572	386	325
1933	325	325	325									
1935										732	423	325
1936	364	1,517	1,519	1,549	2,155	1,559	642	428	430	676	454	325
1937	325	514	781							695	561	1,281
1938	548	1,373	2,359	2,883	3,003	2,463	1,152	441	442	725	496	325
1939	325	325	325									
1940				1,948	1,770	1,294	462	387	389	604	433	325
1941	421	982	1,261							716	514	842
1942	940	2,086	922	854	2,136	2,035	1,185	573	508	730	709	745
1943	1,059	1,611	2,208	1,451	1,800	1,539	498	447	419	697	450	337
1944	325	325	325									
1945										791	827	1,148
1946	1,537	546	497							678	433	400
1947	337	325	325									
1948										638	402	330
1949	325	325	325							428	432	325
1950	325	381	419							999	2,376	4,210
1951	2,429	1,806	996	708	873	676	455	377	260			
1952				2,723	3,677	3,396	1,552	609	621	749	489	400
1953	690	518	385							805	561	400
1954	366	400	503									
1956				836	1,933	2,252	1,043	554	547	825	526	388
1957	385	360	694							777	535	532
1958	432	900	900	1,873	2,005	2,499	1,231	674	560	804	443	325
1959	325	484	378									
1962										795	470	325
1963	351	1,914	516							959	764	361
1964	352	400	359									
1965				863	1,001	1,737	986	657	815	1,012	894	623
1966	548	500	330									
1967				1,860	2,535	2,064	2,541	497	503	777	590	400
1968	416	576	618									
1969				2,486	2,703	3,070	1,261	667	680	962	634	928
1970	2,245	2,069	1,155	662	625	676	714	460	468	745	816	1,101
1971	922	900	790							796	537	513
1972	500	400	381									
1973										991	916	1,106
1974	1,475	900	1,070	1,519	969	1,866	977	802	682	726	486	398
1975	344	368	697							904	615	400
1976	378	325	325									
1980				827	1,103	1,550	1,624	554	543	787	431	325
1981	335	400	371									
1982				3,300	3,445	2,292	1,645	1,027	1,025	1,090	1,214	1,558
1983	1,547	2,775	3,635	2,623	3,016	4,317	3,732	1,405	1,127	1,213	1,688	2,197
1984	2,554	1,314	905	744	774	1,110	901	767	528	884	819	545
1985	395	384	390									
1986				1,554	1,770	1,791	673	542	751	758	451	393
1987	354	325	325									
1993				1,193	1,763	2,130	1,021	742	623	600	553	400
1994	349	325	325									
1995				2,940	3,468	3,560	3,297	731	599	773	492	419
1996	729	1,960	1,812	995	2,383	1,408	625	581	547	592	846	2,286
1997	4,681	3,486	1,210	680	774	875	524	581	530	837	646	482
1998	788	2,339	1,606	2,203	2,845	2,627	2,564	751	682	753	633	590
1999	786	2,040	1,243							762	574	400
2000	481	1,344	1,320							744	595	400
2001	349	325	325									
2003										747	447	632
2004	706	669	871									
2005				1,373	2,484	1,748	1,280	711	639	703	449	1,283
2006	2,687	1,219	1,893	3,817	4,219	2,454	1,213	824	459	749	430	548
2007	455	376	417									
2009										620	412	325
2010	525	632	643							929	813	1,195
2011	1,315	1,162	2,359	2,830	2,968	1,979	3,022	653	479	973	480	325
2012	325	325	325									

Below Normal

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1921	574	1,258	1,528	1,104	2,354	2,181	683	319	247	284	250	250
1922	250	288	400							284	250	250
1923	366	421	424	1,105	2,541	1,147	688	372	273	284	250	250
1924	250	250	250									
1925				902	2,635	1,544	660	320	270	284	250	250
1926	250	250	250							284	250	250
1927	250	603	1,252							288	335	250
1932				273	475	576	907	412	324			
1933										517	340	250
1934	250	250	250									
1935				273	662	1,588	514	413	426			
1937				639	1,834	1,318	500	415	416			
1941				715	2,035	1,476	712	487	486			
1944										486	808	250
1945	250	1,341	468	661	1,127	1,221	730	569	526			
1946				595	525	928	457	382	396			
1947										602	456	250
1948	250	250	250	273	475	576	754	376	294			
1949				290	773	576	452	406	255			
1950				817	1,339	1,860	775	621	659			
1951										489	580	455
1952	1,290	1,402	1,127									
1953				570	525	576	984	476	473			
1954				614	773	576	378	325	270	491	576	250
1955	327	277	274							470	438	1,165
1956	3,003	2,035	957									
1957				570	475	576	486	403	415			
1962				273	475	576	572	373	255			
1963				570	1,688	1,795	724	649	649			
1964										596	722	1,039
1965	3,200	1,478	816									
1966										480	602	250
1967	380	1,059	980									
1968										505	668	250
1969	840	2,300	1,316									
1971				628	674	626	1,050	739	580			
1972				472	479	511	365	319	313	549	692	250
1973	537	1,339	1,188	617	780	1,377	702	543	567			
1975				571	947	1,723	1,113	889	763			
1979				273	420	498	375	461	318			
1981										582	813	518
1982	1,530	2,169	2,748									
1985										522	648	250
1986	321	2,914	4,106									
1989				273	420	498	365	319	396	407	578	250
1990	250	250	250									
1999				661	956	1,676	980	631	549			
2000				835	773	706	751	634	596			
2001										413	305	250
2002	250	250	366	570	645	535	366	319	223	446	449	250
2003	298	557	455	570	674	915	496	493	508			
2004										489	391	250
2005	460	1,093	1,592									
2009				273	475	676	522	453	350			
2010				570	838	1,403	1,087	571	508			
2012										430	504	376

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Dry

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1924										254	220	220
1925	220	220	220									
1926				396	462	268	278	232	172			
1930	220	220	220	273	370	328	363	319	220	254	220	220
1931	220	220	220									
1933				273	370	328	378	319	224			
1934				275	338	268	278	232	172	254	383	220
1935	220	220	220									
1939				275	338	268	278	232	203	254	220	220
1940	220	232	1,179									
1944				273	419	396	438	365	265			
1947				275	338	268	278	232	172			
1955				273	370	328	363	319	220			
1959				273	370	328	363	319	332	298	385	220
1960	220	220	220	273	370	328	363	319	220	444	507	220
1961	220	220	220									
1964				273	370	328	363	319	228			
1966				273	370	328	363	319	228			
1968				273	370	328	363	329	228			
1976										254	220	220
1977	220	220	220									
1979										450	583	220
1980	501	1,792	1,919									
1981				273	370	328	363	319	228			
1985				286	370	328	363	320	292			
1987										254	220	220
1988	220	220	220									
1990				275	338	268	278	232	172	468	292	220
1991	220	220	220	275	338	268	278	337	328			
1992				275	338	269	278	272	272	335	220	220
1993	220	220	397									
1994										254	397	220
1995	220	661	2,725									
2001				273	370	328	363	319	238			
2004				469	370	328	363	319	253			
2007				277	370	328	363	319	227	355	374	220
2008	220	220	220	275	338	269	278	232	172	405	485	220
2009	220	220	220									
2012				273	370	328	363	319	223			

Critically Dry

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1924				200	211	269	241	208	158			
1931				200	211	268	241	281	190	131	132	134
1932	130	130	140									
1961				200	211	268	278	315	302	253	132	134
1962	130	130	140									
1976				201	211	269	241	208	158			
1977				200	211	268	241	208	158	131	132	134
1978	130	130	139	200	211	268	241	208	158	131	132	134
1979	130	130	140									
1987				201	211	268	278	239	169			
1988				200	211	269	241	215	219	260	132	134
1989	130	130	140									
1991										305	332	134
1992	130	130	139									
1994				201	211	268	278	232	216			

Baseline: Camanche Reservoir elevations in msl
Elevations less than 190 msl are highlighted

Normal and Above

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1922				225	227	234	232	227	224			
1927				223	230	233	232	228	224			
1932										222	221	218
1933	216	214	211									
1935										224	222	220
1936	220	223	223	224	230	234	232	229	226	224	222	220
1937	219	221	223							224	222	218
1938	216	217	218	220	223	231	231	227	224	222	221	221
1939	221	220	218									
1940				224	231	235	232	228	226	223	222	219
1941	221	223	222							223	221	219
1942	217	218	218	221	226	231	232	228	224	221	220	219
1943	217	216	218	223	230	234	232	229	226	224	222	221
1944	219	219	219									
1945										221	219	218
1946	218	218	219							223	222	222
1947	221	219	220									
1948										223	222	221
1949	220	218	218							221	220	218
1950	217	220	223							217	217	227
1951	217	214	215	220	225	229	226	222	220			
1952				224	227	232	231	227	223	220	219	221
1953	223	223	223							222	222	222
1954	222	222	223									
1956				221	226	232	232	228	224	221	220	221
1957	221	222	223							224	223	223
1958	223	222	223	226	224	232	232	228	224	221	220	220
1959	220	222	223									
1963										221	219	219
1964	221	222	222									
1965				222	228	233	232	229	226	224	223	223
1966	223	223	222									
1967				226	221	226	230	226	224	222	221	222
1968	222	223	223									
1969				224	224	233	232	229	226	224	223	222
1970	218	215	216	220	222	231	232	229	226	224	223	223
1971	224	223	223							223	223	223
1972	223	223	222									
1973										221	220	219
1974	218	219	221	225	228	233	232	229	226	223	223	222
1975	222	222	223							224	223	223
1976	222	220	217									
1980				222	227	232	232	227	224	221	219	220
1981	220	222	223									
1982				224	229	232	231	226	221	217	214	216
1983	219	222	227	226	222	230	233	226	221	217	215	215
1984	218	214	217	221	225	234	233	229	226	224	223	223
1985	223	222	223									
1986				223	230	233	232	229	226	223	222	222
1987	222	221	220									
1993				225	227	232	232	229	226	223	223	223
1994	222	221	219									
1995				223	223	228	230	226	224	222	222	222
1996	222	218	218	222	230	234	232	229	226	224	223	220
1997	232	223	216	219	227	234	232	229	226	224	223	223
1998	223	223	223	225	222	225	230	227	225	223	223	223
1999	223	223	222							224	223	223
2000	222	223	222							224	223	222
2001	222	220	220									
2003										224	222	223
2004	223	223	223									
2005				227	228	232	232	229	226	224	222	221
2006	219	214	217	229	232	233	232	229	226	224	222	223
2007	223	222	223									
2009										222	221	221
2010	222	223	223							217	214	215
2011	218	221	224	226	223	225	230	224	220	217	214	214
2012	214	214	213									

Below Normal

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1921	222	222	221	222	230	233	232	229	226	223	221	219
1922	218	218	222							221	219	218
1923	221	223	223	225	231	234	233	229	225	222	220	218
1924	216	214	212									
1925				220	230	234	233	229	226	223	221	219
1926	217	216	215							220	218	217
1927	216	220	222							221	219	217
1932				192	200	222	228	224	222			
1933										212	211	211
1934	213	214	216									
1935				211	225	234	233	229	226			
1936				226	230	234	233	229	226			
1941				226	230	233	233	229	226			
1944										216	216	217
1945	220	221	223	224	229	233	232	228	225			
1946				219	226	234	232	228	225			
1947										209	209	208
1948	207	207	206	207	212	227	231	227	224			
1949				220	225	230	228	224	221			
1950				226	229	233	232	226	221			
1951										220	220	222
1952	223	222	223									
1953				223	224	228	230	227	224			
1954				224	225	225	221	218	217	217	217	220
1955	222	221	221							212	212	215
1956	219	217	218									
1957				222	220	231	232	229	226			
1962				204	210	216	219	216	214	214	214	215
1963	217	216	215	219	228	234	232	228	224			
1964										207	207	212
1965	221	216	219									
1966										210	210	214
1967	220	223	223									
1968										208	207	209
1969	215	223	222									
1971				226	227	228	231	228	225			
1972				222	220	219	218	215	214	214	213	215
1973	219	222	223	225	228	234	232	228	224			
1975				226	228	231	232	228	226			
1979				135	164	182	190	188	187			
1981										209	209	211
1982	215	217	218									
1985										213	213	215
1986	217	224	228									
1989				190	199	207	205	202	201			
1999				226	229	233	233	229	226			
2000				224	226	234	233	229	226			
2001										210	209	210
2002	214	218	221	224	223	223	220	217	215	215	215	216
2003	220	222	223	223	226	233	232	229	226			
2004										213	212	213
2005	219	223	223									
2007										207	206	207
2008	208	210	211									
2009				215	224	232	229	226	224			
2010				225	229	232	231	225	221			
2012										212	212	216

Dry

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1924										194	191	188
1925	188	194	207									
1926				219	229	231	228	225	223			
1930	200	199	197	200	210	220	221	217	214	211	209	206
1931	205	203	201									
1933				208	206	212	216	213	212			
1934				214	211	208	204	201	199	196	196	196
1935	199	202	205									
1939				218	217	214	211	207	205	202	200	199
1940	203	211	218									
1944				219	221	225	223	219	217			
1947				219	218	216	213	210	209			
1955				220	219	218	216	213	212			
1959				221	218	214	210	207	204	203	203	203
1960	204	205	206	204	202	203	201	197	195	195	195	195
1961	195	194	192									
1964				220	217	214	211	208	207			
1966				222	221	218	214	211	210			
1968				223	220	216	213	209	208			
1976										199	196	193
1977	191	188	185									
1979										186	186	188
1980	203	217	220									
1981				223	221	218	214	211	209			
1985				225	225	221	217	214	213			
1987										203	201	199
1988	198	197	194									
1989										200	200	201
1990	203	205	205	204	200	197	193	191	191	190	189	186
1991	183	180	179	177	175	176	178	177	176			
1992				193	191	191	191	190	190			
1994										202	201	201
1995	207	218	224									
2001				220	221	218	215	212	210			
2004				225	223	220	217	214	213			
2007				222	220	216	212	209	207			
2008				210	206	204	201	197	195	194	194	194
2009	197	202	209									
2012				216	220	222	219	215	213			

Critically Dry

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1924				210	208	206	203	200	197			
1931				199	196	193	189	187	186	183	181	181
1932	181	183	188									
1961				189	188	189	189	188	187	187	185	184
1962	182	187	199									
1976				215	213	210	206	204	202			
1977				182	181	181	181	179	176	175	172	169
1978	166	162	159	153	150	151	147	135	123	122	122	122
1979	122	122	122									
1987				218	216	213	210	207	206			
1988				192	191	191	191	190	189	188	187	186
1989	185	183	184									
1991										176	175	177
1992	182	185	192							189	187	187
1993	193	206	218									
1994				217	215	212	209	205	203			

Baseline: Camanche Reservoir elevations in msl

Elevations less than 190 msl are highlighted

Normal and Above

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1922				225	227	234	232	227	224			
1927				223	230	233	232	228	224			
1932										223	222	219
1933	217	215	212									
1935										224	222	220
1936	220	223	223	224	230	234	232	229	226	224	222	220
1937	219	221	223							224	222	218
1938	216	217	218	220	223	231	231	227	224	222	221	221
1939	221	220	218									
1940				224	231	235	231	228	225	223	222	219
1941	221	223	222							223	221	219
1942	217	218	218	221	226	231	232	228	224	221	220	219
1943	217	216	218	223	230	234	232	229	226	224	222	221
1944	219	219	219									
1945										222	219	218
1946	218	218	219							223	222	222
1947	221	219	220									
1948										223	222	221
1949	220	218	218							221	220	218
1950	217	220	223							217	217	227
1951	217	214	215	220	225	229	226	222	220			
1952				224	227	232	230	226	223	220	219	221
1953	222	223	223							222	222	222
1954	222	222	223									
1956				221	226	232	232	228	224	221	220	221
1957	221	222	223							224	223	223
1958	223	222	223	226	224	231	232	228	224	221	220	220
1959	220	222	223									
1962										218	218	218
1963	219	217	215							221	219	219
1964	221	222	222									
1965				222	228	232	232	229	226	224	223	223
1966	223	223	221									
1967				226	221	226	230	226	224	222	221	222
1968	222	223	223									
1969				224	224	233	232	229	226	224	223	222
1970	218	215	216	220	222	231	232	229	226	224	223	223
1971	224	223	223							223	223	223
1972	223	223	222									
1973										221	220	219
1974	218	219	221	225	228	233	232	228	226	223	223	222
1975	221	222	223							224	223	223
1976	222	220	217									
1980				222	227	232	232	227	224	221	219	220
1981	220	222	222									
1982				224	229	232	231	226	221	217	214	216
1983	219	222	227	226	222	230	232	226	221	217	215	215
1984	218	214	217	221	225	234	233	229	226	224	223	223
1985	223	222	223									
1986				223	230	233	232	229	226	223	222	222
1987	221	220	220									
1993				225	227	232	232	229	226	223	223	223
1994	222	220	219									
1995				223	223	228	230	226	224	222	222	222
1996	222	218	218	222	230	234	232	228	226	223	223	220
1997	232	223	216	219	227	234	232	229	226	224	223	223
1998	223	223	223	225	222	225	230	227	225	223	223	223
1999	223	223	222							224	223	223
2000	222	223	222							224	223	222
2001	222	220	220									
2003										224	222	223
2004	223	223	223									
2005				227	228	232	232	229	226	224	222	221
2006	219	214	217	229	232	233	232	229	226	224	222	223
2007	223	222	223									
2009										222	221	221
2010	222	223	223							217	214	215
2011	218	221	224	226	223	225	230	224	220	217	214	214
2012	214	214	213									

Below Normal

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1932				194	203	225	230	226	224			
1933										213	212	212
1934	214	215	217									
1935				211	226	233	233	229	226			
1937				226	230	234	233	229	226			
1941				226	229	233	233	229	226			
1944										216	216	217
1945	220	221	223	224	229	233	232	228	225			
1946				219	226	234	232	228	225			
1947										209	209	208
1948	207	207	206	207	212	227	231	227	224			
1949				220	225	230	228	224	221			
1950				226	229	233	232	226	221			
1951										220	219	222
1952	223	222	223									
1953				222	224	228	230	227	224			
1954				224	225	225	221	218	217	217	217	220
1955	222	221	221							212	212	215
1956	220	217	218									
1957				221	220	231	232	228	226			
1962				205	212	219	222	219	218			
1963				219	228	234	232	228	224			
1964										206	206	211
1965	221	216	219									
1966										210	210	214
1967	220	222	223									
1968										207	207	209
1969	215	223	222									
1971				226	227	228	231	228	225			
1972				222	220	219	218	215	214	214	213	215
1973	219	222	223	225	228	234	232	228	224			
1975				226	228	231	232	228	226			
1979				151	172	185	191	190	189			
1981										208	208	210
1982	215	217	219									
1985										213	213	215
1986	217	224	228									
1989				192	202	211	210	207	206	205	205	206
1990	207	208	209									
1999				226	229	233	233	229	226			
2000				224	226	234	233	229	226			
2001										210	209	210
2002	214	218	221	224	223	223	220	217	215	215	215	216
2003	220	222	223	223	226	233	232	229	226			
2004										213	212	213
2005	219	223	223									
2009				216	224	233	230	227	224			
2010				225	229	232	231	226	221			
2012										212	212	216
1921	222	222	221	222	230	233	233	229	226	223	221	219
1922	218	218	222							221	219	218
1923	221	223	223	225	231	234	233	229	225	222	220	218
1924	216	214	212									
1925				220	230	234	233	229	226	223	221	219
1926	217	220	218							220	218	217
1927	216	220	222							221	219	217

Dry

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1924										194	191	188
1925	188	193	207									
1926				219	229	231	228	225	223			
1930	200	198	197	200	210	220	221	217	214	211	208	206
1931	204	203	201									
1933				209	207	212	217	214	213			
1934				215	212	209	205	202	200	197	197	197
1935	200	203	206									
1939				218	217	214	211	207	204	202	200	199
1940	203	211	218									
1944				219	221	225	223	219	217			
1947				219	218	216	213	210	209			
1955				220	219	218	216	213	212			
1959				221	218	214	210	207	205	203	203	203
1960	203	205	206	204	202	203	200	197	195	195	194	195
1961	194	194	191									
1964				220	217	214	210	208	207			
1966				221	220	218	214	211	210			
1968				223	220	216	213	209	208			
1976										199	196	193
1977	191	188	185									
1979										188	188	190
1980	204	217	221									
1981				223	221	217	214	211	209			
1985				225	225	221	217	214	213			
1987										203	201	199
1988	198	196	194									
1990				207	204	201	197	195	193	193	193	190
1991	187	184	184	182	180	181	182	181	180			
1992				196	192	191	191	190	190	189	186	184
1993	191	203	216									
1994										201	201	200
1995	206	218	224									
2001				220	221	218	215	212	210			
2004				225	223	220	217	215	213			
2007				222	220	216	212	209	207	206	206	207
2008	209	210	211	211	207	205	202	198	196	195	195	195
2009	198	203	210									
2012				216	220	222	219	215	213			

Critically Dry

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1924				210	208	206	203	200	197			
1931				198	196	193	189	187	185	183	181	180
1932	180	183	189									
1961				189	188	188	189	188	187	186	184	183
1962	182	187	199									
1976				215	213	210	206	204	202			
1977				182	181	181	182	179	176	175	172	169
1978	166	163	159	153	151	152	153	146	140	137	128	122
1979	122	122	125									
1987				218	216	213	209	207	206			
1988				191	191	191	191	190	189	188	187	186
1989	185	183	184									
1991										180	179	181
1992	185	189	195									
1994				216	214	212	208	205	203			