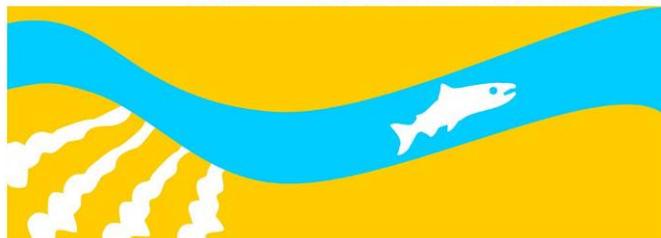


# Mendota Pool Bypass and Reach 2B Improvements Project

**Final  
Environmental Impact Statement/Report**

**SAN JOAQUIN RIVER  
RESTORATION PROGRAM**



**State Clearinghouse No. 2009072044**

Final  
July 2016

*The San Joaquin River Restoration Program is a comprehensive long-term effort to restore flows to the San Joaquin River from Friant Dam to the confluence of Merced River and restore a self-sustaining Chinook salmon fishery in the river while reducing or avoiding adverse water supply impacts from Interim and Restoration flows.*

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## **Mission Statements**



The mission of the Bureau of Reclamation is to manage, develop and protect water and related resources in an environmentally and economically sound manner in the interest of the American Public.



The California State Lands Commission provides the people of California with effective stewardship of the lands, waterways, and resources entrusted to its care through preservation, restoration, enhancement, responsible economic development, and the promotion of public access.

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## List of Abbreviations and Acronyms

Act	San Joaquin River Restoration Settlement Act
BA	biological assessment
CCID	Central California Irrigation District
CEQ	Council on Environmental Quality
CEQ Regulations	CEQ Regulations for Implementing NEPA
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CNDDDB	California Natural Diversity Database
Corps	U.S. Army Corps of Engineers
CPT	cone penetrometer test
CSLC	California State Lands Commission
CVFPB	Central Valley Flood Protection Board
CVFPP	Central Valley Flood Protection Plan
CVHM	Central Valley Hydrologic Model
CVPIA	Central Valley Project Improvement Act
CWA	Federal Clean Water Act
Delta	Sacramento-San Joaquin Delta
DFW	California Department of Fish and Wildlife
DWR	California Department of Water Resources
ESA	Federal Endangered Species Act
EIR	Environmental Impact Report
EIS/R	Environmental Impact Statement/Environmental Impact Report
EPA	U.S. Environmental Protection Agency
Exchange Contract	Second Amended Contract for the Exchange of Waters
Exchange Contractors	San Joaquin River Exchange Contractors
Flood Control Manual	Operation and Maintenance Manual for Levee, Irrigation and Drainage Structures, Channels and Miscellaneous Facilities
Flood Control Project	Lower San Joaquin River Flood Control Project
FY	Fiscal Year
GFWD	Gravelly Ford Water District
GPS	global positioning system
Implementing Agencies	Reclamation, U.S. Fish and Wildlife Service, National Marine Fisheries Service, California Department of Water Resources, and California Department of Fish and Wildlife
IMPLAN	Impact Analysis for Planning
KRCD	Kings River Conservation District

KRWA	Kings River Water Association
LEDPA	least environmentally damaging practicable alternative
LiDAR	Light Detection and Ranging
LSJLD	Lower San Joaquin Levee District
MCR	master comment response
MMRP	Mitigation Monitoring and Reporting Program
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOD	Notice of Determination
NRDC	Natural Resources Defense Council
NULE	Non-Urban Levee Evaluation
O&M	operation and maintenance
OEHHA	Office of Environmental Health Hazard Assessment
PEIS/R	Program Environmental Impact Statement/ Environmental Impact Report
Project	Mendota Pool Bypass and Reach 2B Improvements Project
Reclamation	U.S. Department of the Interior, Bureau of Reclamation
RM	River Mile
ROD	Record of Decision
RWA	Recovered Water Account
SCADA	supervisory control and data acquisition
Settlement	Stipulation of Settlement in NRDC, et al., v. Kirk Rodgers, et al.
Settling Parties	Natural Resources Defense Council, Friant Water Authority, and the U.S. Departments of the Interior and Commerce
SJRRP	San Joaquin River Restoration Program
SJRRPGW	San Joaquin River Restoration Program Groundwater Model
SJVAPCD	San Joaquin Valley Air Pollution Control District
State	State of California
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VERA	Voluntary Emission Reduction Agreement

# I. Preface

The San Joaquin River Restoration Program (SJRRP) was established in late 2006 to implement the Stipulation of Settlement (Settlement) in *Natural Resources Defense Council (NRDC), et al., v. Kirk Rodgers, et al.* The Mendota Pool Bypass and Reach 2B Improvements Project (Project) is a component of Phase 1 of the overall SJRRP. The U.S. Department of the Interior, Bureau of Reclamation (Reclamation), as the Federal lead agency under the National Environmental Policy Act (NEPA), and the California State Lands Commission (CSLC), as the State of California (State) lead agency under the California Environmental Quality Act (CEQA), prepared this Environmental Impact Statement/Environmental Impact Report (EIS/R) for the Project. Federal authorization for implementing the Settlement is provided in the San Joaquin River Restoration Settlement Act (Act) (Public Law 111-11).

This Final EIS/R, which includes the entirety of the Draft EIS/R made available for public comment on June 9, 2015, has been prepared in accordance with the requirements of NEPA and CEQA to respond to comments received during the agency and public review period for the Draft EIS/R, and to present corrections, revisions, and other clarifications to the Draft EIS/R. Authority for combined Federal and State documents is provided in Title 40, Code of Federal Regulations (CFR), sections 1502.25, 1506.2, and 1506.4 (Council on Environmental Quality's (CEQ) Regulations for Implementing NEPA (CEQ Regulations)), and in California Code of Regulations Title 14, Division 6, Chapter 3 (State CEQA Guidelines), section 15222 (Preparation of Joint Documents). This document also was prepared consistent with U.S. Department of the Interior regulations specified in 43 CFR, Part 46 (U.S. Department of the Interior Implementation of NEPA).

The Draft EIS/R evaluates potential direct, indirect, and cumulative impacts on the environment that could result from implementing the Project. In addition, the Draft EIS/R includes feasible mitigation measures to avoid, minimize, rectify, reduce, or compensate for significant adverse impacts.

Where this document refers to the "Draft EIS/R," this reference pertains to the document released for public review in June 2015, described above. Where this document refers to the "Final EIS/R," this reference pertains to the chapters and appendices of this document, released in July 2016. References to the "EIS/R," without denoting Draft or Final, encompass the text presented in this document, as well as the text of the Draft EIS/R.

## I.1 Organization of the Final EIS/R

The Final EIS/R, reproduced for convenience into one document, replaces the June 2015 Draft EIS/R. The Final EIS/R consists of the following elements:

- **Part I, Preface** – This section provides an overview of the Final EIS/R, describes the public review process for the Draft EIS/R, discusses NEPA and CEQA considerations for the Final EIS/R, and describes changes to the Preferred Alternative since release of the Draft EIS/R.
- **Part II, Response to Comments** – This section lists the persons, organizations, and public agencies commenting on the Draft EIS/R, presents six Master Comment Responses (MCR) that were prepared to address similar comments on specific issue areas in the Draft EIS/R, presents the comments and recommendations received by the lead agencies on the Draft EIS/R, including those provided at the three public hearings; and provides the individual responses from the lead agencies to the significant environmental points raised during the public review of the Draft EIS/R.
- **Part III, Final EIS/R (as amended)** – This section includes the entire text of the Draft EIS/R, as revised in response to the comments received or for reasons that include: to update information; to refine discussions and resolve minor inconsistencies; and to make formatting changes.
- **Part IV, Revisions to the Draft EIS/R** – This section is provided electronically, and includes the entire text of the Draft EIS/R, as revised, with deletions indicated by strikethrough text (~~deleted text~~), and new text indicated by underlined text (new text).
- **Part V, Appendices to the EIS/R** – This section includes the appendices to the Draft EIS/R, as revised by updated analysis, where applicable.
- **Part VI, Appendices to the Response to Comments** – This section includes the appendices to Response to Comments section of the EIS/R. These appendices include the analysis performed by the SJRRP to assess the need for the Mendota Pool Fish Screen; the letter correspondence between Reclamation and the San Joaquin River Exchange Contractors Water Authority (Exchange Contractors) on this subject; and information that will facilitate the U.S. Army Corps of Engineers' (Corps') decision on the least environmentally damaging practicable alternative (LEDPA).

## I.2 Public Review Process

The Draft EIS/R was provided for public review to solicit comments and suggestions on how best to implement the Project from agencies, organizations, and members of the public. The public comment period for the Draft EIS/R began on June 9, 2015, and ended on August 10, 2015.

On June 9, 2015, a Notice of Availability was published in the Federal Register, and the Draft EIS/R and a Notice of Completion were provided to the State Clearinghouse for distribution to interested State agencies. A Notice of Availability was also filed in Fresno and Madera counties.

The Draft EIS/R was made available online at the SJRRP website ([www.restoresjr.net](http://www.restoresjr.net)), Reclamation's website ([http://www.usbr.gov/mp/nepa/nepa\\_projdetails.cfm?Project\\_ID=4032](http://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=4032)), and at the CSLC's website ([www.slc.ca.gov](http://www.slc.ca.gov)). Hard copies of the Draft EIS/R were distributed to libraries in Fresno, Merced, and Sacramento counties, and in Washington, DC. Approximately 250 copies on compact disc and 20 hard copies of the Draft EIS/R were distributed to interested parties.

Three public hearings were held to receive verbal and written comments on the Draft EIS/R. The hearings were held as follows:

- Wednesday, July 8, 2015, in Fresno, California
- Thursday, July 9, 2015, in Los Banos, California
- Friday, July 10, 2015, in Sacramento, California

Newspaper advertisements providing information on the availability of the Draft EIS/R, as well as the dates and locations of the public hearings, were published in the following newspapers on the dates listed:

- Fresno Bee (June 9, 2015)
- Los Banos Enterprise (June 12, 2015)
- Merced Sun-Star (June 9, 2015)
- Vida en el Valle (Spanish language newspaper) (June 10, 2015)
- Visalia Times-Delta (June 9, 2015)
- Firebaugh-Mendota Journal (June 10, 2015)

Reclamation issued a press release on June 9, 2015, notifying the public and news media of the availability of the Draft EIS/R and the intent to hold public hearings. Public hearing information was also posted on the SJRRP and CSLC websites.

An e-mail was sent to the SJRRP e-mail distribution list and the document was sent to all of those that participated in the public meeting process.

The lead agencies received comments on the Draft EIS/R by mail and e-mail, and through written and verbal comments provided at the public hearings. Fourteen comment letters, containing 288 individual comments, were received on the Draft EIS/R. Comments were received from Federal, State, and local governments, private organizations, and members of the public. These comments were considered in preparation of this Final EIS/R.

### **I.3 NEPA and CEQA Considerations**

CEQA section 21091, subdivision (d) and State CEQA Guidelines section 15088 require that the lead agency under CEQA evaluate comments received during the noticed

comment period and prepare a written response for each comment relating to any significant environmental issues raised regarding the Draft EIS/R. Written responses are to describe the disposition of any significant environmental issues raised (*e.g.*, revisions to the proposed project to mitigate anticipated impacts or objections) and provide a good faith, reasoned analysis in response. The range of responses includes clarifying the analysis in the Draft EIS/R, making factual corrections, explaining why certain comments do not warrant further response, or acknowledging the comment for consideration by the decision-making bodies. Comments that present opinions or raise issues about the Program unrelated either to environmental issues or to the substance of the Draft EIS/R are also addressed although it is noted that these issues are outside of the scope of the EIS/R.

No comments were received on the Draft EIS/R that resulted in an adverse change in significance level of impacts disclosed in the Draft EIS/R. No comments were received on the Draft EIS/R that resulted in any new impacts, required new mitigation, required consideration of new alternatives, or resulted in any other substantial changes to the Draft EIS/R. Changes made to the Draft EIS/R in response to comments are limited to minor corrections of errors and omissions, and clarifying edits based on the most current Project design. Recirculation of the EIS/R is not required when new information added to the Draft EIS/R merely clarifies or amplifies, or makes insignificant modifications to an adequate Environmental Impact Report (EIR) (State CEQA Guidelines, § 15088.5). This Final EIS/R meets both CEQA and NEPA requirements for responding to comments.

NEPA and CEQA require lead agencies to evaluate comments on environmental issues received from persons who reviewed the Draft EIS/R and to prepare written responses to comments received within the public comment period. When there has been significant public comment, NEPA and CEQA allow the lead agency to summarize or consolidate responses to similar comments, as long as all substantive issues are represented. Chapter 2.0, “Comments and Responses,” contains MCRs that address numerous similar comments received on specific topics in the Draft EIS/R and individual responses to comments. MCRs supplement the related individual responses to comments.

### **1.3.1 Future NEPA/CEQA Actions**

Not less than 30 days after release of the Notice of Availability for this Final EIS/R (40 CFR 1506.10), Reclamation will consider the proposed action and issue its Record of Decision (ROD). Not less than 15 days after providing copies of this Final EIS/R to all commenting public agencies (Cal. Code Regs., tit. 2, § 2906), the CSLC will consider certification of the EIR. If the CSLC certifies the EIR, it will consider issuance of a lease to Reclamation for the proposed project at the same meeting or within 90 days of certification. In order to approve the lease, the CSLC must make written findings for each significant environmental effect of the Project, accompanied by a brief explanation of the rationale for each finding (State CEQA Guidelines, § 15091); make a Statement of Overriding Considerations (State CEQA Guidelines, § 15093) for any significant effects that cannot be avoided or substantially lessened; adopt a Mitigation Monitoring and Reporting Program (MMRP) (State CEQA Guidelines, § 15097); file a Notice of Determination (NOD) (State CEQA Guidelines, § 150940); and comply with other CEQA requirements for certifying an EIR and approving the Project.

## I.4 Changes between the Draft and Final EIS/R

There have been several changes between the Draft and Final EIS/R including updates to the description of the preferred alternative based on the 30 percent design of the Compact Bypass, updates to Project conservation measures, updates to the air quality analysis, and updates to various resource chapters to reflect more recent agricultural activities in the Project area. The changes in the Final EIS/R do not result in changes to the Project that cause new significant environmental impacts, substantial increase in the severity of environmental impacts, or a new alternative different from others previously analyzed.

### I.4.1 Preferred Alternative

The description of the Project alternatives is updated in Chapter 2 of the Final EIS/R based on the 30 percent design for the Compact Bypass. The location and shape of the Compact Bypass channel and structures (*e.g.*, Compact Bypass Control Structure, the Mendota Pool Control Structure, the grade control structures, and the Columbia Canal Siphon) were modified to reflect changes based on the 30 percent design. The alignment and slope of the bypass channel and the elevation of the control structures are further described. The Final EIS/R includes a more detailed description of these features than was presented in the Draft EIS/R because additional design information is now available.

As described in Section 2.2.6 of the Draft EIS/R, released for public comment on June 9, 2015, construction and operation of the Mendota Pool Fish Screen is described as being included in Alternative B, the preferred alternative, “if needed” or “if necessary.” Reclamation and the CSLC analyzed and disclosed the potential impacts of constructing and operating the Mendota Pool Fish Screen to allow the flexibility to construct and operate the feature, should the agencies determine it is needed as part of the overall Project in support of the Restoration Goal as planning and design efforts continued. As part of these efforts, Reclamation completed an analysis in 2016 of the potential for entrainment of special-status fish species at Mendota Pool over the life of the Project (Part VI – Appendices to the Responses). Based on this detailed technical analysis, the SJRRP has determined that it is appropriate to include construction and operation of the Mendota Pool Fish Screen in the preferred alternative. Therefore, occurrences of “if needed” or “as necessary” in reference to the Mendota Pool Fish Screen have been deleted in the Final EIS/R. A final decision on the selected alternative for the Project will be made in the ROD/NOD, following public review of the Final EIS/R. The purpose of deleting the references to “if needed” and “as necessary” in relation to the Mendota Pool Fish Screen in the Final EIS/R is to disclose the increased likelihood that the SJRRP could include this feature in the selected alternative for the Project, which will be fully described in the ROD/NOD. This clarification of text does not constitute a substantive change to the Project description or result in any new information or change to the impact analysis in the EIS/R.

Similar to the description of the Compact Bypass channel and structures, more details regarding restoration plantings were included in the 30 percent design. These details, including tables and descriptions of plant species, planting density, and planting methods, are included in the Final EIS/R.

In addition, utility relocation information is also updated to provide specific plans for relocations, where known. Descriptions in the Final EIS/R are expanded to reflect these plans.

These expansions and clarifications of text do not constitute substantive changes to the project description or result in any new information or change to the impact analysis in the EIS/R.

#### **I.4.2 Conservation Measures**

Some conservation measures are removed or modified in the Final EIS/R, including measures for valley elderberry longhorn beetle, eagles, green sturgeon, and Chinook salmon.

U.S. Fish and Wildlife Service (USFWS) recently published range information for the valley elderberry longhorn beetle that excludes the Project location (USFWS 2015). The species' range currently mapped by USFWS includes portions of the Sacramento and San Joaquin valleys but terminates northwest of Firebaugh, approximately 9 miles northwest of the Project area, and valley elderberry longhorn beetle is no longer expected to occur in the Project area. Therefore, Conservation Measure VELB-1 is modified in the Final EIS/R, and Conservation Measure VELB-2, which provided compensation for impacts to valley elderberry longhorn beetle, is removed since no significant impacts to the valley elderberry longhorn beetle are anticipated that would require implementation of the measure.

The conservation measure for eagles, EAGLE-1, is removed in the Final EIS/R because it is intended to protect nesting eagles, and eagles are not expected to nest in the Project area. Bald eagles are generally not expected to occur in the Project area at any time of year. They were not identified as a species with potential to occur in the Project area in the Draft EIS/R, in part based on a lack of nearby occurrence records in the California Natural Diversity Database (CNDDDB) and a lack of observations from the nearby Mendota Wildlife Area. Literary sources generally agree that this species does not breed on the valley floor in the southern San Joaquin Valley, and the nearest reported occurrence located was as an uncommon winter visitor at San Luis National Wildlife Refuge Complex (U.S. Geological Survey [USGS] 2016). Potential for occurrence of golden eagles in the Project area was evaluated by the SJRRP as low, with potential for occasional use for foraging or wintering, but not for nesting (SJRRP 2011b); golden eagles are not known to nest in the low elevation portions of the San Joaquin Valley. Because eagles are not expected to nest in the Project area, and since the Project includes other conservation measures to protect nesting raptors (RAPTOR-1 and RAPTOR-2), Conservation Measure EAGLE-1 was removed since no significant impacts to nesting eagles are anticipated that would require implementation of the measure.

Conservation measures for green sturgeon (GS-1) and Central Valley Spring-run Chinook salmon (SRCS-1) are also removed in the Final EIS/R. These measures addressed the potential for impacts from recapture and recirculation in the lower San Joaquin River and Delta as analyzed and disclosed in the SJRRP Program Environmental Impact Statement/Environmental Impact Report (PEIS/R). The lower San Joaquin River and Delta areas do

not overlap with the Project area. Because these measures were not directly relevant to this Project area, they are removed from the Final EIS/R.

Conservation measures for tricolored blackbird (TRI-1) and cliff swallows (SWA-1) are added to the Final EIS/R. Conservation of these species were previously addressed as part of Other Birds Protected by the Migratory Bird Treaty Act (MBTA-1), but these species are colonial nesters and are known to occur at the site, therefore, these species now have more specific conservation measures.

Conservation measure for least Bell's vireo (RNB-2) was removed in the Final EIS/R because two years of protocol level surveys have been conducted, and the species is not known to occur at the site, so no impacts are expected. As indicated in RNB-1, if the species is detected Reclamation will reinitiate consultation with USFWS and incorporate compensatory mitigation.

The text of other conservation measures was tailored to be more specific to the Project and to provide additional flexibility during implementation while continuing to avoid and minimize impacts.

These modifications, additions, and removals of conservation measures do not constitute substantive changes to the project description or result in any new information or change to the impact analysis in the EIS/R.

### **I.4.3 Air Quality**

Air quality impacts for the Project were reanalyzed based on revised guidance from the San Joaquin Valley Air Pollution Control District (SJVAPCD) in comments received on the Draft EIS/R, and the results of this analysis are updated in the Final EIS/R. Project construction emissions were estimated for off-road construction equipment and material hauling vehicles which are diesel fueled. The assumptions made for off-site hauling distances were revised based on comments received on the Draft EIS/R. The exposure assessment and health risk assessment was conducted for sensitive receptors in the Project area. Similar to the Draft EIS/R, sensitive receptors were found to have a significant increase in cancer risk for both a resident child and school child exposure scenarios. The same mitigation measures described in the Draft EIS/R will still be implemented to reduce diesel particulate matter emissions from construction equipment and material hauling vehicles. These mitigation measures reduce this potential significant impact to less than significant levels. The significant criterion was based on revised guidance from the SJVAPCD. These changes are reflected in Chapter 4 and Appendix 4 of the Final EIS/R.

These modifications and clarifications of text do not constitute substantive changes to the project description or result in any new information or change to the impact analysis in the EIS/R.

### **I.4.4 Agricultural Activities**

More recent agricultural activities in the Project area are reflected in the Final EIS/R. Additional lands previously planted in row crops or alfalfa have been planted in almonds.

Also, some land that was previously open space has been planted in almonds. This change is reflected in Chapter 16 of the Final EIS/R. Because this land use has changed, there is a corresponding change in wildlife habitat. This change is reflected in Chapters 6, 7, and 15 of the Final EIS/R. In addition, because of this land use change, there is a corresponding change in agricultural production values and economic output. This change is reflected in Chapter 21 of the Final EIS/R.

These modifications and clarifications of text do not constitute substantive changes to the project description or result in any new information or change to the impact analysis in the EIS/R.

#### **I.4.5 Other Changes**

Various minor modifications have been made to the text, tables, and figures of the Draft EIS/R, as set forth in Chapters 1 through 27 of the Final EIS/R. These minor changes include corrections to typographical errors, minor adjustments to the data, and additions of or minor changes to certain phrases to improve readability.

These modifications and clarifications of text do not constitute substantive changes to the project description or result in any new information or change to the impact analysis in the EIS/R.

## II. Response to Comments

The San Joaquin River Restoration Program (SJRRP) was established in late 2006 to implement the Stipulation of Settlement (Settlement) in *Natural Resources Defense Council (NRDC), et al., v. Kirk Rodgers, et al.* The Mendota Pool Bypass and Reach 2B Improvements Project (Project) is a component of Phase 1 of the overall SJRRP. The U.S. Department of the Interior, Bureau of Reclamation (Reclamation), as the Federal lead agency under the National Environmental Policy Act (NEPA), and the California State Lands Commission (CSLC), as the State of California (State) lead agency under the California Environmental Quality Act (CEQA), prepared this Environmental Impact Statement/Environmental Impact Report (EIS/R) for the Project. Federal authorization for implementing the Settlement is provided in the San Joaquin River Restoration Settlement Act (Act) (Public Law 111-11). This Final EIS/R has been prepared in accordance with the requirements of NEPA and CEQA to respond to comments received during the agency and public review period for the Draft EIS/R, and to present corrections, revisions, and other clarifications to the Draft EIS/R.

Part II of this Final EIS/R contains copies of the comment letters and oral comments (excerpts of the transcripts of the public meetings) and the responses to those comments.

### II.1 Comments Received on the Draft EIS/R

A total of 14 letters with 288 comments were received on the Project EIS/R, including written comments from the public hearing process. Verbal comments were also provided during the public hearing process.

Each comment in the comment letters, and each of the verbal comments from the hearings, is assigned a number, in sequential order (note that some letters may have more than one comment). The numbers are then combined with an abbreviation for affiliation type as well as an abbreviation for each commenting entity. Responses to the comments follow the comment letter, and are also coded to correspond to the comment codes assigned in the letter. Table II-1 lists all agencies, organizations, and individuals who submitted comments on the Draft EIS/R and who commented on the document during the three public hearings. Names of commenters are alphabetized within respective categories. Table II-1 also includes the abbreviated codes assigned to each letter for ease of reference.

The comments and responses have not changed the analysis or conclusions of the Draft EIS/R. In all cases, the comments and responses have not resulted in changes to the Project that would generate new significant adverse environmental impacts, nor a substantial increase in the severity of an environmental impact.

**Table II-1  
List of Commenters on the Draft Environmental Impact Statement/Report**

<b>Name</b>	<b>Code</b>
<b>Federal Agencies</b>	<b>F</b>
U.S. Environmental Protection Agency (EPA)	F-EPA
<b>State Agencies</b>	<b>S</b>
California Department of Conservation (DOC), Division of Land Resource Protection	S-DOC
California Department of Fish and Wildlife (DFW)	S-DFW
<b>Local Agencies</b>	<b>L</b>
City of Mendota	L-Mendota
Gravelly Ford Water District (GFWD)	L-GFWD
Kings River Conservation District (KRCD) and Kings River Water Association (KRWA)	L-KRCD KRWA
Lower San Joaquin Levee District (LSJLD)	L-LSJLD
Linneman Law (on behalf of LSJLD)	L-LSJLD(2)
San Joaquin Valley Air Pollution Control District (SJVAPCD)	L-SJVAPCD
<b>Organization/Business</b>	<b>O</b>
Duane Morris LLP (on behalf of the Exchange Contractors)	O-EC
Mitigation Lands Trust	O-MLT
Wonderful Orchards	O-WO
<b>Individuals</b>	<b>I</b>
Fox, Dennis	I-Fox
Iger, Rick	I-Iger
<b>Fresno, California Public Hearing – July 8, 2015</b>	<b>P</b>
Haugen, Steven	P-Haugen
Houk, Randy	P-Houk
<b>Los Banos, California Public Hearing – July 9, 2015</b>	<b>P</b>
Cardella, Chris	P-Cardella
Hernandez, Francisca	P-Hernandez
Houk, Randy	P-Houk(2)

## II.2 Master Comment Responses

Master Comment Responses (MCRs) address the most frequently raised comments and provide a comprehensive response to multiple aspects of the issue. Issues are addressed in an organized manner in one location in order to reduce repetition of responses. When an individual comment raises an issue discussed in a MCR, the response to the individual comment includes a cross-reference to the appropriate MCR. The following subsections provide the MCRs developed based on the comments received on the Draft EIS/R.

There are six MCRs, as follows:

- MCR-1: Mendota Pool Fish Screen
- MCR-2: Seepage Management
- MCR-3: Subsidence
- MCR-4: Project Design and Operations
- MCR-5: Project Funding
- MCR-6: Flood Management Considerations and Operations & Maintenance (O&M) Costs

### **II.2.1 MCR-1: Mendota Pool Fish Screen**

Several commenters expressed concern about the lack of the Mendota Pool Fish Screen in Alternative B (the preferred alternative). This issue is addressed below.

As described in Section 2.2.6 of the Draft EIS/R, construction and operation of the Mendota Pool Fish Screen is described as being included in Alternative B, the preferred alternative, “if needed” or “if necessary.” Reclamation and the CSLC analyzed and disclosed the potential impacts of constructing and operating the Mendota Pool Fish Screen in the Draft EIS/R to allow the flexibility to construct and operate the feature, should the agencies determine it is needed as part of the overall Project in support of the Restoration Goal, as planning and design efforts continued. As part of these efforts, Reclamation completed an analysis in 2016 of the potential for entrainment of special-status fish species at Mendota Pool over the life of the Project (provided in Part VI – Appendices to the Responses). Based on this detailed technical analysis performed by Reclamation, the SJRRP has determined that it is appropriate to include construction and operation of the Mendota Pool Fish Screen in the preferred alternative. Therefore, occurrences of “if needed” or “as necessary” in reference to the Mendota Pool Fish Screen have been deleted in the Final EIS/R. The purpose of this change is to disclose the increased likelihood that the SJRRP could include this feature in the selected alternative for the Project. A final decision on the selected alternative for the Project will be made in the Record of Decision (ROD)/Notice of Determination (NOD), following public review of the Final EIS/R. This clarification of text does not constitute a substantive change to the Project description or result in any new information or substantive changes to the impact analysis in the EIS/R.

#### ***Entrainment Analysis***

Reclamation has completed an extensive analysis, based on the best available information, of the potential loss of fish to the Mendota Pool at the Mendota Pool Bypass (Part VI – Appendices to the Responses). This information is critical, as the whole purpose of the Mendota Pool Bypass is to reduce fish entrainment in the Mendota Pool to better meet the Restoration Goal. The SJRRP does not want to lose so many fish in the Mendota Pool such that it compromises the Program’s ability to meet the Restoration Goal to “restore and maintain fish populations in “good condition” in the main stem San Joaquin River below Friant Dam to the confluence of the Merced River, including naturally reproducing and self-sustaining populations of salmon and other fish.”

There are two primary scenarios where water from the San Joaquin River would flow into Mendota Pool after construction of the Mendota Pool Bypass and associated bifurcation structure. One is when flood flows are released from Friant Dam, either to improve the storage potential of Millerton Lake to retain floods or when the reservoir is spilling water. Under this condition, flood flows are diverted into Mendota Pool to be used by the San Joaquin River Exchange Contractors (Exchange Contractors). The second scenario occurs when water is released from Friant Dam with the express purpose of supplying water to the Exchange Contractors in fulfillment of the Second Amended Contract for the Exchange of Waters (Exchange Contract). The entrainment analysis summarized in Part VI – Appendices to the Responses considered both flood deliveries and calls on Friant to

satisfy the Exchange Contract, and includes a higher frequency of calls on Friant than has historically occurred through 2015.

The entrainment analysis considers historical San Joaquin River flows, Mendota Pool demand, the timing of fish emigration, and the need for water deliveries to the Mendota Pool. The analysis assumes that juvenile fish swim along with flows, and therefore split in proportion to flows at junctions. The analysis also assumes improvements to channel capacity facilitated by seepage mitigation, setback levees, the Mendota Pool Bypass, and associated structures. Friant Dam, Chowchilla Bypass, and Mendota Pool operations follow similar logic as they do at present or as required in the Lower San Joaquin River Flood Control Project (Flood Control Project) manuals (Reclamation Board 1969a, 1969b).

Reclamation has determined that the number of juvenile fall-run and spring-run Chinook salmon that would be lost to Mendota Pool without a fish screen is not within the range that is acceptable to the SJRRP. The number of juveniles expected to be entrained in Mendota Pool is small (on average approximately 6 to 7 percent of the annual population) when considered over a variety of water year types, but could include multiple years in a row with more than 20 percent of the annual population of juveniles entrained in Mendota Pool. The greatest entrainment is expected to occur during flood releases in February and March. Calls on Friant to satisfy the Exchange Contract in late spring and early summer months would have minimal impact to juvenile fall-run and spring-run Chinook salmon because the fish are expected to emigrate out of the area prior to mid-May. The effect on annual fish population entrainment due to May and June calls on Friant is very small. In one out of every 20 years, less than 2 percent of the annual fish population would be entrained by these deliveries to Mendota Pool (SJRRP 2016b).

### ***Spring-run Chinook Salmon in the Restoration Area***

Several commenters are concerned about the potential liability associated with harming reintroduced spring-run Chinook salmon in the Restoration Area, and the legal protections from incidental and accidental take of spring-run Chinook salmon during otherwise lawful activities, if one were to enter Mendota Pool or the Kings River watershed.

Section 10011(b) of the Settlement Act requires that spring-run Chinook salmon be reintroduced under the SJRRP as an experimental population under Section 10(j) of the Federal Endangered Species Act of 1973 (ESA). Section 10011(c)(2) of the Settlement Act requires the Secretary of Commerce to issue a rule pursuant to Section 4(d) of the ESA that governs the incidental take of reintroduced spring-run Chinook salmon.

Under Section 10(j) of the ESA, the Secretary of Commerce can authorize the release of an experimental population (e.g., spring-run Chinook salmon) outside a species' current range, but within its historical range, when (1) the experimental population is geographically separate from the nonexperimental population, and (2) the designation will further conservation of the listed species. A population designated as experimental is treated as threatened regardless of the species' designation elsewhere in its range. Section 4(d) of the ESA allows the National Marine Fisheries Service (NMFS) to adopt

regulations necessary to provide for conservation of a threatened species. This provides flexibility for NMFS to customize prohibitions and regulate activities to conserve threatened species, potentially without involving many or all restrictions that apply to endangered species. Exact requirements depend on the species' biology and conservation needs, and threats being managed. Under the 4(d) rule, NMFS can create a set of protective regulations specific to the experimental population and can elect to allow take for the experimental population if the take is incidental to a lawful activity, such as agricultural activities, and is unintentional or not due to negligent conduct. The term "take" is defined by the ESA as "to harass, harm, pursue, hunt, shoot, wound, trap, capture, or collect, or attempt to engage in any such conduct."

Under Fish and Game Code section 2080.4, if a population of spring-run Chinook salmon in the San Joaquin River is designated as an experimental population under Section 10(j) of the ESA, no further authorization or approval is necessary under the California Endangered Species Act (CESA) for any person to incidentally take members of that experimental population if specific requirements published in the Federal Register are met. Additionally, California Department of Fish and Wildlife (DFW) may permit take of endangered, threatened, or candidate species, including spring-run Chinook salmon, if specific requirements are met, including that the take is incidental to otherwise lawful activities, and the impacts of the take comply with Fish and Game Code section 2081.

NMFS has issued its final rule package, in compliance with Section 10011 of the Settlement Act, in 50 Code of Federal Regulations (CFR) Part 223 on December 31, 2013. DFW concurred with NMFS' rule on March 17, 2014. This rule package provides an exemption for the Exchange Contractors and others from incidental and accidental take of spring-run Chinook salmon under the ESA and CESA for otherwise lawful activities.

#### ***Other Special-Status Species in Mendota Pool***

Water districts and landowners in the Restoration Area have expressed concerns regarding potential enforcement actions under the ESA as a result of unscreened diversions causing federally-listed fish (other than spring-run Chinook salmon) to be present in the Mendota Pool. This issue was analyzed in detail in Appendix D of the Revised Framework (SJRRP 2015).

In summary, while the SJRRP will provide fish passage for many native species, only a few species are listed under the Federal ESA or are candidates for listing under the Federal or State ESA, including Central Valley spring-run Chinook salmon, Central Valley steelhead, green sturgeon, pacific lamprey, and Kern Brook lamprey. There is nothing in the Settlement or the Settlement Act that requires the SJRRP to protect the Exchange Contractors and others from take of an ESA-listed fish species other than reintroduced spring-run Chinook salmon.

As discussed above, Section 10011(b) of the Settlement Act requires that spring-run Chinook salmon be reintroduced under the SJRRP as an experimental population under ESA section 10(j). Section 10011(c)(2) requires the Secretary of Commerce to issue a rule pursuant to ESA section 4(d) that governs the incidental take of reintroduced spring-

run Chinook salmon. NMFS issued its final rule package, in compliance with Section 10011, in 50 CFR Part 223 on December 31, 2013. DFW concurred with NMFS' rule on March 17, 2014. This rule package provides an exemption for the Exchange Contractors and others from incidental and accidental take of spring-run Chinook salmon under the ESA and CESA for otherwise lawful activities.

If the Settlement had been implemented on the schedule originally envisioned, there would have been the potential for take of an ESA-listed fish species (other than spring-run Chinook salmon) by the Exchange Contractors during the Interim Flow period or for the approximately 4 years from October 2009 to December 2013, when all of the Paragraph 11(a) projects were scheduled to be completed. Although the schedule has changed from what was originally envisioned in the Settlement, with the revised schedule for the Paragraph 11(a) projects, as described in the Revised Framework, the amount of time that the Exchange Contractors may be at risk of take of an ESA-listed fish species is reduced.

The SJRRP is implementing the Steelhead Monitoring Plan as one of the commitments in the Program's ROD and in Reclamation's water right order related to the SJRRP. This effort is currently funded through Fiscal Year (FY) 2020 in the Revised Framework. After FY 2020, the Arroyo Canal Fish Screen and Sack Dam Fish Passage Project is expected to be in construction. Reclamation has committed to continuing to implement the Steelhead Monitoring Plan during the construction period which is expected to be through FY 2022 based on the project construction period identified in the Revised Framework. (Note, during the construction of the Arroyo Canal Fish Screen and Sack Dam Fish Passage Project, the Steelhead Monitoring Plan will be funded under the Arroyo Canal Fish Screen and Sack Dam Fish Passage Project line in the Revised Framework as it is required mitigation for the project.) As any steelhead trapped as part of this effort would be moved to below the Merced River confluence, no steelhead are expected in the area of Reaches 2B and 3 until after October 2022. After October 2022, it is expected that the Arroyo Canal Fish Screen and Sack Dam Fish Passage Project would be constructed and operational and the Mendota Pool Bypass would be constructed and operational. With implementation of the Steelhead Monitoring Plan, the Exchange Contractors potential for take of a steelhead would be reduced from four years if the Settlement had been implemented on the schedule originally envisioned to zero years under the revised schedule of the Paragraph 11(a) projects in the Revised Framework.

The Mendota Pool Fish Screen is not currently included in the Revised Framework, but the Framework will be updated in the future, and it is anticipated that the Mendota Pool Fish Screen would be completed after 2020. Therefore, the Exchange Contractors would continue to have the potential to take steelhead in the Mendota Pool during flood flow conditions, similar to what occurred without the SJRRP, until the screen is built. Take of steelhead would also occur in the infrequent situation of Reclamation supplying water to satisfy the Exchange Contract via the San Joaquin River at Friant Dam; however, it is likely that releases from the San Joaquin River at Friant Dam to satisfy the Exchange Contract would be made during the summer, when Restoration Flows are low. The adult migration period for steelhead ends in March, far before potential releases to satisfy the

Exchange Contract. Juvenile steelhead could be in Reaches 2B and 3 during the summer if temperatures are suitable.

Green sturgeon are a non-jumping fish species. Currently the Eastside Bypass Control Structure, Dan McNamara Road, and the Merced National Wildlife Refuge weirs prevent sturgeon access upstream. The Revised Framework anticipates the SJRRP Implementing Agencies (Reclamation, U.S. Fish and Wildlife Service (USFWS), NMFS, DWR, and DFW) providing fish passage at these structures by the end of FY 2020, with construction underway in FY 2019 for the last structure. Fish passage solutions would be designed and constructed to provide passage for sturgeon in the Wet and Normal Wet water year types. If nothing is done by FY 2020 to prevent sturgeon passage upstream, sturgeon could make it to Reaches 2B and 3 in wetter water year types. This would result in two years of potential take of sturgeon by the Exchange Contractors in Reach 3 until the Arroyo Canal Fish Screen and Sack Dam Fish Passage Project is scheduled to be completed in FY 2022. This is two years less than what would have occurred had the Settlement been implemented on the original schedule.

The Mendota Pool Bypass is scheduled to be completed in FY 2020, at the same time as sturgeon would start to have passage into Reaches 2B and 3 in wetter water year types. As noted above, the Mendota Pool Fish Screen is not currently included in the Revised Framework, but would likely be completed after 2020. Therefore, the Exchange Contractors would continue to have the potential to take sturgeon in the Mendota Pool during flood flow conditions, similar to what occurred without the SJRRP, until the screen is built. Take of sturgeon would also occur in the infrequent situation of Reclamation supplying water to satisfy the Exchange Contract via the San Joaquin River at Friant Dam; however, it is likely that releases from the San Joaquin River at Friant Dam to satisfy the Exchange Contract would be made during the summer, when minimal Restoration Flows are in the San Joaquin River and temperatures downstream of Reach 2 would likely be a barrier to upstream or downstream sturgeon migration. The upstream (adult) sturgeon migration window ends in July.

In FY 2019 or 2020, San Luis Canal Company can install slots in the two remaining Sack Dam gate bays that do not have slots and put stop logs in the end of all four gate bays on Sack Dam. This would prevent sturgeon passage until the new Arroyo Canal Fish Screen and Sack Dam Fish Passage Project is complete in FY 2022. Section 7 consultation, if there is a federal nexus, or a 4(d) water diversion screening rule could be initiated with NMFS on the permanent Arroyo Canal Fish Screen and Sack Dam Fish Passage Project to provide ESA compliance for the installation and operations of the stop logs.

At the Arroyo Canal and Mendota Pool, the SJRRP's Paragraph 11(a) projects, when complete, would provide a benefit to the Exchange Contractors by screening their facilities at the Arroyo Canal and Mendota Pool, reducing or eliminating the potential for take of an ESA-listed fish species from the Restoration Flows, Exchange Contract deliveries, and from flood flows.

## II.2.2 MCR-2: Seepage Management

Several commenters were concerned about how seepage management would be addressed in the Project area and in downstream reaches, and some commenters indicated that the seepage control measures were not adequately addressed in the Draft EIS/R. These issues are addressed below.

### ***SJRRP Actions***

Reclamation's seepage management program has two approaches (SJRRP 2014a). The first is to hold flows at levels that avoid groundwater seepage impacts. Reclamation does this through an extensive groundwater monitoring network, groundwater level thresholds set in each well, and flow operations which keep river flows at levels such that groundwater levels do not rise above thresholds. The second approach is to implement physical or non-physical seepage projects, so that Reclamation can increase flows in the San Joaquin River as required in the Settlement and Public Law 111-11 without causing material adverse groundwater seepage impacts.

Reclamation has held 19 Seepage and Conveyance Technical Feedback Group meetings since 2010 to write the Seepage Management Plan and Seepage Project Handbook in conjunction with landowners, water users, and growers. All of the information from these meetings is available on the Seepage and Conveyance Technical Feedback Group page of the SJRRP website, <http://www.restoresjr.net/get-involved/technical-feedback-meetings/seepage-and-conveyance/>. Much valuable input has been received from water users and growers that have substantially improved the Seepage Management Plan. Reclamation performed a peer review of the Seepage Management Plan in 2012 (Gurdak et al. 2012), with peer reviewers selected from those recommended by water districts, landowners, growers, environmental groups, and agencies.

Reclamation uses more than 220 monitoring wells to document seepage-related effects from Interim and Restoration flows, to improve simulation models used to help anticipate and respond to these effects, and to establish and monitor thresholds for avoiding seepage-related impacts. The SJRRP monitoring program includes:

- Well transects spaced at roughly every 8 to 10 miles, with four to six shallow monitoring wells (representative of the shallow aquifer), a staff gage measuring river stage, and one or two deeper monitoring wells (potentially representative of the underlying semi-confined or confined aquifer) at each transect.
- Additional shallow wells located in areas with shallow groundwater potentially affected by seepage. Many of these wells are monitored in collaboration with local landowners and the Central California Irrigation District (CCID).
- Soil sampling and soil salinity surveys using electromagnetic methodology, conducted in collaboration with local landowners; and
- Reporting from local landowners on visual crop health, levee seeps, and other observations.

Reclamation is currently monitoring more than 220 groundwater monitoring wells and piezometers, with over 200 installed by the SJRRP. Off-river monitoring wells are

installed in areas adjacent to the river where the water table is typically within 10 feet of the land surface and where approved by landowner/stakeholder agreements. Water levels at these wells are recorded manually, on approximately a monthly or weekly schedule. Approximately half of the wells record hourly measurements. The SJRRP makes manual groundwater level measurements in a subset of CCID wells and some also have hourly recording pressure transducers. Weekly measurements from “priority” wells are reported in a Weekly Groundwater Report posted to the SJRRP website. Seven wells are telemetered and available on a real-time hourly basis on the SJRRP website (<http://www.restoresjr.net/monitoring-data/groundwater-monitoring/>). The SJRRP has identified groundwater thresholds for each well, based on crop type and soil texture, or based on historical groundwater level prior to the SJRRP. These thresholds identify the transition where seepage effects cross into a soil depth that may cause damages.

In addition to groundwater monitoring, the U.S. Geological Survey (USGS) has developed a groundwater model based on the Central Valley Hydrologic Model specifically for the SJRRP (Traum et al. 2014). This model, whose results are summarized in the Seepage Management Plan (SJRRP 2014a), is used to identify areas of groundwater seepage concern, evaluate physical seepage projects, and confirm regional groundwater trends.

Reclamation holds flows in the San Joaquin River at levels that avoid groundwater levels rising over thresholds as a result of Restoration Flows. Reclamation performs flow bench evaluations based on the latest weekly groundwater measurements before any increase in flows, to verify that the increase will not cause groundwater levels to rise above thresholds. If groundwater levels are projected to rise above thresholds, Reclamation limits or reduces the flow release (SJRRP 2014a, Appendix J).

Reclamation also performs daily seepage evaluations when flows are above 475 cubic feet per second (cfs) in the lower reaches. If groundwater levels rise near thresholds, Reclamation performs a site visit as soon as possible (average response time is 2 days) to verify that the groundwater increase is caused by Restoration Flows. Then Reclamation reduces Restoration Flows or takes other action to avoid the groundwater seepage impact.

To further avoid seepage impacts, Reclamation also has a seepage hotline in place (916-978-4398, shown on the home page of the SJRRP website, <http://www.restoresjr.net/>), which landowners can call to report groundwater seepage concerns. This hotline provides additional backup on top of Reclamation’s projected flows allowed past each property, flow bench evaluations done prior to flow increases, daily seepage evaluations during flow releases, and site visits when a groundwater level is near a threshold.

As described in the SJRRP ROD (Reclamation 2012), Reclamation is committed to actions that reduce Restoration Flows to the extent necessary to address any material adverse impacts caused by Restoration Flows in the San Joaquin River, as identified by the SJRRP monitoring program. Therefore, seepage projects have been identified in the Restoration Area where potential seepage impacts would otherwise cause a constraint in Restoration Flows. Seepage projects include a variety of real estate or physical actions, including license agreements, easements, acquisition, interceptor drains, relief drains,

drainage ditches, seepage berms, slurry walls, shallow groundwater pumping, buildup of low lying lands, or channel conveyance improvements. These seepage control measures are described in more detail in the *Seepage Management Plan* (SJRRP 2014a). The type of seepage control measure implemented for each seepage project is identified based on local conditions, in coordination with landowners and stakeholders.

The highest priority seepage projects in the Restoration Area are those located in areas that would be impacted at the lowest San Joaquin River flows. Key areas of concern include the downstream end of Reach 2A, portions of Reach 3, and the downstream end of Reach 4A. Reclamation has completed two seepage projects to date, and is actively working on four more. Seepage projects are expected to be complete by 2020 in areas that would otherwise cause flow to be constrained below 1,300 cfs (SJRRP 2015). Subsequent seepage projects are expected to be complete by 2025 in areas that would otherwise be affected by flows up to 2,500 cfs. All seepage projects are expected to be complete by 2030 to allow up to 4,500 cfs of Restoration Flows in the San Joaquin River (SJRRP 2015).

Reclamation will continue to coordinate through the Seepage and Conveyance Technical Feedback Group meetings to obtain feedback and to implement long-term solutions for the SJRRP with respect to seepage management measures. Technical feedback meetings were most recently held on February 12, 2016, and March 31, 2016.

#### ***Seepage Management in the Project Area***

As discussed in Section 2.2.4 of the Draft EIS/R, seepage control measures in the Project area are included in the Project design. Seepage control measures would be implemented, as necessary, in the Project area where seepage is likely to affect adjacent land uses (*i.e.*, where native soils do not provide sufficient control for under-seepage). This EIS/R identifies potential impacts adjacent to the levees where a variety of the seepage management measures could be implemented in the Project area. These impacts are described in Chapters 4 through 24 of this EIS/R.

The current design for the Compact Bypass includes bentonite slurry cut-off walls in the levees surrounding the Compact Bypass and in the north levee from about river mile (RM) 206 and 208. The cutoff walls would be about 3 feet wide and would extend 15 to 20 feet below grade and about 8 feet above grade. Inspection trenches would also be included periodically, where needed. A bentonite slurry cut-off wall may be constructed to control groundwater seepage elsewhere on the floodplain, although other seepage control measures may also be used, such as drainage ditches, interceptor lines, or seepage easements. The seepage control measures used in the Reach 2B improvements area would be finalized based on site evaluations, suitability of site conditions, feasibility, and landowners and stakeholder input, in accordance with the Seepage Management Plan. Reclamation will continue to work with landowners and stakeholders in the Reach 2B area during the design process. Reclamation held a design briefing for updates in the design of the Compact Bypass on November 18, 2015, inviting landowners and stakeholders in the Reach 2B area to provide feedback. Similar design briefings are anticipated for the Reach 2B improvements area as the design progresses.

### **II.2.3 MCR-3: Subsidence**

Several commenters expressed concern regarding regional subsidence issues in the San Joaquin Valley and its potential effects on the SJRRP and the Project. The California Supreme Court, in *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369, Case No. S213478, recently held:

“In light of CEQA’s text, statutory structure, and purpose, we conclude that agencies generally subject to CEQA are not required to analyze the impact of existing environmental conditions on a project’s future users or residents. But when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the *project’s* impact on the environment – and not the *environment’s* impact on the project – that compels an evaluation of how future residents or users could be affected by exacerbated conditions.”

In this specific instance, the *Project* would not cause or exacerbate subsidence; thus the impact on subsidence by the Project does not compel an evaluation under CEQA. The lead agencies recognize, however, that the success of the Project is critical to the Settlement Agreement. Therefore, issues related to subsidence are addressed below.

#### ***Restoration Area Subsidence***

In 2011, Reclamation established the SJRRP Geodetic Control Network, using static global positioning system (GPS) methods, to investigate subsidence within the Restoration Area (Reclamation 2011a). Reclamation conducts bi-annual surveys, in July and December, of the established network to monitor the rate of subsidence over time. The network is made up of National Geodetic Survey, Reclamation, USGS, California Department of Transportation, and Department of Water Resources (DWR) benchmarks. Each of the 85 control point elevations are updated after each survey and are used by the SJRRP to study subsidence, as well as to provide accurate horizontal and vertical controls for other studies. After each survey, Reclamation prepares exhibit maps that compare the most recent data with the data from the previous survey and with data from prior years. The exhibit maps provide an overall picture of the subsidence within the Restoration Area, and are published on the SJRRP website, <http://www.restoresjr.net/monitoring-data/subsidence-monitoring/>. Annual subsidence rates have varied with time, but in general, subsidence trends appear to have either remained constant, or in some areas increase in the Restoration Area, since the start of the surveys. Subsidence rates range from about 0.15 foot per year to 0.75 foot per year in the Restoration Area, as calculated from survey data collected between December 2011 and December 2015 (SJRRP 2016a, Reclamation 2016).

Reclamation and DWR have also performed subsidence monitoring along the Flood Control Project levees to help further refine the estimated annual subsidence rates along the levees of the flood bypasses. Beginning in May 2012, Reclamation began monitoring the Arroyo and Temple-Santa Rita Canals to clarify localized subsidence near Sack Dam. To accomplish this, two precise leveling networks were established – Arroyo Canal starting at Sack Dam running approximately 6 miles westerly and the Temple-Santa Rita

Canal starting at Check Structure 1 on the Arroyo Canal running approximately 11 miles northerly. These level networks were surveyed monthly for just over a year. In 2012 and later in 2013, DWR collected topographic ground elevations to help further refine the estimated annual rates in the lower 3 miles of Reach 2A, the Chowchilla Bypass (from the Chowchilla Bifurcation Structure to its confluence with the Fresno River), the Upper Eastside Bypass (from its confluence with the Fresno River to the Sand Slough Connector), the Middle Eastside Bypass (from the Sand Slough Connector to the Eastside Bypass Control Structure), and the Mariposa Bypass. In addition to the above surveys, DWR also completed surveys in 2013 and 2014 of the levee and channel in the lower portion of Reach 3, Reach 4A, and the Middle Eastside Bypass (SJRRP 2014b).

The SJRRP is using the semiannual monitoring data and levee survey data to support and update a design criteria technical memorandum which will document subsidence within the SJRRP Restoration Area. The technical memorandum establishes recommended subsidence criteria applied to the design for future site-specific projects in Reach 2B, Reach 4B, and at the Arroyo Canal diversion in Reach 3, as well as for the levee, seepage projects and other site-specific project designs in Reaches 2A through 4B. The technical memorandum states SJRRP projects will design for subsidence from now through 2040, when the Sustainable Groundwater Management Act (Stats. 2015, chs. 346-348) requires groundwater basins to be sustainable. SJRRP projects will assume the current rates for at least 5 years, and then decreasing rates to 0 at 2040.

DWR, in coordination with Reclamation, will conduct a study to better understand the effects of long-term subsidence on channel capacity. In performing this study, one-dimensional hydraulic models will be developed using the latest LiDAR (Light Detection and Ranging) data collected in early 2015, and used to evaluate existing and future design conditions considering subsidence for the entire Restoration Area. Subsidence rates will be based on the average rate of subsidence currently being measured by Reclamation since 2011. This study will be completed in 2016 (SJRRP 2016a).

In addition to updating the models and assessing the channel capacity to consider future subsidence, DWR has started to move forward with a study within the flood bypasses to understand how subsidence is changing sediment transport. The study is designed to better understand and quantify how subsidence-induced sedimentation will affect channel capacity and to provide information on the amount of sediment removal that may be required to maintain necessary design flow capacities. Results from the sediment transport study would provide information to further evaluate bypass flow capacities, as well as refine certain aspects of the design for the Reach 4B, Eastside Bypass and Mariposa Bypass Channel and Structural Improvements Project (SJRRP 2016a).

In addition to the actions described above that Reclamation and DWR are undertaking, the SJRRP office is assisting local agencies with environmental compliance for subsidence-mitigation projects, including preparing an Environmental Assessment for the Red Top subsidence-related water transfer infrastructure project. Reclamation also participates in monthly subsidence calls to share data and ongoing projects with other State, Federal, and local agencies and consultants.

***Subsidence Considerations in the Project Design***

Subsidence rates in the Project area range from about 0 to 0.3 foot per year, as calculated from survey data collected between December 2011 and December 2015 (Reclamation 2016). Subsidence rates vary annually, with higher rates occurring during critical dry conditions when the river is dry and when groundwater pumping is likely to increase. For example, average subsidence rates in the Project area were 0.15 to 0.3 foot per year in 2015 during critical dry conditions.

As described during the November 18, 2015, design briefing for landowners and stakeholders in the Reach 2B area, Reclamation is designing new Reach 2B levees and water control structures, such as the Mendota Pool Control Structure and the Compact Bypass Control Structure, to account for 5 feet of subsidence. This is equivalent to the current rate of subsidence for 25 years, and is more conservative than the rates required in the SJRRP's Subsidence Design Criteria Technical Memorandum discussed above. This design criterion is considered conservative, because in 2040 (25 years from now) the Sustainable Groundwater Management Act will have required Groundwater Sustainability Agencies to reach sustainable levels of groundwater withdrawal in critically-overdrafted State groundwater basins. This presumably means that subsidence will have stopped in the Project area by 2040. The Project area is in a critically-overdrafted basin.

As discussed in Section 2.2.4 of this EIS/R, during the design process, causes of the observed subsidence, data from previously conducted studies, subsidence locations expected to require special design considerations, anticipated subsidence rates, and methods to mitigate the anticipated ground subsidence are being identified and incorporated into the design. To account for subsidence, Reclamation is designing additional freeboard on levees, additional height of control structures and intake facilities, and additional stoplogs or concrete walls to maintain the same low flow elevation after years of subsidence on control structures. These factors will allow the Mendota Pool Bypass and Reach 2B project structures to remain operable and effective for many decades to come.

## **II.2.4 MCR-4: Project Design and Operations**

Several commenters expressed concerns regarding the adequacy of the current level of design and the level of detail in the EIS/R for evaluating Project operation and maintenance (O&M) activities. These issues are addressed below.

### ***Level of Project Design***

The level of detail provided in the Draft EIS/R and this Final EIS/R is sufficient to analyze the environmental impacts of the entire Project at a project-level of detail under NEPA and CEQA. This EIS/R is based on a 15 to 30 percent level of design for the Project. This is consistent with both CEQA and NEPA, in which the environmental analysis process occurs before completion of final design. Section 1501.2 of the Council on Environmental Quality's (CEQ's) Regulations for Implementing NEPA (CEQ Regulations) states that "[a]gencies shall integrate the NEPA process with other planning at the earliest possible time to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts" (40 CFR 1501.2). Similarly, the State CEQA Guidelines indicate that environmental analysis "should be prepared as early as feasible in the planning process to enable environmental considerations to influence project program and design and yet late enough to provide meaningful information for environmental assessment" (State CEQA Guidelines, § 15004). As provided in State CEQA Guidelines section 15146, the level of detail in the environmental analysis is to "correspond to the degree of specificity involved in the underlying activity which is described in the EIR" (Environmental Impact Report). The Project EIS/R is based on the level of engineering and planning currently available and is adequate to identify potential environmental impacts of the alternatives and identify appropriate mitigation measures. It is not intended to convey the same type of details as an operations plan.

### ***Project O&M Activities Described in the EIS/R***

Section 2.2.4 of the Draft EIS/R describes the O&M activities for the Project, including the following levee and floodplain maintenance activities and the O&M activities associated with water control structures, fish passage facilities and fish screens, where applicable, and seepage control measures.

- Levees would require maintenance for vegetation management, access roads, levee inspections, levee restoration, minor structures, encroachment removal, levee patrolling during flood events, and equipment. Levee vegetation management includes equipment to drag or mow the levee banks or aquatic-safe herbicide applications. Maintenance of access roads includes replacing gravel or scraping and filling of ruts to keep the roads in good condition. Levee restoration includes restoring areas with erosion or settlement problems or adding armor. Minor structures maintenance includes replacing gate locks, painting gates, replacing lost or damaged signage, and lubricating gates. Encroachment removal involves removing illegally dumped materials. Levee and structure protection maintenance includes repair restoration of protection measures due to erosion or degradation and vegetation management.

- Floodplain maintenance includes vegetation management for invasive species, periodic floodplain and channel shaping to retain capacity and prevent fish stranding, debris removal, and repair of channel banks and bank protection measures.
- Operations of the water control structures include operating the motors for the control gates, inspecting and assessing the gates, adjusting the gates for various stages of flows, adding short walls to the stop-log guides after years of subsidence, and running the automatic trash sweep. Maintenance of the water control structures includes annual operating maintenance for control gates, lubricating the fittings, greasing and inspecting the motors, replacing parts and equipment, in-channel sediment removal in the structure vicinity, and cleaning the trash rack. Work needed for the radial gates includes inspection of gates and seals and periodic replacement of seals. Work needed for the trash rack includes periodic repair or replacement of components, inspecting for operation, and greasing and inspecting the motors.
- Fish passage facility operations include visually inspecting the facility, verifying flow, clearing obstructions and debris, adjusting the weirs, estimating performance (*i.e.*, velocity measurements), fish monitoring, and powering mechanically controlled weirs. Fish passage facility maintenance could include removing sediment and debris from the facility, in-channel sediment removal in the structure vicinity, inspection of gates and seals, periodic replacement of seals, periodic repair or replacement of weir gates, periodic repair or replacement of other system components, inspection for operation, greasing and inspecting motors, and replacement of riprap, grouting, boulders, large woody debris, or other “natural” features of the fish passage facility.
- If constructed, fish screen operations would include visually inspecting screens, verifying flow, clearing obstructions and debris, adjusting the baffles, permitting and regulatory compliance measures, estimating performance (*i.e.*, velocity measurements), powering the screen, running the pumps for the sediment removal system, running automatic brush cleaning and trash rake motors, and running pumps for the fish diversion pipe. Operations could include methods to reduce predation of juvenile fish (*e.g.*, noise systems to scatter predators, netting, and periodic draining of the screen return pipes) and may include the addition of juvenile and/or adult fish traps. Fish screen maintenance would include removing the screens for cleaning, replacing screens when needed, periodic repair or replacement of brush cleaning system components, periodic repair or replacement of trash rack components, inspection for operation, greasing and inspecting motors, and in-channel sediment removal in the structure vicinity.
- Seepage control measure operations are primarily passive, particularly in the case of the slurry cut-off walls that would be constructed in the Compact Bypass area and potentially constructed in the Reach 2B setback levees. Alternatively, other seepage control measures could be used in the Reach 2B Improvements area, such as seepage wells or interceptor drains. Seepage well operations would include running the pumps to lower the water table, and interceptor drain and ditch operations could involve running lift pumps. Maintenance of the seepage control

measures could include activities such as periodic sediment removal and channel re-shaping for interceptor ditches, cleaning or flushing of interceptor drains, repair and replacement of pump parts for seepage wells and lift pumps, and vegetation management and berm restoration for seepage berms. If slurry cut-off walls are constructed at all setback levees, maintenance efforts are expected to be minimal.

The Draft EIS/R also describes how water would be delivered to Mendota Pool through the coordinated operation of specific water control structures. For example, Section 2.2.6 describes how gate operations at the Mendota Pool Control Structure and the Compact Bypass Control Structure would be used to control flows into the Compact Bypass and allow flows into Mendota Pool and how the Compact Bypass fish passage facility would be used during water deliveries.

While the level of design and operational details required for a detailed Project operations plan are not available at this time, Reclamation will continue to coordinate with and seek input from stakeholders, such as the Exchange Contractors and the Lower San Joaquin Levee District (LSJLD), as it has done in the past, throughout the final design process to ensure continued operations of all water supply and flood control facilities during and after construction.

## II.2.5 MCR-5: Project Funding

Several commenters raised concerns regarding the availability of funding for the entire SJRRP, for the Project construction actions, and for Project O&M activities. The availability of funding for a project does not compel an evaluation under CEQA. The lead agencies recognize, however, that the success of the Project is critical to the Settlement Agreement. Therefore, each one of these topics is discussed below.

### ***SJRRP Funding***

The SJRRP's funding sources and funding outlook are described in detail in the *Revised Framework for Implementation* (Revised Framework; SJRRP 2015). As described in the Revised Framework, Reclamation has a variety of funding sources available to it for implementation of the SJRRP. These include the San Joaquin River Restoration Fund, the Central Valley Project Restoration Fund, new Federal appropriations, and State Funds. These sources are described briefly below. See Chapter 3 of the Revised Framework for more detailed information.

- San Joaquin River Restoration Fund – Section 10009 of the Settlement Act created the San Joaquin River Restoration Fund. Sources of monies deposited into the fund are described below. Of the sources into this Fund identified below, except for the Non-Federal Funds, \$88 million was appropriated in the Settlement Act for expenditure. The remainder must either be appropriated by Congress or becomes available for expenditure, not subject to appropriation after October 1, 2019 (in essence, FY 2020). Of the sources identified below, both the Friant Surcharge and the Sales of Water and Property continue indefinitely into the future. These monies will accumulate in the San Joaquin River Restoration Fund until expended.
  - Friant Surcharge – Continuation of and the dedication of the “Friant Surcharge,” an environmental fee charged pursuant to the Central Valley Project Improvement Act (CVPIA) for every acre-foot of water delivered to Friant contractors, except for Recovered Water Account water.
  - Friant Capital Repayment – Redirection of the capital (construction) component of water rates paid by Friant Division, Hidden Unit, and Buchanan Unit water users to Settlement implementation.
  - Sales of Water and Property – There are three types of revenues in this category as follows: (1) sale of Recovered Water Account water; (2) sale of Unreleased Restoration Flows; and (3) sale of property and interests in property.
  - Non-Federal Funds – Non-Federal funds, including State funds, may be deposited into the San Joaquin River Restoration Fund.
- Central Valley Project Restoration Fund – Section 10009(b)(2) of the Settlement Act authorizes up to \$2 million annually, in 2006 price levels, from the Central Valley Project Restoration Fund to implement the Settlement.
- New Federal Appropriations – Two new sources of Federal appropriations are provided in Public Law 111-11 as follows: (1) Part I, Section 10009(b)(1) of the Settlement Act authorizes new Federal appropriations up to \$250 million, in 2006

price levels, for implementing the Settlement; and (2) Part III, Section 10203 of Public Law 111-11 authorizes an additional \$50 million, in 2008 price levels, to carry out certain improvements within the Friant Division, and financial assistance to local agencies for groundwater banking projects.

- State Funds – The State has committed to seek multi-benefit projects and funds equaling at least \$200 million to support implementation of the Settlement. State funds are anticipated to come from four different bond sources, the Disaster Preparedness and Flood Protection Bond Act of 2006 (Proposition 1E), Proposition 13 (2000 Water Bond), Proposition 84, and the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1).

The SJRRP is also looking for other opportunistic funding sources, such as grants and cost-shares. (see Appendix E of the Revised Framework). However, as identified in the Revised Framework, even with these funding sources, a \$390 million shortfall for the Federal government and an approximately equal shortfall for the State government have been identified for implementation of the SJRRP. It is important to note that the SJRRP is comprised of a series of smaller projects, such as the Mendota Pool Bypass, Reach 2B channel and levee improvements, the Arroyo Canal Fish Screen and Sack Dam Fish Passage actions, seepage projects, levee stability projects, the Reach 4B actions, and Water Management Goal actions. While there is a funding challenge to implement the entire SJRRP, there is sufficient funding available to implement a series of actions.

Recognizing the funding challenges of the SJRRP, the Revised Framework seeks to prioritize individual SJRRP projects in a way that adds value and meets Reclamation's obligations in implementing the Settlement and Settlement Act over time. The projects that have the greatest value and work to achieve the greatest benefit to implementing the Settlement and Settlement Act are given a higher priority for funding and are scheduled to be implemented early in the Program, when funding is more secure. The Revised Framework also seeks to prioritize projects that would add value to the San Joaquin River and the San Joaquin Valley regardless of the overall implementation of the SJRRP. Said another way, the Revised Framework prioritizes projects so that there are no stranded assets. If no more funding becomes available to complete the entire SJRRP, the Revised Framework prioritizes projects that add value and work to meet Reclamation's obligations in the Settlement and Settlement Act as best as possible.

Fundamental to Reclamation's obligations in the Settlement and Settlement Act are the release of Restoration Flows from Friant Dam and the conveyance of those flows to the Merced River along with the reintroduction of spring-run and fall-run Chinook salmon. With regard to the Restoration Goal, the Revised Framework prioritizes those projects that are key to conveying as close to Full Restoration flows as soon as possible to the Merced River and reintroducing salmon. To this effect, the Revised Framework prioritizes the following projects to achieve the following goals:

- Mendota Pool Bypass, Sack Dam improvements, and fish passage improvements in the Eastside Bypass as these actions allow for unimpeded fish passage;

- Reach 2B levee setbacks along with seepage and levee stability projects to achieve 2,500 cfs capacity from Friant Dam to the Merced River confluence to provide flows for salmon at a rate that the SJRRP generally believes it can obtain suitable water temperatures for salmon in most years; and
- Arroyo Canal fish screen to reduce fish entrainment in the Arroyo Canal.

As described in the Construction Funding Appendix (Appendix C) of the Revised Framework, the SJRRP expects to have funds to build all of the projects identified above with funds from the San Joaquin River Restoration Fund, appropriated funds allocated to the SJRRP, and State funds. In this way, Reclamation is working to be thoughtful and careful in incrementally implementing its obligations in the Settlement and Settlement Act while not resulting in stranded assets due to limited funding.

### ***Project Construction Funding***

Reclamation would be funding Project construction. As described in the Revised Framework (Tables 4-10 and 5-11), all of the costs for the Mendota Pool Bypass and the Reach 2B levee improvements are Federal costs. The SJRRP would have funds to build the Project with funds from the San Joaquin River Restoration Fund and appropriated funds allocated to the SJRRP. This is described in the Construction Funding Appendix (Appendix C) of the Revised Framework.

### ***Project O&M Funding***

Reclamation would be funding Project O&M. Table 5-2b of the Revised Framework identifies an O&M budget of \$200,000 a year for the Mendota Pool Bypass starting in FY 2020, after construction has completed in FY 2019. Table 5-2b of the Revised Framework also assigns this cost to the Federal government (Reclamation). In addition, Table 6-2b of the Revised Framework identifies an O&M budget of \$200,000 a year for the Reach 2B Improvements starting in FY 2026, after construction has completed in FY 2025. Table 6-2b of the Revised Framework also assigns this cost to the Federal government (Reclamation). These O&M costs are included until FY 2029, which is the end of the planning horizon for the Revised Framework. Although the budget has not been developed beyond FY 2029, funding for Project O&M activities is intended to continue for the life of the Project.

In addition, the SJRRP has committed to long-term O&M activities to be implemented in the SJRRP Restoration Area that could contribute to actions in the Mendota Pool Bypass and Reach 2B area. These activities include invasive species management (\$300,000 per year) and vegetation management (\$200,000 per year), both funded through FY 2029 in the Revised Framework (again, the end of the planning horizon in the Revised Framework).

Reclamation also remains considerate of long-term O&M costs and the long-term funding source for these costs. Reclamation anticipates that the San Joaquin River Restoration Fund would serve as the long-term funding source for all SJRRP O&M activities, including O&M activities that are part of this Project. The long-term collections (post FY 2029) in the San Joaquin River Restoration Fund would be comprised of the Friant Surcharge collections and Sales of Water and Property.

Reclamation estimates these sources to result in an average of \$6.2 million per year. These funds would be available for use as they are collected (the current restrictions on the expenditure of these funds are lifted in FY 2020). Reclamation recognizes that the roughly \$400,000 O&M estimate for both the Mendota Pool Bypass and Reach 2B levees would be subject to inflation over time, however, the collections in the San Joaquin River Restoration Fund are more than sufficient to cover these costs. Reclamation remains cognizant of all of the SJRRP long-term O&M funding needs and is working to ensure that all long-term O&M funding needs remain within the estimated \$6.2 million per year in collections. In addition, Federal appropriations would likely also be available for any extraordinary O&M activities.

## **II.2.6 MCR-6: Flood Management Considerations and O&M Costs**

Several commenters raised flood management concerns specifically related to then-existing channel capacity and flood impacts in river reaches upstream and downstream of the Project area, along with concerns regarding the availability and source of O&M funds for flood management actions. These concerns are addressed below.

### ***Then-Existing Channel Capacity and Flood Impacts in Other River Reaches***

Then-existing channel capacities are assessed, updated, and documented annually in the SJRRP Channel Capacity Report (SJRRP 2014c, 2015, and 2016a). The approach to determining then-existing channel capacity in the existing reaches of the river is extensive and is described in detail in the SJRRP ROD from Page 9 to 15 (Reclamation 2012). In summary, throughout Settlement implementation, the maximum downstream extent and rate of Restoration Flows to be released would be maintained at or below then-existing channel capacities. As channel or structure modifications are completed with additional environmental compliance, maximum Restoration Flow releases would be correspondingly increased in accordance with then-existing channel capacities and with the release schedule. Consistent with the Settlement Act, Restoration Flows would be reduced, as needed, to address material seepage impacts, as identified through the monitoring program (see Appendix D of the Draft Program Environmental Impact Statement/Environmental Impact Report [PEIS/R], “Physical Monitoring and Management Plan”). If release of water from Friant Dam is required for flood control purposes, concurrent Restoration Flows would be reduced by an amount equivalent to the required flood control release. If flood control releases from Friant Dam exceed the concurrent scheduled Restoration Flows, no additional releases above those required for flood control would be made for SJRRP purposes.

Then-existing channel capacities within the Restoration Area correspond to flows that would not significantly increase flood risk from Restoration Flows in the Restoration Area. The action to release Restoration Flows includes measures that would achieve the following objectives: (1) commit Reclamation to implementing actions that would meet performance standards that minimize increases in flood risk as a result of Restoration Flows, (2) limit the release and conveyance of Restoration Flows to those flows that would remain in-channel until adequate data are available to apply the performance standards and until the performance standards are satisfied, and (3) enable the Settlement to be implemented in coordination with other ongoing and future actions outside of the Settlement that could address channel capacity issues identified in the Settlement or through the SJRRP or other programs. Implementation of measures that achieve these objectives would allow for the safe release and conveyance of Restoration Flows throughout the duration of Settlement implementation. Reclamation has implemented and will continue to implement the following three integrated measures that collectively minimize increases in flood risk as a result of Restoration Flows during Settlement implementation:

- **Establish a Channel Capacity Advisory Group and Determine and Update Estimates of Then-Existing Channel Capacities as Needed** – The establishment and administration of a Channel Capacity Advisory Group to provide independent review of estimated then-existing channel capacities, monitoring results, and

management actions to address vegetation and sediment transport within the system as identified by Reclamation.

- **Maintain Restoration Flows at or Below Estimates of Then-Existing Channel Capacities** – The process for limiting Restoration Flows to reduce the risk of levee failure due to underseepage, through-seepage, and associated levee stability issues to less-than-significant levels.
- **Closely Monitor Erosion and Perform Maintenance and/or Reduce Restoration Flows as Necessary to Avoid Erosion-Related Impacts** – The commitment by Reclamation to implement erosion monitoring and management, including monitoring potential erosion sites, reducing Restoration Flows as necessary, and reporting ongoing results of monitoring and management actions to the Channel Capacity Advisory Group.

Only limited data are currently available on San Joaquin River channel capacities and levee conditions. The levee design criteria developed by the U.S. Army Corps of Engineers (Corps) and presented in *Design and Construction of Levees Engineering and Design Manual* (Manual No. 1110-2-1913) (Corps 2000a), *Engineering Manual: Slope Stability* (Manual No. 1110-2-1902) (Corps 2003), and *Design Guidance for Levee Underseepage* (Engineering Technical Letter No. 1110-2-569) (Corps 2005) would be applied throughout the Restoration Area to identify the Restoration Flows that would not cause the levee slope stability Factor of Safety to be reduced below 1.4, or the underseepage Factor of Safety to be reduced below the value corresponding to an exit gradient at the toe of the levee of 0.5. The levee slope stability Factor of Safety is defined as the ratio of available shear strength of the top stratum of the levee slope to the necessary shear strength to keep the slope stable (Corps 2003). The application of the levee slope stability Factor of Safety of 1.4 is required for federally authorized flood control projects. Through-seepage is calculated as part of the slope stability analysis and does not have a separate Factor of Safety. The underseepage Factor of Safety is defined as a ratio of the critical hydraulic gradient to the actual exit gradient of seepage on the levee. Corps design guidance recommends that the allowable underseepage factor of safety for use in evaluations and/or design of seepage control measures should correspond to an exit gradient at the toe of the levee of 0.5 (in general, this would provide a Factor of Safety of 1.6), but states that deviation from recommended design guidance is acceptable when based and documented on sound engineering judgment and experience (Corps 2005).

Until adequate data are available to determine the Factors of Safety, Reclamation would limit the release of Restoration Flows to those which would remain in-channel. In-channel flows are flows that maintain a water surface elevation at or below the elevation of the landside levee toe (*i.e.*, the base of the levee). When sufficient data are available to determine the Factors of Safety, Reclamation would limit Restoration Flows to levels that would correspond to a levee slope stability Factor of Safety of 1.4 or higher and an underseepage Factor of Safety corresponding to an exit gradient at the toe of the levee of 0.5 or lower at all times.

### ***Levee Stability Evaluations and Repairs***

As described in MCR-2: Seepage Management, Reclamation has an extensive seepage management effort that is on-going throughout the Restoration Area. Likewise, DWR has begun an extensive effort to determine levee stability throughout the Restoration Area.

**San Joaquin Levee Evaluation Project.** Levee evaluations along the San Joaquin River and flood bypasses are being conducted by DWR to assist the SJRRP in assessing flood risks due to levee seepage and stability associated with the release of Restoration Flows. This exploration and evaluation of existing levees within the Restoration Area is being performed under DWR's San Joaquin Levee Evaluation Project. The evaluation identifies the maximum flow that can be conveyed through the levees without exceeding Corps criteria for levee underseepage and slope stability.

DWR classified levee segments in the Restoration Area into one of three categories representing an increasing priority for the need to complete geotechnical evaluations and levee stability analyses. Priority 1 levees are located in Reach 2A (14.9 miles), the Middle Eastside Bypass (from Sand Slough to the Eastside Bypass Control Structure) (20.6 miles), and the lowest portion of Reach 4A (4.1 miles).

The initial phase of the San Joaquin Levee Evaluation Project included levee evaluations within two Priority 1 study areas – 15 miles of levees in Reach 2A (the Gravelly Ford study area) and 25 miles of levees along the lower portion of Reach 4A and the Middle Eastside Bypass (Middle Eastside Bypass study area). The evaluations required reconnaissance-level geotechnical explorations, soils testing, and seepage and stability analyses at multiple water surface elevations along multiple levee segments. A geomorphic study was used to generate maps and develop a preliminary characterization of the levee foundation conditions. Initial field investigations were then conducted including geophysical surveys, soil borings, and cone penetrometer tests (CPTs). Review of the geophysical and drilling data informed a second phase of drilling that included hand auger borings along the levee toe. Geotechnical laboratory tests were performed on selected soil samples obtained from these borings to characterize the geotechnical and engineering properties of the subsurface materials. This information was then input into levee seepage and stability models to identify the maximum allowable water surface elevation that can occur on the levees without exceeding Corps criteria for seepage and stability. The seepage and stability modeling evaluated through-levee seepage, underseepage, and landside stability. The results of the seepage and stability modeling were used to identify the controlling failure mechanism in the levee segments and to estimate the highest elevation that water could be placed on the waterside slope of the levee while still meeting seepage and stability criteria.

Results of the Priority 1 levee evaluations for the maximum flows showed that allowable flows in Reach 2A, when considering levee seepage and stability, are over 6,000 cfs throughout the entire reach, and in Reach 4A, the conveyance capacity of the evaluated portion of the reach was over 4,500 cfs. In contrast to Reach 2A and 4A, a few portions of the Middle Eastside Bypass could not convey 4,500 cfs without exceeding Corps criteria for levee seepage and slope stability, including a single 3-mile levee segment which had a capacity less than 1,300 cfs (SJRRP 2016a).

Currently, DWR is performing the next steps of the San Joaquin Levee Evaluation Project. DWR is initiating a feasibility-level study on the critical levee segment that initial levee evaluations have shown will exceed Corps criteria for underseepage and DWR is continuing the exploration and evaluations of Priority 2 and 3 levees to inform the SJRRP of future remediation needs. DWR will also coordinate any levee remediation projects with Reclamation to ensure that levee stability improvements are consistent with improvements needed to address agricultural seepage issues. Priority 2 evaluations are currently being performed on about 30 miles of levees in Reach 4B2 and the Mariposa Bypass and 3 miles on the right bank of Reach 3. The initial explorations, including bore holes, CPTs, geophysical surveys, and testing of the soils data, have been completed. The next steps will be to evaluate the results of the data, and plan and implement the next phase of explorations. The initial evaluations for Priority 3 levees are scheduled to start in 2016.

Funds have been identified in the Revised Framework for levee stability actions in the Restoration Area during the 2015 to 2029 planning period. There estimated costs are identified in Appendix H of the Revised Framework (SJRRP 2015).

**Non-Urban Levee Evaluation Program.** In addition to the levee stability evaluations discussed above, DWR has performed geotechnical evaluations in the Restoration Area as part of the Non-Urban Levee Evaluation (NULE) program (DWR 2011). The NULE program evaluates Federal Flood Control Project levees (Project levees) and those appurtenant Non-Project levees which protect a basin partially protected by Project levees, or those that may impact the performance of Project levees, in areas where protected populations are less than 10,000.

Subsurface explorations in the Restoration Area were completed in 2012. These explorations consisted of approximately five CPTs and one exploratory boring on the levee crest per mile with occasional explorations on the levee toe. A total of 164 CPTs and 40 borings were drilled on or along levees in Reaches 2A, 3, and 4A and a total of 125 CPTs and 46 borings were drilled along the Eastside Bypass and Chowchilla Bypass canals. Seepage and stability evaluations were also performed on these levees. The NULE assessments are used by the San Joaquin Levee Evaluation Project in areas with priority levees.

**Flood System Repair Project.** DWR is working with the LSJLD to re-rock 25.5 miles of levee roadways in the Restoration Area to provide all-weather access to these levees. This work is being conducted under the Flood System Repair Project, in support of the Central Valley Flood Protection Plan (CVFPP). Improvements to levee roadways will help reduce flood risks by improving the reliability of the levees for levee monitoring during flood events. In addition, DWR is working with the LSJLD to modernize the electronic gate controls for the Chowchilla Bypass, San Joaquin River, Eastside Bypass, and Mariposa Bypass control structures. These modifications will improve the system operations by increasing system reliability and allowing the ability to quickly adjust gate settings for more efficient operations.

### ***Redirected Flood Impacts from Reach 2B Levees***

The Project would increase the channel capacity and improve levees in Reach 2B. This has the potential to translate flood hydrographs, and possibly, flood damages downstream to lower reaches of the river. The PEIS/R concluded that the change in damages due to this translation was minor and therefore the impacts would be less than significant. However, due to the lack of information on levee conditions, the PEIS/R required project-level analysis of the potential to impede or transfer flood risk downstream.

The SJRRP conducted a flood risk assessment on the translation of flood risk from Reach 2B to reaches downstream, *i.e.*, to Reach 3 and Reach 4A. The objective of the analysis was to determine if damages would change based on changes in the flood hydrographs and if the likely failure points for levees used in the PEIS/R evaluation were reasonable.

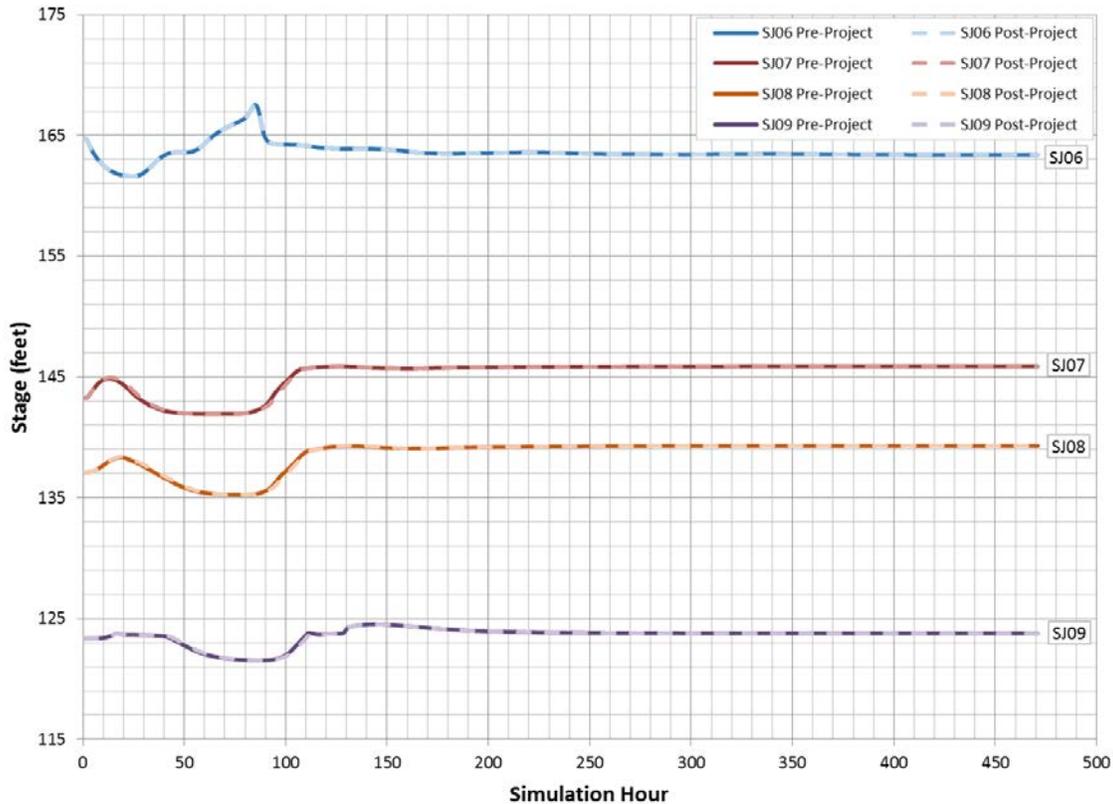
The analysis included a comparison of flood hydrographs at four index points in Reaches 3 and 4A – Areas SJ06 (Lone Willow Slough), SJ07 (Mendota North), SJ08 (Firebaugh), and SJ09 (Salt Slough) (see Figure II-1 and Figure II-2) – and an evaluation of flood damages at these locations. Area SJ06 is located north of the San Joaquin River between the Chowchilla Bypass and the river, Area SJ07 is located on the south side of the river between Reach 2B and Firebaugh, Area SJ08 is located near Firebaugh, and Area SJ09 is located on the south side of the river downstream of Firebaugh. Analyses of the flood hydrographs show that the with- and without- Project flood hydrographs are essentially the same with only very small differences. There is less than a 1/10 of a foot of difference in the hydrographs at the peak of the stage curve along the entire length of Reach 3 and 4A. This result is likely due to how flood flows are managed, and that flood flows in Reach 3 and 4A are primarily controlled by flood releases from Fresno Slough. The main difference in the hydrographs is that they are translated by a couple of hours, but this would have little impact to damages. The differences in damages between the with- and without- project scenarios are extremely slight, with only SJ09 showing a slight increase in damages (0.17 percent) under Project conditions. Furthermore, with SJ06, SJ07, and SJ08 showing no increases in damages, the slight increase in SJ09 is likely, as explained in the PEIS/R, due to “perturbation effects of the Monte Carlo simulation.” The result of these slight to no damages, would confirm that the redirected flood impacts of the Action Alternatives would be less than significant.

In addition to the analysis of flood hydrographs and flood damages, the updated levee data in Reach 3 and Reach 4A were evaluated. These data included DWR’s drilling and seepage and stability evaluations in portions of Reach 2A, 3 and 4A conducted under the NULE program and the SJRRP’s drilling and seepage and stability evaluations in portions of Reach 2A and 4A and the Middle Eastside Bypass. The data and evaluations were reviewed specifically to determine if the likely failure points of the levees used in the PEIS/R evaluation were reasonable. A comparison of the likely failure points from the PEIS/R analysis with the allowable water surface elevations from the NULE and SJRRP showed that the likely failure points were between 0.8 to 5.3 feet lower than the actual elevations that recent drilling and analyses have determined. This means that the likely failure points used in the PEIS/R’s redirected flood analysis were reasonable and actually more conservative (lower) than what the recent levee evaluations are showing.



Source: Central Valley Flood Protection Plan, Attachment 8F: Flood Damage Analysis (DWR 2012a)

**Figure II-1.**  
**Flood Damage Analysis Areas in the San Joaquin River Basin**



**Figure II-2.  
Pre- and Post-Project Flood Stage Hydrographs**

Based on a comparison of changes to flood hydrographs, there would be little to no increase in damages – the one area that showed a slight increase in damages was likely due to perturbation effects in the model – and therefore redirected flood impacts would be minor. This is further supported by the assessment of the recently completed levee evaluations in Reaches 2A, 3, and 4A, which found that the likely failure points for these levees that were used in the PEIS/R were reasonable and conservative.

As described above and in the SJRRP ROD (Reclamation 2012), Reclamation is committed to actions that reduce Restoration Flows to the extent necessary to address material adverse impacts caused by Restoration Flows. Therefore, seepage projects and levee stability projects have been identified in the Restoration Area where potential seepage impacts or levee stability would otherwise cause a constraint in Restoration Flows. Said another way, flows would not increase in the river reaches until Reclamation, through the seepage management efforts and through the channel capacity report process, determines that such flows would not damage adjacent landowners or impact levee stability.

### ***O&M Costs for Flood Management Actions***

Some commenters expressed concerns that the Restoration Flows and Project actions would result in additional O&M costs for the Flood Control Project. In general, these comments focus on increased O&M costs for the Flood Control Project that are a result of the SJRRP's Restoration Flows. As described previously, the Draft EIS/R and this Final EIS/R address Project actions. The environmental impacts, environmental commitments, and mitigation measures related to the release of SJRRP Restoration Flows were addressed in the PEIS/R and subsequent Program ROD and are outside of the scope of this document. However, for the ease of the reader, information on changes to the O&M costs for the Flood Control Project that result from the SJRRP Restoration Flows is provided below. Please refer to MCR-5: Project Funding for information on O&M costs for the Project.

The LSJLD, Central Valley Flood Protection Board (CVFPB), and ultimately, the State, in that order, are responsible for implementing routine O&M or capital improvements to the Flood Control Project. The Flood Control Project was designed and constructed by DWR between 1959 and 1966. LSJLD was created in 1955 by a special act of the State Legislature to operate, maintain, and repair levees, bypasses, and other facilities built in connection with the Flood Control Project. LSJLD operates and maintains these facilities in accordance with the *Operation and Maintenance Manual for Levee, Irrigation and Drainage Structures, Channels and Miscellaneous Facilities* (Flood Control Manual) (Reclamation Board 1967). The Flood Control Manual states that “the purpose of channel maintenance is to insure that the channel is kept in as good a condition as when the channel was constructed” (Reclamation Board 1967). LSJLD encompasses approximately 468 square miles (300,000 acres) in Fresno, Madera, and Merced counties, of which 94 square miles are in Fresno County. LSJLD is financially supported through landowner assessments.

The question of changes to the O&M costs for the Flood Control Project is complicated and multi-faceted. Restoration Flows will result in changes in the O&M of the Flood Control Project, possibly resulting in changes in the costs of such O&M by the LSJLD. However, some SJRRP activities will increase costs while others will reduce the LSJLD's costs or increase the ability of the Flood Control Project to protect adjacent landowners. Examples of these changes are provided below:

- Prior to the SJRRP, the LSJLD completed a number of its O&M activities in dry conditions as the river was generally dry. However, with the SJRRP, the San Joaquin River will be wet year-round, necessitating that the LSJLD complete these same activities in wet conditions. While this changes the nature of these activities, the type of maintenance activity that could occur and the types of chemicals that can be used for vegetation removal, no estimates have been made as to the changes in the costs. Presumably, some activities, like re-training workers to use different herbicides and buying different equipment, such as air boats for herbicide spraying, would cost more. However, some activities, like the use of air boats, may be more efficient and faster way to accomplish the O&M activities, reducing costs.

- The SJRRP is implementing a Physical Monitoring and Management Plan (see Appendix D of the Draft PEIS/R; SJRRP 2011a) that includes a number of activities that would typically be undertaken as O&M activities by the LSJLD. These include such things as invasive vegetation removal, erosion monitoring, and sediment removal. These actions contribute to reducing the LSJLD's overall O&M costs.
- The SJRRP is also implementing an estimated \$300 million in levee improvements throughout the Restoration Area to strengthen and improve existing levees. These actions would result in improvements to the levees, reducing their chance of failure, and further protecting adjacent landowners.
- The SJRRP is implementing a series of physical projects, like this Project and the Reach 4B project, that will restore the operational flexibility that was part of the Flood Control Project when constructed (such as restoring 2,500 cfs capacity in Reach 2B versus the estimated 1,200 to 1,300 cfs capacity of the reach currently) and improve the operational flexibility. While these projects do not necessarily reduce the O&M costs of the Flood Control Project, they provide flexibility for the Flood Control Project to better manage flows in times of flood and reduce the chance of levee failure, protecting the adjacent landowners.

Additionally, the LSJLD has provided a series of assurances in the 1950s and 1960s to the CVFPB (then the Reclamation Board) that it would operate and maintain the Flood Control Project. The CVFPB (then the Reclamation Board) also provided assurances on behalf of the State that it would “hold and save the United States free from damages due to the construction works and their subsequent maintenance and operations” and “maintain all levee and channel improvements after completion in accordance with regulations prescribed by the Secretary of the Army” (CVFPB 1955).

While the issues of whether the SJRRP Restoration Flows is increasing O&M costs of the LSJLD and whether Reclamation should pay for this increased O&M, if any exists, are complicated and unresolved at this time, it is important to note that the O&M of the Flood Control Project will continue into the future regardless. This is because the LSJLD is required by law to undertake the O&M actions and the State has assured the United States that it will undertake the O&M actions. Reclamation is open to considering one-time payments to allow the LSJLD to purchase additional equipment to allow them to perform O&M in the wetted channel.

## II.3 Comments from Federal Agencies and Responses

### II.3.1 Environmental Protection Agency



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

AUG 13 2015

Ms. Becky Victorine  
Bureau of Reclamation  
2800 Cottage Way, MP-170  
Sacramento, California 95825

Subject: Draft Mendota Pool Bypass and Reach 2B Improvements Project Environmental Impact Statement, Fresno and Madera Counties, California (CEQ #20150168)

Dear Ms. Victorine:

**F-EPA-1** The U.S. Environmental Protection Agency has reviewed the above referenced document. Our review and comments are provided pursuant to the National Environmental Policy Act, the Council on Environmental Quality Regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

**F-EPA-2** EPA strongly supports the San Joaquin River Restoration Program. While a number of programs exist to improve San Joaquin River water quality, the Restoration Program is the most important effort underway to revive the River fisheries and ecosystem. The Mendota Pool Bypass and Reach 2B Improvements Project represents an essential step in that process.

**F-EPA-3** While EPA supports the goals of the proposed project, we find that additional project-level information is needed regarding a number of key components, in order to fully assess environmental impacts that should be avoided. We recommend that the Final EIS provide further details regarding project design, air quality impacts and mitigation, Clean Water Act section 404 permitting, the impacts of climate change on the proposed project, and potential mitigation measures for addressing environmental justice effects. In addition, we have a number of general recommendations related to the San Joaquin River Restoration Program and methods whereby the Bureau of Reclamation could maximize the potential benefit of this and future Program actions. Based on our review of the DEIS, we have rated the proposed action "*Environmental Concerns – Insufficient Information*" (EC-2) (See the enclosed "Summary of Rating Definitions").

**F-EPA-4** EPA commends the effort and dedication of Reclamation and partner agencies. We appreciate the opportunity to provide input on this critical restoration project, and are available to discuss our recommendations. We look forward to continuing work with you in the future.

San Joaquin River Restoration Program

**F-EPA-5**

When the FEIS is released for public review, please send one hard copy and one CD to the address above (Mail code: ENF4-2). If you have any questions, please contact me at (415) 972-3521 or contact Carter Jessop, the lead reviewer for the project. Carter can be reached at (415) 972-3815 or [jessop.carter@epa.gov](mailto:jessop.carter@epa.gov).

Sincerely,

*Cornell Dunning*

*FDG*

Kathleen Martyn Goforth, Manager  
Environmental Review Section

Enclosures: Summary of EPA Rating Definitions  
EPA's Detailed Comments

F-EPA-6

**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.

**U.S. EPA DETAILED COMMENTS ON THE DRAFT MENDOTA POOL BYPASS AND REACH 2B IMPROVEMENTS PROJECT ENVIRONMENTAL IMPACT STATEMENT, FRESNO AND MADERA COUNTIES, CALIFORNIA, AUGUST 13, 2015**

**Air Quality**

**F-EPA-7**

As noted in the DEIS, the project is within the San Joaquin Valley Air Basin, which is classified as extreme nonattainment for ozone, nonattainment for PM<sub>2.5</sub>, and maintenance for PM<sub>10</sub>, and is subject to the EPA General Conformity Rule. The air quality analysis provided in the DEIS takes a “worst case scenario” approach wherein it is assumed that no borrow materials would be sourced locally and all materials necessary for project construction would be hauled from more than 100 miles away (p. 4-32). Based upon the construction scenario modeled, the DEIS indicates that the project would greatly exceed the *de minimus* thresholds during each year of project construction. The DEIS provides environmental commitments and mitigation measures intended to reduce construction related emissions, and indicates that implementation of these measures would reduce particulate matter, ozone, ozone precursor and NOx emissions to below *de minimus* levels. It states that USBR will require the use of the highest tier equipment available and the purchase of emission offsets through a San Joaquin Valley Air Pollution Control District Verified Emission Reduction Agreement for any remaining emissions above applicable federal, state and local thresholds (page 4-37).

By relying on the worst case scenario to “bookend” potential project impacts, rather than air quality projections based upon the most likely real-world construction scenario, this analysis lacks the specificity typical of project-level NEPA analysis. Accordingly, the DEIS does not include modeling demonstrating the practical effectiveness of the proposed mitigation, nor does it indicate the quantity of emissions offsets that would be required after the application of all other mitigation. Please note that the General Conformity Rule requires that, if modeling indicates that a project will exceed the *de minimus* threshold after all applicable mitigation is implemented, the emissions for that project must be reduced or offset not only to below the *de minimus* threshold, but all the way to zero.

***Recommendation:*** Include in the FEIS more project-level detail regarding the anticipated real-world project construction emissions. Conduct modeling to demonstrate that the proposed mitigation measures would be fully successful in reducing emissions to below the *de minimus* threshold and other applicable federal, state and local thresholds. We recommend that these data be provided in a tabular format. If applicable, identify the quantity of emissions offset the project would require. If available, include a copy of the draft or final adopted and signed Verified Emissions Reduction Agreement in the FEIS and commit to its implementation in the Record of Decision.

In addition to the measures required to meet applicable local, state, and federal requirements, EPA recommends consideration of the following measures to further reduce ozone precursors, NOx, and particulate matter emissions during construction:

**Mobile and Stationary Source Controls:**

- Minimize use, trips, and unnecessary idling of heavy equipment.
- Maintain and tune engines per manufacturer’s specifications to perform at EPA certification levels, where applicable; or, to perform at verified standards applicable to retrofit technologies.
- Employ periodic, unscheduled inspections to limit unnecessary idling and to ensure that construction equipment is properly maintained, tuned, and modified consistent with established specifications. The California Air Resources Board has a number of mobile

F-EPA-7  
cont.

source anti-idling requirements, which should be employed:  
(<http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm>).

- Prohibit any tampering with engines and require continuing adherence to manufacturer's recommendations.
- In general, commit to the best available emissions control technologies for project equipment:
  - *On-Highway Vehicles* - On-highway vehicles used for project related activities should meet or exceed the US EPA exhaust emissions standards for model year 2010 and newer heavy-duty on-highway compression-ignition engines (e.g., long-haul trucks, refuse haulers, etc.).<sup>1</sup>
  - *Nonroad Vehicles & Equipment* – To the extent practicable, nonroad vehicles & equipment used for project related activities should meet or exceed the US EPA Tier 4 exhaust emissions standards for heavy-duty nonroad compression-ignition engines (e.g., construction equipment, nonroad trucks, etc.).<sup>2</sup>
  - *Low Emission Equipment Exemptions* – The equipment specifications outlined above should be met unless: 1) a piece of specialized equipment is not available for purchase or lease within the United States; or 2) the relevant project contractor has been awarded funds to retrofit existing equipment, or purchase/lease new equipment, but the funds are not yet available.
  - *Advanced Technology Demonstration & Deployment* – demonstrate and deploy heavy-duty technologies that exceed the latest US EPA emission performance standards for the equipment categories that are relevant for the covered activities (e.g., plug-in hybrid-electric vehicles, battery-electric vehicles, fuel cell electric vehicles, etc.).

Administrative controls:

- Prepare an inventory of all equipment prior to construction.
- Develop a construction traffic and parking management plan that minimizes traffic interference and maintains traffic flow.
- Identify where implementation of mitigation measures is rejected based on economic infeasibility.

F-EPA-8

Climate Change

On December 18, 2014, the Council on Environmental Quality released revised draft guidance for Federal departments and agencies' consideration of the effects of greenhouse gas emissions and climate change in their NEPA reviews. The revised draft guidance supersedes the draft greenhouse gas and climate change guidance released by CEQ in February 2010 that is referenced in the DEIS under Regulatory Framework for the Climate Change chapter (p. 8-11). In accordance with the revised draft guidance, we recommend that agencies consider both the potential effects of a proposed action on climate change, as indicated by its estimated greenhouse gas emissions, and the implications of climate change for the environmental effects of a proposed action. EPA commends the Bureau of Reclamation and the California State Lands Commission for the thoughtful approach to analyzing both of these aspects of the climate change problem for this project. We also note the significant potential GHG emissions reductions that may result from the implementation of proposed air quality mitigation measures.

Although the DEIS provides a discussion of the potential effects of climate change upon conditions important to the project, such as temperature, precipitation and runoff, the document does not indicate

<sup>1</sup> <http://www.epa.gov/otaq/standards/heavy-duty/hdci-exhaust.htm>

<sup>2</sup> <http://www.epa.gov/otaq/standards/nonroad/nonroadci.htm>

F-EPA-8  
cont.

how these changes may affect specific restoration and water management goals nor overall project success. Such information is important to a complete understanding of the project and its ability to meet the requirements of the Stipulation of Settlement in the long term.

**Recommendation:** Update the Regulatory Framework section of the Climate Change chapter to reflect the new CEQ draft guidance released on December 14, 2014 or any more recently published version.

Provide a more robust discussion of the anticipated effects of climate change upon overall project goals and objectives. Compare the action alternatives with regard to their vulnerability to such effects and indicate what actions, if any, could be taken to minimize these effects where they are found to represent a risk to any legally mandated goal or stipulation.

F-EPA-9

**San Joaquin River Restoration Program**

Numerous potential opportunities exist for USBR to leverage its investment in the San Joaquin River Restoration Program and advance the Program's goals and objectives through interface with watershed, wildlife and conservation programs and initiatives that are underway in the Fresno/Madera County region in the vicinity of Reach 2B. These include USBR's administration of the Central Valley Project Improvement Act, the California Department of Water Resources' Central Valley Flood System Conservation Strategy,<sup>3</sup> the Natural Resources Conservation Service's Flood Easement Program and the Bay Delta Critical Conservation Area (CCA) program,<sup>4</sup> the California Department of Conservation's California Farmland Conservancy Program, and the California Department of Fish and Wildlife's Wildlife Conservation Board acquisition programs. Through partnerships with these agencies and programs, it may be possible to purchase agricultural conservation easements and flood easements from willing sellers, thereby clearing the way for the establishment of a large floodwater detention basin and riparian corridor in the heart of the San Joaquin Valley (modeled after the Yolo Bypass) that would both advance the implementation of the Restoration Program and increase security for flood-prone communities further downstream (northward). Such efforts, combined with a payment for ecosystem services (PES) approach to compensate willing landowners for floodwater retention, groundwater recharge, reforestation, and recovery of salmon populations, might provide options for USBR to address seepage issues by setting-back levees to the greatest extent possible.

**Recommendation:** In the FEIS, explain how the proposed project might be integrated or leveraged with other ongoing efforts in the project area to better achieve Program goals. EPA welcomes the opportunity to partner with USBR in developing strategies and methodologies for achieving such integration.

Consider establishing a large floodwater detention basin and riparian corridor within the Program area. Seek technical advice from historical ecologists, hydrogeomorphologists, and restoration ecologists about the ideal placement of levees within the study area to minimize seepage and maximize ecosystem processes. Consider whether existing project alternatives that maximize the floodplain dimensions (such as Alternative D) might serve as a component of such an effort.

<sup>3</sup> DWR's Central Valley Flood System Conservation Strategy [http://www.water.ca.gov/conservationstrategy/cs\\_new.cfm](http://www.water.ca.gov/conservationstrategy/cs_new.cfm)

<sup>4</sup> NRCS Floodplain Easement Program [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/in/programs/?cid=nrcs144p2\\_031025](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/in/programs/?cid=nrcs144p2_031025)  
NRCS Bay Delta Critical Conservation Area (CCA) program  
<http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/farmbill/rcpp/?cid=stelprdb1254127>

F-EPA-9  
cont.

Explore, in the FEIS, the feasibility of employing *payment for ecosystems services* (PES)<sup>5</sup> methods for compensating willing landowners within the project area whose properties might be occasionally affected by seepage or flooding, and who, therefore, would be contributing to flood protection benefits for downstream communities (e.g., Mendota, Firebaugh) and ecosystem restoration benefits for the San Joaquin River. If such integration of economic valuation with ecological restoration is deemed infeasible or outside the scope of this project, explain, in the FEIS, why this is the case and the criteria used to reach this conclusion.

F-EPA-10

#### **Existing Infrastructure**

Reach 2B has been subjected to substantial hydrological and landscape modification. As displayed on Figure 2-4 and discussed in Section 23, numerous wells, pump stations, irrigation reservoirs and utility lines of various types are scattered throughout the project area. The DEIS explains that, during project design, existing wells would be surveyed and determinations would be made about their fate under the proposed project (e.g., abandonment) in accordance with applicable regulations. Similarly, the DEIS indicates that utility structures, such as water pipelines, would be relocated or abandoned, depending on their future use requirements; oil and gas wells, if not possible to avoid, would be destroyed or closed (p. 2-25). The proposed project presents an excellent opportunity for the USBR to remove or upgrade outdated or harmful infrastructure within Reach 2B, and to more appropriately balance the development of natural resources and the protection of ecosystem processes.

**Recommendation:** Fully utilize this opportunity to decommission as much outdated or harmful infrastructure as possible. In determining whether to maintain, abandon or remove each piece of infrastructure, consider whether the structure was designed with ecosystem protection and fisheries management in mind. List, in the FEIS, each major piece of infrastructure in the project area and indicate whether it would be abandoned, removed, upgraded, or allowed to remain. Consider whether the decommissioning or upgrading of infrastructure on the Sacramento River that was done during the CALFED era (e.g., Red Bluff Diversion Dam, Battle Creek, Hammer Diversion Dam)<sup>6</sup> offers any lessons learned that could be applied to Reach 2B and beyond on the San Joaquin River.

F-EPA-11

#### **Clean Water Act Section 404**

The proposed project would include the fill, fragmentation, isolation, diversion or substantial alteration of jurisdictional waters and wetlands during both the construction and operations/maintenance of the proposed project. EPA recognizes that the proposed project is expected to result in a net increase in the overall extent and function of jurisdictional waters and wetlands within the project area; however, the

<sup>5</sup> *Floodplain Ecosystem Services Valuation for Carson Valley* (2010)  
<http://www.cwsd.org/wp-content/uploads/2014/11/Final-Floodplain-Ecosystem-Services-Valuation.pdf>  
*Multi-benefit floodplain conservation through prioritization of agricultural conservation easements* (2013)  
[http://www.esm.ucsb.edu/research/2013Group\\_Projects/documents/Santa\\_Clara\\_Poster.pdf](http://www.esm.ucsb.edu/research/2013Group_Projects/documents/Santa_Clara_Poster.pdf)  
*Sustainable Floodplains through Large-Scale Reconnection to Rivers* (2009)  
<http://www.sciencemag.org/content/326/5959/1487.full>  
*From Storage to Retention: Expanding California's Options for Meeting Its Water Needs* (2012)  
[http://agwaterstewards.org/images/uploads/docs/CRWFS\\_Storage\\_to\\_Retention.pdf](http://agwaterstewards.org/images/uploads/docs/CRWFS_Storage_to_Retention.pdf)

<sup>6</sup> Red Bluff Fish Passage Improvement Project  
<http://www.usbr.gov/mp/rbfish/index.html>  
 Battle Creek Salmon and Steelhead Restoration Project  
[https://www.dfg.ca.gov/ERP/erp\\_proj\\_battle\\_ck.asp](https://www.dfg.ca.gov/ERP/erp_proj_battle_ck.asp)  
 Hammer Diversion Dam  
[http://www.westcoast.fisheries.noaa.gov/stories/2015/03\\_03032015\\_hammer\\_dam.html](http://www.westcoast.fisheries.noaa.gov/stories/2015/03_03032015_hammer_dam.html)

**F-EPA-11**  
cont.

DEIS does not include sufficient detail to support a comparison of the impacts across the alternatives. The identification of potential direct and secondary effects is not clear. For each alternative, the DEIS provides an inventory of the maximum total acres of waters of the United States potentially impacted, assuming that all jurisdictional waters within the project area are “potentially impacted” (p. 15-16). In order to assess the relative impacts to waters and wetlands across the project alternatives, a higher-resolution approach is needed to document, for each alternative, the pre- and post-project acreages, types, and functions of jurisdictional features, the quantity and magnitude of temporary or permanent impacts, and the mitigation strategies that would be employed.

In addition, EPA understands that BOR intends to seek an Individual Permit from the Sacramento Corps District under Clean Water Act §404. Under §404, the Corps can only permit the Least Environmentally Damaging-Practicable Alternative (LEDPA). The DEIS does not discuss the steps necessary to initiate or complete this permitting process; however, it does explain that the implementation of Conservation Measures WUS-1 and WUS-2 would reduce potentially significant impacts to wetlands to below the threshold of significance. These conservation measures closely resemble the basic requirements of CWA §404 (e.g., commitments to delineate, avoid, and minimize potential impacts to jurisdictional waters).

***Recommendation:***

Work with the Sacramento Corps District to characterize jurisdictional features that would be directly or indirectly impacted by the proposed project under each alternative. Provide, in the FEIS, updated and high-resolution information about the acreages, types, and functions of jurisdictional features that the project would impact. Using this more rigorous information, identify the LEDPA and design a mitigation strategy for compensating for project impacts within the vicinity of Reach 2B. The FEIS should also include a brief overview of the permitting process for the proposed project under CWA and ESA. Given that this is a unique project attempting to undo many decades worth of environmental damage, consider any factors that may necessitate a unique pathway through the regulatory process. Include, in the FEIS, a draft alternatives analysis that meets the requirements of the CWA Section 404(b)(1) Guidelines as a basis for selecting the LEDPA.

**Subsidence of the San Joaquin Valley Floor**

**F-EPA-12**

The USBR addresses the matter of land subsidence in Sections 11, 13 and 14 of the DEIS. Although the history of land subsidence is acknowledged in these Sections, the cited data all date from 2008 or earlier. The ongoing historic drought in California has resulted in a rapid acceleration in the rates of land subsidence in the San Joaquin Valley; therefore, more current data are needed to accurately document baseline conditions and better describe how land subsidence may affect the project and its restoration goals.

***Recommendation:***

Include, in the FEIS, more recent data documenting land subsidence in the project vicinity, and discuss what the current trends mean for conditions in the project area. Explain whether or not groundwater depletion and the acceleration of ground subsidence of the San Joaquin Valley floor will create new obstacles for the success of the Restoration Program, and what, if anything, USBR can or will do to stabilize or reverse the damage from this subsidence.

**Environmental Justice**

**F-EPA-13**

The two-county region in which the proposed project would be constructed contains an overall minority population of 66.5%, as well as 37% more people living in poverty, compared to the State average. The DEIS states that the project could result in disproportionately high and adverse effects on minority and low income populations as a result of the removal of land from agricultural production and the exposure

**F-EPA-13  
cont.**

of sensitive receptors to construction-related air pollutant emissions. While these potential impacts are described, no mitigation measures to work with the minority and low-income communities to offset these effects are disclosed.

***Recommendation:***

Identify, in the FEIS, mitigation measures that could reduce and offset potential adverse effects on surrounding minority and low-income populations. For example, consider implementing a local job training and hiring program to further offset job loss associated with the removal of agricultural lands from production. Other measures could include notification of the local community regarding the scheduling of construction activities, and actions they might take to avoid exposure to construction related air emissions.

## **II.3.2 Responses to the U.S. Environmental Protection Agency**

### ***Response to Comment F-EPA-1***

The U.S. Environmental Protection Agency (EPA) comments and the attachments to the comments have been reviewed and considered in preparation of the Final EIS/R.

### ***Response to Comment F-EPA-2***

The Project proponents and the Implementing Agencies appreciate your support of the Project.

### ***Response to Comment F-EPA-3***

Additional Project information is included in the Final EIS/R regarding these topics and provided below in response to comments F-EPA-7 through F-EPA-13.

### ***Response to Comment F-EPA-4***

The Project proponents and the Implementing Agencies appreciate your support of the Project. Agency involvement has been a priority for the SJRRP and for development of the Project as exhibited by the stakeholder involvement process such as the Environmental Compliance Workgroup meetings for the SJRRP.

### ***Response to Comment F-EPA-5***

Copies of the Final EIS/R will be provided as requested.

### ***Response to Comment F-EPA-6***

There are no specific statements about the Project or the EIS/R in this comment.

### ***Response to Comment F-EPA-7***

Until the recent geotechnical investigations were conducted at the site (summer 2015), it had been unclear if the soils in the Project area were suitable for construction of the setback levees or if additional borrow materials would need to be transported from offsite areas. Based on recent geologic investigations, Reclamation anticipates that borrow would be taken primarily from within the setback levees for the new floodplain, and minimal if any borrow material would be needed from outside of the setback levees. Therefore, it has been assumed that all levee fill would come from local borrow sites. The air quality impacts for the Project were reanalyzed using this assumption and the air quality analysis presented in Section 4.3 of the Final EIS/R was updated accordingly. Potential effects from implementing the proposed mitigation measures were also analyzed. Although the revised air quality modeling is considered to be more accurate, the level of detail is still limited by the fact that the Project is not fully designed. Therefore, assumptions were required regarding the location of the various Project features such as the construction office and concrete batch plant. Quantification of final emission offsets required during construction would occur at later stages of design when the construction schedule has been revised. However, estimates of potential emissions reductions from implementation of mitigation measures have been provided in Section 4.3.3 of the Final EIS/R.

The suggested mitigation measures have been reviewed and incorporated into the Project mitigation measures, where appropriate. This EIS/R's air quality mitigation measures

require similar emission reduction strategies to those recommended in the comment letter. For example, Mitigation Measure AQ-1 in Section 4.3.3 of this EIS/R requires all off-road construction diesel equipment to use the cleanest reasonably available equipment or consider alternative fueled equipment or addition of after-market control devices. Furthermore, it requires the contractor to document the efforts it undertook to locate the newer equipment, alternative fueled equipment, and addition of after-market control devices. This is similar to the recommendation to use the best available emissions control technologies for Project equipment. The construction traffic management plan is another example of how recommendations in the comment letter are similar to those measures required in this EIS/R. Section 2.2.12 of this EIS/R describes the commitment made by the SJRRP ROD (Reclamation 2012) to prepare and implement a traffic management plan that identifies the number of truck trips, time of day for arrival and departure of trucks, limits on number of truck trips, and traffic circulation control measures. These control measures typically include advertising planned lane closures, warning signage, a flag person to direct traffic flows when needed, and methods for maintaining continued access by emergency vehicles.

Additional clarifying details regarding the recommended administrative controls are included in Section 4.3.3 of the Final EIS/R. Specifically, Mitigation Measures AQ-1A and AQ-1B require the contractor to prepare an inventory of all equipment and of the material hauling vehicle fleet prior to construction. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R (since the information clarifies and amplifies the information provided in the Draft EIS/R, recirculation is not required; see State CEQA Guidelines, § 15088.5).

A Voluntary Emission Reduction Agreement (VERA) with the San Joaquin Valley Air Pollution Control District (SJVAPCD) is currently being coordinated, is included in the Environmental Commitments in Section 2.2.12 of the EIS/R, and will be discussed in the Project's ROD and CSLC's CEQA Findings.

#### ***Response to Comment F-EPA-8***

Section 8.2.1 of the Final EIS/R, the regulatory setting for climate change and greenhouse gas emissions, has been updated to reflect the new CEQ draft guidance.

Although a general analysis of climate change impacts on the SJRRP, as a whole, is not within the scope of the EIS/R (see State CEQA Guidelines, §15152, subd. (d)(1), and Section 7.3 of Reclamation's NEPA Handbook), additional information has been provided here and in Section 8.1 of the Final EIS/R, the environmental setting, to describe the findings of Reclamation's white paper on climate impact assessments for the Restoration Area (Reclamation 2015b). In addition, the PEIS/R provides a discussion of climate change impacts on water temperatures in the fisheries chapter.

Climate change poses a threat to Reclamation's basic mission objectives, including both delivering quantities of water and sustaining environmental flows (Reclamation 2014a), and adapting to, and incorporating strategies to address, climate change are part of the CSLC's Guiding Principles and Values and a critical component of its Strategic Plan (CSLC 2015). In response, and as directed by both Section 9503 of the 2009 Secure

Water Act and Secretarial Order No. 3289, Reclamation developed a Climate Impact Assessment for the Sacramento and San Joaquin River Basin and the Central Valley Project Integrated Resource Plan (Reclamation 2014b and 2014c). These reports and other studies provide climate change prediction for the Restoration Area and are integrated into the SJRRP's plans and actions.

The Final EIS/R includes a new section in the environmental setting, Section 8.1.3, that discusses the climate impact assessments performed by Reclamation, provides climate change projections for air temperature, runoff, and water temperature, and discusses a range of climate change adaptations that can be used by the SJRRP to support the Restoration Goal and to address rising water temperatures. Key climate change predictions include the following:

- Air temperatures in the basin are predicted to rise, on average, by 3.6° F (2.0° C); predictions range from 1.8° to 4.7° F (1.0° to 2.6° C) (Reclamation 2014b).
- Runoff in the basin is predicted to decline, on average, by 6 percent; predictions range from +25 percent to -31 percent (Reclamation 2014b).
- San Joaquin River water temperatures at Gravelly Ford are predicted to increase in all climate change scenarios (Reclamation 2014a) due to the combined effects of changes in runoff and air temperature. Predictions range from 0.3° to 1.5° F (0.2° to 0.8° C) warmer during summer months by mid-century (Reclamation 2014b, Das 2015).

Section 8.1.3 of the Final EIS/R also discusses a range of climate change adaptations that could be implemented by the SJRRP. Key findings and adaptive strategies include, but are not limited to, the following.

- Enhanced riparian vegetation can substantially lower water temperatures by several degrees, particularly if shading is increased over several miles of riverway. The SJRRP has evaluated shading scenarios in a calibrated and verified water temperature model for the San Joaquin River, finding that dense riparian vegetation shading can reduce summer temperatures by approximately 3° F.
- Altering the river geomorphology, principally by narrowing the low-water channel, can also have a beneficial impact upon water temperature. SJRRP modeling demonstrates that reducing channel width and increasing channel depth may reduce summer temperatures by 3° to 9° F.
- Water temperature models as available on the San Joaquin River do not adequately characterize the thermal structure of deep pools in the river, which provide a refuge for fish during periods of warmer water temperatures. These thermal refugia already exist in the San Joaquin River and bypasses and will improve fish survival during warmer periods.
- Fish temperature thresholds are generally protective of the full range of fish temperature tolerances, and thus a self-sustaining naturally reproducing population may be possible without meeting temperature thresholds during all migration windows. Fish temperature thresholds represent key aspects of their

tolerances, and operate over a gradient – not an absolute number; critical temperatures do not mean all fish die, but that on average their survival decreases.

The basic purpose of the Project is to create a bypass channel around Mendota Pool that can convey at least 4,500 cfs from Reach 2B to Reach 3, to modify channel capacity in Reach 2B to ensure conveyance of at least 4,500 cfs between the Chowchilla Bifurcation Structure and the new bypass channel, and to provide the ability to divert 2,500 cfs to Mendota Pool when water deliveries are required. The bypass channel, floodplain levees, and water control structures are designed to accommodate a range of flows up to the design capacity. A reduction in future runoff due to climate change would not reduce the conveyance effectiveness of these structures.

The Project also supports the Restoration Goal, providing rearing habitat for fish. The frequency of floodplain inundation, which supports invertebrate growth, could be affected by climate change. Although runoff is expected to decrease (Reclamation 2014b), increasing the frequency of Normal-Dry water year types while decreasing the frequency of Normal-Wet water year types, it would be speculative to correlate this with changes in invertebrate abundance on the floodplain.

The adaptive strategies discussed above have been considered in the Project design. Floodplain and channel designs in the Action Alternatives are incorporating a range of climate change adaptations, including a narrow low flow channel and heavy riparian vegetation near the low flow channel. As discussed above, the SJRRP has done HEC-5Q water temperature modeling to determine the temperature benefit of these actions (SJRRP 2008). These two adaptations alone, when done over several reaches of the San Joaquin River, are anticipated to reduce summer temperatures by more than 3° F, greater than the anticipated summer warming by mid-century due to climate change.

The new material included in Section 8.1.3 of the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R. It is providing additional information about the recent white paper on climate change prepared by Reclamation.

***Response to Comment F-EPA-9***

Although SJRRP management actions are outside the scope of the EIS/R, Reclamation agrees that there are many opportunities to leverage SJRRP-related investments in the San Joaquin River with other ongoing programs to greatly improve the riparian vegetation, wildlife, and ecosystem characteristics of this portion of the San Joaquin River. Reclamation is pursuing these opportunities in several ways, described below.

- San Joaquin River Partnership – Reclamation’s SJRRP office has a close relationship with the San Joaquin River Partnership. The Partnership comprises a group of non-profits that are dedicated to maximizing the benefits of the SJRRP and restoration of the San Joaquin River. Reclamation has held several meetings over the past 2 years to identify opportunities for non-profits to assist in fisheries restoration, fish passage, and habitat restoration projects, and regularly briefs members of the partnership on the actions of the SJRRP. Reclamation has funded the San Joaquin River Parkway Trust and River Partners to implement invasive

- species removal along the San Joaquin River, and these non-profits are currently pursuing other funding sources from the Wildlife Conservation Board and DFW to further increase their positive impact on the watershed.
- **Seepage Management Plan – Reclamation’s Seepage Management Plan** discusses implementing seepage projects to allow increased Restoration Flows while avoiding material adverse groundwater supply impacts to adjacent crops through waterlogging or root-zone salinity. Seepage projects, which Reclamation has identified nearly \$200 million in the Revised Framework to implement through 2030, include interceptor lines and slurry walls, but also seepage easements. Reclamation to date has purchased 400 acres of seepage-impacted property in fee from a willing landowner, and Reclamation plans to convert the property to compensatory mitigation land, restored habitat for multi-species benefits, and/or more wildlife-friendly farming in the future. In places with willing landowners, Reclamation is open to acquiring seepage-impacted lands in fee or acquiring more extensive flood and seepage easements to allow a large floodwater detention basin and riparian corridor that would greatly improve riparian habitat as well as flood protection for the disadvantaged communities of Firebaugh and Mendota. Reclamation has pursued this related to the Firebaugh Multi-Benefit Project described below, but has run into challenges with willing landowners due to the high prices available for nut crops, which are encouraging conversion of farmland to orchards next to the river and decreasing landowner willingness to sell property or sell extensive easements.
  - **Firebaugh Multi-Benefit Project – Reclamation’s SJRRP office** has spearheaded an effort along with DWR’s former Central Valley Flood Protection Plan San Joaquin Basin-wide Feasibility Study branch chief to develop a multi-benefit project providing flood protection for the City of Firebaugh, habitat restoration, recreation, and groundwater recharge on floodplains. The first stage of the project would provide approximately 250 acres towards meeting the Central Valley Flood System Conservation Strategy goals. Reclamation has worked closely with the Department of Water Resource’s Central Valley Flood Protection Plan, Basin-Wide Feasibility Study, and Regional Flood Management Planning staff, as well as American Rivers, River Partners, Audubon California, the City of Firebaugh, LSJLD, and the Corps. Project planning occurred due to conversations started at the Upper San Joaquin River Regional Flood Management Planning meetings. Reclamation is a member of the Firebaugh Working Group, whose first official meeting was held on August 31, 2015, and Reclamation contributed to grant applications for Wildlife Conservation Board and DFW grants related to land acquisition to start implementing the project. Reclamation’s SJRRP office has identified funding for 50 percent of the initial land acquisition cost through the seepage management program.
  - **Refuge Water Supply - Reclamation’s SJRRP office** has obtained flowage easements across 8 private landowners in the Eastside Bypass to allow for passage of Restoration Flows. In coordination with the Central Valley Project Improvement Act branches of Reclamation and the USFWS, the SJRRP included refuge water supply in these flowage easements. This has provided an alternate

path for delivery of water to the East Bear Creek unit of the San Luis National Wildlife Refuge, a CVPIA refuge that has challenges getting water supply. Restoration Flows will wet the San Joaquin River and Eastside Bypass, which will greatly reduce conveyance losses for a variety of water transfers and exchanges that share channel capacity, including refuge water supply. Reclamation's SJRRP office is also working on identifying other opportunities to assist refuge water supply efforts.

- Funding – Appendix E of the Revised Framework describes alternate funding sources for projects that might be able to be combined with SJRRP funding to maximize benefits. Reclamation has unsuccessfully applied to several of these grant programs in the past, and will continue to do so with the help of partners that may have better luck in obtaining funding.
- Outreach – Reclamation is in the planning stages of an outreach campaign to increase the visibility of the San Joaquin River to local youth. Reclamation hopes, with the help of multiple non-profits and the San Joaquin River Partnership, to provide opportunities for local residents to see and participate in Chinook salmon recovery efforts and riparian revegetation efforts. Reclamation recognizes that the long-term viability of a restored San Joaquin River will depend on having an engaged local community that values the river and its ecosystem as a resource.

These overall SJRRP efforts are not directly related to this Project. On this Project, Reclamation has reviewed historical photos and maps, and consulted fluvial geomorphologists and restoration ecologists to set levee alignments to minimize seepage and maximize ecosystem processes. As an example, Reclamation has identified levee alignments that are at least 300 feet from the river to allow for geomorphologic processes, even though the San Joaquin River has not moved by more than a few dozen feet in the past 100 years in this reach. Alternative D, with the widest levee alignment, was not identified as the preferred alternative, as Alternative B's consensus-based levee alignment provides nearly the same number of floodplain acres and ecosystem function, but would be much less impactful on the local farming community.

Reclamation is also open to working with the City of Mendota to develop a multi-benefit project and incorporate local community interests into this project to the extent feasible. Reclamation has pursued this by holding a Spanish-speaking community meeting on this project, as well as several meetings with the City of Mendota. As described in the Revised Framework, Reclamation has limited funding, and so appreciates any partners that can improve the value of the SJRRP while avoiding cost increases.

While this Final EIS/R does not incorporate payment for ecosystem services, Reclamation anticipates pursuing a similar approach in Reach 2B. Reclamation would be purchasing the lands between the new setback levees in Reach 2B in fee title, or may acquire extensive easements that allow Reclamation to control the land use between the levees. Farming would be allowed within the floodplain, as several areas would only inundate for a few weeks every other year. However, Reclamation would allow only wildlife friendly farming within this floodplain, and would allow farming with the understanding that properties may flood.

In other reaches of the San Joaquin River where no major setback levees are identified, Reclamation is pursuing seepage management projects as described above. The Seepage Management Plan identifies groundwater seepage easements as a mechanism for compensating landowners. Reclamation is open to acquiring seepage and flowage easements where there are willing landowners, in coordination with partners and other funding sources. Acquiring seepage and flowage easements would permanently compensate landowners for flooding and contribute towards flood protection for downstream communities as well as ecosystem benefits.

***Response to Comment F-EPA-10***

Section 2.2.4 of the Final EIS/R has been revised to include a summary list of the major utility relocations that would be needed for Project construction. The specific quantities for each type of utility relocation, previously discussed in Section 2.2.9 of the Draft EIS/R, have also been summarized in Section 2.2.4 of the Final EIS/R. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R. Natural gas pipelines would be buried lower in the soil column and water pipelines would be buried lower in the soil column or relocated outside of the levees. Two of the three City of Mendota groundwater wells would be avoided, while the third would be floodproofed and protected. Several diversions off of the San Joaquin River and discharge locations into the San Joaquin River would be relocated to the Fresno Slough, removing fisheries concerns for San Joaquin River Chinook salmon. In addition, one of the major goals of the Project at hand is to create a bypass channel around Mendota Dam, which would eliminate a key fish passage barrier that is similar to, although much smaller than, the Red Bluff Diversion Dam.

A comprehensive list of the floodplain infrastructure, and the fate of the infrastructure, is being developed for the design and construction efforts in the Reach 2B Improvements area. Final decisions regarding the fate of the other infrastructure on the floodplain will consider the recommendations and examples provided.

***Response to Comment F-EPA-11***

Additional detail and text clarifications have been included in Chapter 15, “Hydrology – Wetlands and Aquatic Resources” of the Final EIS/R as discussed below. Inclusion of this clarifying and amplifying detail in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

Section 15.3.3 of the Draft EIS/R provides impact acreages for each of the Action Alternatives. The Final EIS/R includes a new summary table that compares the alternatives to each other and provides text that indicates that Alternative B has the smallest impact on wetlands and other waters of the United States when compared to the other Action Alternatives. The impact acreage in the EIS/R was calculated based on the maximum impacted area, which includes the future floodplain. Floodplain design details have recently become available for the preferred alternative (Alternative B) and these design details have been used to refine impact calculations in the Section 404 permit application. Because this level of design detail is not available for Alternatives A, C, or D to allow for a consistent methodology for estimating impacts from the Action

Alternatives, the same assumptions and methodology used to estimate impacts in the Draft EIS/R was maintained in the Final EIS/R.

Section 15.3.3 of the Draft EIS/R, Impact WET-1, discusses the direct, construction-related effects of the Action Alternatives. Additional clarifying detail was included in the Final EIS/R to indicate how specific construction features would impact wetlands and other waters of the United States. The conditional language used in this discussion in the Draft EIS/R (*i.e.*, “could result”) was also changed in the Final EIS/R to indicate that Project actions “would” result in discharge of dredged or fill material into waters of the United States.

Section 15.3.3 of the Draft EIS/R, Impact WET-2, discusses the long-term, indirect effects (both adverse and beneficial) that are expected to occur over the O&M phase of the Project. The Final EIS/R includes clarifying text indicating that, although some wetlands and other waters would be lost as a result of Project implementation, there would be an increase in the total acreage of wetland and other waters, and there would be an overall improvement to the wetland and riverine system’s functions and values due, in part, to restoring the function and flow of Reach 2B, reestablishing fish passage between Reach 2B and Reach 3, and creating additional habitat for listed and other fish species.

Section 15.2.1 of the Draft EIS/R includes a discussion of the Clean Water Act (CWA) and briefly describes the Section 404 permitting process. Additional clarifying detail was included in Section 15.2.1 of the Final EIS/R to describe the Section 404 permitting process, as well as the Section 401 permitting process, the Section 404(b)(1) process, and the Corps’ determination of the Least Environmentally Damaging Practicable Alternative (LEDPA) which considers ESA. This information, and other related permits and regulations have been discussed in Chapter 26, “Other NEPA and CEQA Considerations,” and/or Chapter 27, “Consultation, Coordination, and Compliance” of the Draft EIS/R, but these clarifications were also included in Section 15.2.1 of the Final EIS/R for consistency. The Section 404(b)(1) information, provided in Part VI – Appendices to the Responses of the Final EIS/R, is also referenced in Section 15.2.1 of the Final EIS/R.

The Project is expected to be self-mitigating. Conservation Measures WUS-1 and WUS-2 (discussed in Sections 2.2.10 and 15.3.3 of this EIS/R) describe the conservation strategy that will be implemented by the Project for wetlands and other waters of the United States, including commitments to delineate, avoid, and minimize potential impacts to jurisdictional waters. In addition, habitat restoration estimates provided in Section 15.3.3 are updated in the Final EIS/R. Each of the Action Alternatives is expected to increase the amount of jurisdictional wetlands and other waters of the United States in the Project area; however, the preferred alternative is expected to have the largest percent increase in jurisdictional wetlands and other waters, as compared to the other Action Alternatives. The acreage is expected to double, as compared to existing conditions.

Reclamation has been working closely with the Corps to characterize jurisdictional features and has submitted a preliminary jurisdictional wetland delineation report, draft 404(b)(1) alternatives analysis, and Section 404 permit application to the Corps. The

jurisdictional delineation and 404 permit application provide detailed information for each wetland and water feature in the Project area, characterizes the feature's vegetation, soils, and hydrology, and categorizes the feature using Cowardin's system for classifying wetlands and deep water habitats (Cowardin et al. 1992). The 404 permit application also discusses the types and function of the jurisdictional features, provides refined Project impact acreages, and discusses the mitigation strategy. Although the LEDPA has not been identified by the Corps in the EIS/R, the 404(b)(1) information is provided in Part VI – Appendices to the Responses of the Final EIS/R, and can be used by the Corps for a LEDPA determination in the ROD.

***Response to Comment F-EPA-12***

Reclamation agrees that subsidence is a major issue and is taking a variety of actions to account for subsidence in implementation of the SJRRP. As described in MCR-3: Subsidence, Reclamation has established the SJRRP Geodetic Control Network to monitor subsidence within the SJRRP Restoration Area and has conducted biannual monitoring since 2011. DWR has conducted levee surveys along the flood bypass in 2012 and 2013. These efforts have allowed Reclamation to characterize recent ground subsidence in the Restoration Area.

Data compiled by Reclamation for recent (December 2011 to December 2015) subsidence rates in the Restoration Area and Project area are included in Sections 11.1.7 and 13.1 of the Final EIS/R. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R. Subsidence rates range from about 0.15 foot per year to 0.75 foot per year in the Restoration Area, as calculated from survey data collected between December 2011 and December 2015 (SJRRP 2016a, Reclamation 2016). Annual subsidence rates have varied with time, but in general, subsidence trends appear to have either remained constant, or in some areas increased in the Restoration Area, since the start of the surveys. Subsidence rates in the Project area range from about 0 to 0.3 foot per year, as calculated from survey data collected between December 2011 and December 2015 (Reclamation 2016). Subsidence rates vary annually, with higher rates occurring during critical dry conditions when the river is dry and when groundwater pumping is likely to increase. For example, average subsidence rates in the Project area were 0.15 to 0.3 foot per year in 2015 during critical dry conditions.

Solving subsidence issues in the Restoration Area is outside of the scope of the Project and Reclamation's authority in the Settlement Act. However, because subsidence is anticipated in the Project area, Reclamation is designing new Reach 2B levees and water control structures (such as the Mendota Pool Control Structure and the Compact Bypass Control Structure) to account for 5 feet of subsidence. This is equivalent to the current rate of subsidence for 25 years. This design criterion is considered conservative, because in 2040 (25 years from now) the Sustainable Groundwater Management Act will have required Groundwater Sustainability Agencies to reach sustainable levels of groundwater withdrawal in critically-overdrafted State groundwater basins. This presumably means that subsidence will have stopped in the Project area by 2040. The Project area is in a critically-overdrafted basin. To account for subsidence, Reclamation is designing additional freeboard on levees, additional height of control structures and intake facilities,

and additional stoplogs or concrete walls to maintain the same low flow elevation after years of subsidence on control structures. These factors will allow the Mendota Pool Bypass and Reach 2B project structures to remain operable and effective for many decades to come.

***Response to Comment F-EPA-13***

Section 10.3.3 of this EIS/R evaluates effects on environmental justice communities, including those effects due to removing land from agricultural production. Mitigation measures implemented for agricultural resources can also reduce adverse effects on environmental justice communities through coordination with landowners and agricultural operators during construction. This EIS/R includes a measure that will be implemented for agricultural resources that requires Reclamation to coordinate with local growers to minimize traffic-related disruption from construction activities (Mitigation Measure LU-1). This EIS/R also includes a measure that requires local emergency dispatchers to be notified of temporary road closures (Mitigation Measures TRA-4A and TRA-4B.) Also note that under the preferred alternative, agricultural activities would be allowed on the floodplain after construction, which would reduce job impacts to the community. Reclamation has held a meeting discussing this Project with the Spanish-speaking community in the City of Mendota, and anticipates holding several more meetings throughout Project implementation.

Reclamation is already implementing a local job hiring program through our invasive species removal program with the San Joaquin River Parkway Trust and River Partners. These organizations are overseeing invasive species removal with paid labor hired from the agricultural worker community. Reclamation's Revised Framework anticipates funding this program at \$300,000 per year throughout SJRRP implementation.

While Reclamation cannot require construction contractors to hire local labor, Reclamation will encourage that construction contractors hire local labor when bidding our major construction activities for this Project.

## II.4 Comments from State Agencies and Responses

### II.4.1 California Department of Conservation, Division of Land Resource Protection



State of California • Natural Resources Agency  
Department of Conservation  
Division of Land Resource Protection  
801 K Street • MS 18-01  
Sacramento, CA 95814  
(916) 324-0850 • FAX (916) 327-3430

Edmund G. Brown Jr., Governor  
John M. Lowrie, Assistant Director

July 13, 2015

**VIA EMAIL: REACH2B EISEIR COMMENTS@RESTORESJR.NET**

Ms. Becky Victorine  
Bureau of Reclamation  
San Joaquin River Restoration Program, MP-170  
2800 Cottage Way  
Sacramento, CA 95825-1898

Dear Ms. Becky Victorine:

**S-DOC-1**

MENDOTA POOL BYPASS AND REACH 2B IMPROVEMENTS PROJECT; DRAFT ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT; SCH# 2009072044

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the Draft Environmental Impact Statement/Environmental Impact Report (Draft EIS/EIR) submitted by Bureau of Reclamation and the California State Lands Commission. The Division monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act and other agricultural land conservation programs. The Department offers the following comments and recommendations with respect to the proposed project.

**S-DOC-2**

Project Description

The project includes the construction, operation, and maintenance of the Mendota Pool 2 Bypass and improvements in the San Joaquin River channel in Reach 2B. The project consists of a floodplain width which conveys at least 4,500 cubic feet per second (cfs), a method to bypass Restoration Flows around Mendota Pool, and a method to deliver water to Mendota Pool.

The project area is located in Fresno and Madera counties, near the town of Mendota, California. The project footprint extends from approximately 0.3 mile above the Chowchilla Bifurcation Structure to approximately 1.7 miles below the Mendota Dam. Agriculture is the primary land use in the project area and represents a key industry in the local and regional economy. Approximately 76 percent of lands (4,508 acres) within the project area are located in an agricultural preserve and are under Land Conservation Act (LCA) contract<sup>1</sup>.

**S-DOC-3**

Public Acquisition Notification Process

The California Land Conservation (Williamson) Act of 1965 statute states that public agencies shall notify the Director of the Department, *before* making a decision to acquire property located in an agricultural preserve (Government Code(GC) §51291(b)). To date, the Department has not received the required notice. The intent of GC §51291(b) is to facilitate the Department's review and enable the acquiring public agency to consider the Department's comments before land located in an agricultural preserve is acquired. The manner in which property acquisition is

<sup>1</sup> Mendota Pool Bypass and Reach 2B Improvements Project; Draft Environmental Impact Statement/Report, June 2015, page 16-8.

Ms. Becky Victorine  
July 13, 2015  
Page 2 of 2

**S-DOC-3  
cont.**

followed is key to ensuring that any Williamson Act contract can be removed, facilitating the improvement.

It is important that the notice come to the Department before public agencies intending to acquire property begin negotiating with landowners. Agencies are advised to await the Department's comment letter in response to its notification, so that they can be ensured they have begun the process in accordance with statute.

**S-DOC-4**

Enclosed for your benefit is a copy of the Public Acquisition Notification Provisions of the Williamson Act, which we offer as a guide for the public process. Notice is required in the following instances:

1. Notice before making a decision to acquire property located in an agricultural preserve;
2. Notice within 10 days when the property is actually acquired;
3. Notice if the public entity proposes any significant changes to the acquisition; and
4. Notice after acquisition if the acquiring public agency decides not to acquire the property for the intended purpose.

**S-DOC-5**

In order for the Lead Agency to meet the notice requirements and facilitate the project, it should directly notify the Director of the Department of Conservation of its intent to acquire land located within an agricultural preserve.

**S-DOC-6**

Thank you for giving us the opportunity to comment on the Mendota Pool Bypass and Reach 2B Improvement Project, Draft Environmental Impact Statement/Report. Please provide this Department with notices of any future hearing dates as well as any staff reports pertaining to this project. If you have any questions regarding our comments, please contact Farl Grundy, Environmental Planner at (916) 324-7347 or via email at [Farl.Grundy@conservation.ca.gov](mailto:Farl.Grundy@conservation.ca.gov).

Sincerely,



Molly A. Penberth, Manager  
Division of Land Resource Protection  
Conservation Support Unit

Enclosure

cc: State Clearinghouse

cc: Fresno County Planning and Land Use Department

cc: Madera County Planning Department

## **II.4.2 Responses to California Department of Conservation, Division of Land Resource Protection**

### ***Response to Comment S-DOC-1***

Your comments have been reviewed and considered in preparation of the Final EIS/R.

### ***Response to Comment S-DOC-2***

This comment describes the Project information from Chapters 2 and 16 of this EIS/R. There are no additional comments about the Project or the EIS/R.

### ***Response to Comment S-DOC-3***

As described Section 16.3.3 of this EIS/R, Mitigation Measure LU-1, Reclamation will notify the Department of Conservation and the appropriate city or county when land within a preserve or under Williamson Act contract is required for the Project. Reclamation is currently completing the notice requirements to the Department of Conservation.

### ***Response to Comment S-DOC-4***

Noticing requirements are included in the enclosure in which Reclamation will use as a guide for land acquisitions subject to the Williamson Act.

### ***Response to Comment S-DOC-5***

This comment refers to the notice requirements for public acquisition of lands under a Williamson Act contract and raises issues that are similar to comment S-DOC-3. See response to comment S-DOC-3.

### ***Response to Comment S-DOC-6***

The Department of Conservation will be notified of future hearings and Project reports. The Department has been added to the Project mailing list, and as such, will be notified of all future meetings regarding the Project. Technical reports for the Project can be found on the Project website ([http://www.restoresjr.net/restoration-goal/2b-and-mendota-reach-bypass/.](http://www.restoresjr.net/restoration-goal/2b-and-mendota-reach-bypass/))

## II.4.3 California Department of Fish and Wildlife



State of California – The Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Central Region  
1234 East Shaw Avenue  
Fresno, California 93710  
(559) 243-4005  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

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



August 10, 2015

Ms. Becky Victorine  
Bureau of Reclamation  
San Joaquin River Restoration Program Office MP-170  
2800 Cottage Way  
Sacramento, California 95825

Mr. Christopher Huitt  
Senior Environmental Scientist  
State Lands Commission  
100 Howe Avenue, Suite 100 South  
Sacramento, California 95825

**Subject: Mendota Pool Bypass and Reach 2B Improvements Project Draft  
Environmental Impact Statement/Report**

Dear Ms. Victorine and Mr. Huitt:

S-CDFW-1

The California Department of Fish and Wildlife (Department) has reviewed the Mendota Pool Bypass and Reach 2B Improvements Project Draft Environmental Impact Statement/Environmental Impact Report (DEIS/R). The DEIS/R was prepared by the U.S. Department of the Interior, Bureau of Reclamation (Reclamation), as the Federal lead agency under the National Environmental Policy Act (NEPA), and the California State Lands Commission (CSLC), as the State of California (State) lead agency under the California Environmental Quality Act (CEQA). Approval of the Project would allow for the construction, operation, and maintenance of a Mendota Pool bypass, channel and floodplain improvements to convey at least 4,500 cubic feet per second (cfs) in the San Joaquin River Reach 2B and improve fish passage

Under the preferred alternative (Alternative B) a bypass channel would be constructed from Reach 2B to Reach 3 to convey at least 4,500 cfs around Mendota Pool. The bypass channel would be approximately 5,300 feet long with an average total corridor width of approximately 1,150 feet. Once constructed the bypass channel would become the new river channel capable of fish passage. A series of two to six grade control structures may be constructed within the bypass to achieve the necessary elevation change between Reach 2B and Reach 3. A new Compact Bypass Bifurcation Structure would be built at the head of the compact bypass to control diversions into Mendota Pool. The Compact Bypass Bifurcation Structure will have a fish passage facility on the

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bypass side and a fish screen on the San Joaquin River side. The San Joaquin River control structure at the existing Chowchilla Bifurcation Structure would be modified with a new fish passage facility. An access road to the Mendota Pool, Drive 10 ½, would be rerouted and realigned. The existing crossing at the San Mateo Avenue would be removed. A siphon under the bypass channel would be constructed to connect the Columbia Canal to the Mendota Pool. After construction is complete, agricultural practices could occur on the floodplain in previous agricultural areas outside of State-owned and public trust lands. Time to complete total construction is estimated to range between nine to thirteen years.

The Project would be undertaken as part of the San Joaquin River Restoration Program (SJRRP), which arises from the Settlement Agreement reached as a result of federal court action in *Natural Resources Defense Council (NRDC) et al. 14 v. Kirk Rodgers et al.* By signing a Memorandum of Understanding between with settling parties and certain other state agencies, the Department has agreed to assist the settling parties in the Settlement Agreement's implementation, consistent with its authorities, resources, and broader regional resource strategies. The Department is an Implementing Agency for the SJRRP.

The Department's comments on the DEIS/R are consistent with the Department's role as an SJRRP Implementing Agency, and as a trustee and responsible agency under CEQA, and its commitment to providing technical assistance toward implementation of the SJRRP. This letter and the attached comment table are provided to assist in the completeness and accuracy of the DEIS/R. The Department as a responsible agency may utilize the DEIS/R to issue related discretionary authorizations if appropriate.

#### **Department Jurisdiction**

**S-CDFW-2**

**Trustee Agency Authority:** The Department is a Trustee Agency under CEQA with regard to the fish and wildlife of the state (Cal. Code of Regs., tit. 14, § 15386.) Pursuant to Fish and Game Code Section 1802, the Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitat necessary for biologically sustainable populations of those species. As a Trustee Agency for fish and wildlife resources, the Department is responsible for providing biological expertise with respect to potentially significant impacts arising from project activities and means to mitigate or avoid such impacts.

In general, CEQA requires that for each significant impact identified in an Environmental Impact Report (EIR), the EIR shall describe feasible measures to avoid or substantially reduce the Project's significant adverse impacts. Mitigation includes measures that

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avoid, minimize, rectify, reduce or eliminate, or compensate for an impact. (Cal. Code Regs., tit. 14, § 15370.) Mitigation measures should be specific, feasible and fully enforceable actions that will improve adverse environmental conditions and should be measurable to allow monitoring and enforcement of their implementation.

CEQA requires a Mandatory Finding of Significance if a project is likely to substantially impact threatened or endangered species. (Cal Code Regs., tit. 14, § 15065). Significant impacts must be avoided or mitigated to less than significant levels unless the CEQA Lead Agency makes and supports a finding that changes or alterations are not within its jurisdiction but can and should be adopted by another public agency, or the Lead Agency determines that specific economic, legal, social, technological or other considerations make identified mitigation measures or alternatives infeasible. (Cal Code Regs., tit. 14, § 15091.) If impacts are not avoided or substantially lessened, the lead agency also must make a statement of overriding considerations (SOC). (Cal Code Regs., tit. 14, § 15091.)

**S-CDFW-3**

**Responsible Agency Authority:** The Department acts as a Responsible Agency for a project where another agency is the lead agency and the Department has discretionary approval over the project. (Cal. Code Regs., tit. 14, § 15381.) This may include an Incidental Take Permit (ITP), pursuant to the California Endangered Species Act (CESA), or a Lake and Streambed Alteration (LSA) Agreement issued under Fish and Game Code sections 1600 et seq.

Fish and Game Code section 2080 prohibits the "take" of species that is listed as endangered or threatened under CESA. If the Project could result in the take of any species listed as threatened or endangered under CESA, the Department may authorize take by issuing an ITP, pursuant to Fish and Game Code section 2081, subdivision (b).

A lead agency's compliance with CEQA, either by avoiding or minimizing an impact or adopting a SOC does not eliminate the Project proponent's obligation to comply with Fish and Game Code Section 2080. Consultation with the Department is warranted to ensure that Project implementation does not result in unauthorized take of a State-listed species. CEQA grants responsible agencies authority to require changes in a project to lessen or avoid effects of that part of the Project which the Responsible Agency will be called on to approve. (Cal. Code of Regs., tit. 14, § 15041).

The Department also has regulatory authority with regard to activities occurring in streams and/or lakes along with riparian habitat associated with and supported by watercourses, that could adversely affect any fish or wildlife resource, pursuant to Fish

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and Game Code sections 1600 et seq. The DEIS/R identifies in-channel construction, including excavation of the bypass channel, construction of levees and in-channel structures, removal of existing levees, and relocation or modification of existing infrastructure within the bed, channel, and bank of the San Joaquin River. For additional information on notification requirements, please contact our staff in the Lake and Streambed Alteration Program at (559) 243-4593.

**S-CDFW-4**

**Permit Streamlining:** Issuance of an LSA Agreement and/or an ITP by the Department is a discretionary approval over a project. Therefore the Department must comply with CEQA in issuing such permits. Pursuant to the CEQA Guidelines, the Department considers the Lead Agency's final EIR and adopts its own findings. (Cal. Code of Regs., tit. 14, § 15096.) The attached comments are focused on impact analyses and mitigation measures that are germane to the Department's statutory authority, and are intended to ensure the certified DEIR/S is adequate for the Department's use. An adequate EIR would significantly ease permit issuance and, consequently, Project implementation. For that reason, it is very important that the DEIS/R reflect suitable and feasible avoidance, minimization, and compensatory mitigation.

**S-CDFW-5**

**Unlisted Species:** Species of plants and animals need not be officially listed as Endangered, Rare, or Threatened (E, R, or T) on any State or Federal list to be considered E, R, or T under CEQA. If a species can be shown to meet the criteria for E, R, or T, as specified in the CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, Section 15380), it should be fully considered in the environmental analysis for the Project.

**S-CDFW-6**

**Fully Protected Species:** The Department has jurisdiction over fully protected species of birds, mammals, amphibians, reptiles, and fish pursuant to Fish and Game Code sections 3511, 4700, 5050, and 5515. Take of any fully protected species is prohibited under these statutes and the Department cannot authorize their take.

The blunt-nosed leopard lizard is a fully protected species that has the potential to occur within or near the Project area. The CEQA document prepared for this Project should include all appropriate species-specific avoidance and minimization measures.

**S-CDFW-7**

**Bird Protection:** The Department has jurisdiction over actions which may result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs, and nests include sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any

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bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

Thank you for the opportunity to comment on the DEIS/R. If you have any questions regarding the attached documents, please contact Gerald Hatler, Environmental Program Manager, at the address provided on this letterhead or by telephone at (559) 243-4005, extension 127.

Sincerely,



Dean Marston  
Acting Regional Manager

cc: See Page Six

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cc: Department of Water Resources  
South Central Region Office  
3374 East Shields Avenue  
Fresno, California 93726

National Marine Fisheries Service Southwest Region  
650 Capitol Mall, Suite 5-100  
Sacramento, California 95814

United States Fish and Wildlife Service  
2800 Cottage Way, Room W-2605  
Sacramento, California 95825

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**Literature Cited**

CDFG, 2004. Approved Survey Methodology for the Blunt-nosed Leopard Lizard. Department of Fish and Game, May 2004.

CDFG, 2009. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. California Department of Fish and Game, November 2009.

CDFG, 2012. Staff Report on Burrowing Owl Mitigation. California Department of Fish and Game. March 2012

The comments below are S-CDFW-Item-1 through S-CDFW-Item-38

San Joaquin River Restoration Program Document Comment Form Reach 2B Public Draft Draft EIS/R					
Item	Document	Chapter/Section	Page #	Line Number(s)	Comment
1		Ex. Summary	33	Table S-3	Under multiple Biological Resources-Fisheries impacts the No-Action Alternative is listed as Beneficial. This implies that there is no current fisheries issue within this Reach; its benefiting the fishery as is. The Department recommends "No-Impact" instead of Beneficial; as written it is inconsistent with the language mentioned in the Description of Alternatives section (i.e., No Action Alternative, Fisheries) which describes high rates of salmon loss if this work is not completed.
2		Ex. Summary and Ch. 2	36; 2-94	Table S-3 WILD-4; Table 2-8	Add in Conservation Measure SJKF-2 from Table 2-7 from the San Joaquin River Restoration Draft Program Environmental Impact Statement/Report (SJRPP Draft PEIS/R) to compensation for loss of habitat to the tables. In the event that this species is detected during surveys, consultation with the Department is warranted to discuss how to implement the Project and avoid "take," or if avoidance is not feasible, to acquire a State ITP prior to any ground disturbing activities. The Department also recommends consulting with the United States Fish and Wildlife Service (USFWS) on potential impacts to this species. "Take" under the Federal Endangered Species Act (FESA) is more stringently defined than CESA; "take" under FESA also includes significant habitat modification or degradation that could result in death or injury to a listed species by interfering with essential behavioral patterns such as breeding, foraging, or nesting. Consultation with the USFWS in order to comply with FESA is advised well in advance of Project implementation.
3	Public Draft EIS-R	Ch. 1	1-11	Table 1-2	Include California Endangered Species Act and Lake and Streambed Alteration coordination in Table 1-2.
4	Public Draft EIS-R	Ch. 2	2-27	36-37	Rodent control should target nuisance rodents and traps should be checked for non-target species frequently to avoid mortality to non-target species.
5	Public Draft EIS-R	Ch. 2	2-34, 35	Fig. 2-10; 2-11	Grade control structures missing from Alternative A figures although described in text.
6	Public Draft EIS-R	Ch. 2	2-49, 50	Fig. 2-10; 2-11	Grade control structures missing from Alternative B figures although described in text.
7	Public Draft EIS-R	Ch. 2	2-56	24-26	Alternative B (preferred alternative) does not include a Reach 3 Fish Barrier similar to Alternative A (Fig 2-7, Section 2.2.5 - Page 2-40/2-41 - Lines 39-42/1-25). The description in Alternative A states that without a constructed fish barrier, "[t]his would lead to delays in adult salmon migration or potentially death." Absent some type of barrier directing salmon up the bypass, a large number of salmon could be lost due to straying into the Kings River system or delays from holding indefinitely below Mendota Dam.
8	Public Draft EIS-R	Ch. 2	2-87	6-8	Include State Fully Protected Species in the list of protected species.

Item	Document	Chapter/Section	Page #	Line Number(s)	Comment
9	Public Draft EIS-R	Ch. 2	2-88	Table 2-8; BNLL-1	<p>Per Fish and Game Code Section 5050 BNLL is a fully protected species. Because BNLL is fully protected and, therefore, no "take" incidental or otherwise can be authorized by the Department, protocol level surveys should be conducted prior to any ground-disturbing activities in all areas of suitable habitat following the Department's protocol level survey methods described in the Approved Survey Methodology for the Blunt-nosed Leopard Lizard (CDFG, 2004). Suitable habitat includes all areas of grassland and shrub scrub habitat that contains required habitat elements, such as small mammal burrows. These surveys, the parameters of which were designed to optimize detectability, must be conducted to reasonably assure the Department that "take" of this fully protected species will not occur as a result of Project implementation. It is important to note that protocol level surveys must be conducted on multiple dates during late spring, summer, and fall and that within these time periods there are specific date, temperature, and time parameters which must be adhered to. In the event that this species is detected during protocol level surveys consultation with the Department is warranted, as stated in BNLL-1, to discuss how to implement the Project and avoid "take." The Department may recommend additional "take" avoidance measures including identifying and flagging all potential BNLL burrows within the proposed area of disturbance; 100-foot no disturbance buffers at a minimum around all potential burrows; use of exclusionary fencing; biological monitors; and submission of a BNLL avoidance plan to the Department.</p>
10	Public Draft EIS-R	Ch. 2	2-88	Table 2-8 -PLANTS-1	<p>There is potential for multiple special-status plant species to occur on or adjacent to the Project site. Special-status plant surveys were conducted from August 2010 through July 2011 where access had been granted and vegetation alliance surveys were conducted on December 15, 2009 and on May 19, 2010. It is unclear specifically when or how many surveys were conducted and which areas of the Project were accessible during the surveys. The Department cannot concur that special status plants are absent from the Project site based on the information provided. The Department recommends following Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (November 24, 2009). This protocol, which is intended to maximize detectability, includes the identification of reference populations to facilitate the likelihood of field investigations occurring during the appropriate floristic period. In the absence of protocol-level surveys being performed, additional surveys may be necessary. As stated in Conservation Measure PLANTS-1, special-status plant species should be avoided whenever possible by delineation and observing a no-disturbance buffer of at least 50 feet from the outer edge of the plant population(s) or specific habitat type(s) required by special-status plant species. If buffers cannot be maintained, then consultation with the Department should occur to determine appropriate minimization and mitigation measures for impacts to special-status plant species. Should a State listed plant species be identified during botanical surveys then consultation with the Department should be conducted to determine the need for an ITP. Mitigation measures for listed plant species should be fully addressed in the CEQA document prepared for the Project.</p>
11	Public Draft EIS-R	Ch. 2	2-91	Table 2-8; SWH-2	<p>If only foraging habitat will be impacted through Project-related activities, then these impacts should be mitigated through the CEQA process. The Department generally recommends replacement habitat on a 1:1 (acre impacted to acre conserved) basis. The Department recommends that lands protected as foraging habitat for Swainson's hawks be no more than 10 miles from a Swainson's hawk nest in order to be beneficial to the species. If the removal of habitat (nesting) could lead to indirect "take" of an individual, then the Project applicant would consult with the Department. If SWH nest trees are to be removed during Project implementation, then compensatory mitigation would be decided in consultation with the Department and during the ITP process.</p>

Item	Document	Chapter/Section	Page #	Line Number(s)	Comment
12	Public Draft EIS-R	Ch. 2	2-91	Table 2-8; RAPTOR-1	If project related activities must occur during the breeding season (February through mid-September) for non-listed raptors, surveys for active nests should be conducted by a qualified biologist no more than 30 days prior to commencing Project-related activities. A non-disturbance buffer of 500-feet for non-listed raptors is recommended until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.  The Department does not have any authority to require mitigation for the removal of native trees, unless it falls under our Fish and Game Code Section 1600 et seq regulations or in association with removal of nest trees of a State listed species. While the Department encourages the replacement of native trees, if it is done outside of Section 1600 or Section 2081, it would be the responsibility of the Lead Agency to determine the appropriate mitigation requirements for impacts to native tree species. The Department does have jurisdiction over actions which may result in the disturbance or destruction of active nest sites or the unauthorized "take" of birds. Fish and Game Code sections that protect birds, their eggs, and nests include sections 3503 (regarding unlawful "take," possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the "take" possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful "take" of any migratory nongame bird). If potential nesting trees are to be removed, it is recommended that removal take place outside of the raptor nesting season and replacement should occur at a ratio of 3:1 with appropriate monitoring of plantings and 65% survival after 5 years.
13	Public Draft EIS-R	Ch. 2	2-91	Table 2-8; RAPTOR-2	For least bell's vireo active nests, the Department recommends a buffer of 500-feet unless a qualified biologist determines that a smaller buffer would be sufficient to avoid impacts. Compensation requirements to fully mitigate for impacts to least bell's vireo will occur during the ITP process.
14	Public Draft EIS-R	Ch. 2	2-92	Table 2-8; RNB-2	If Project-related activities must occur during the breeding season (February 1 through September 1) for birds protected by the Migratory Bird Treaty Act, surveys for active nests should be conducted by a qualified biologist no more than 30 days prior to commencing Project-related activities. A minimum no-disturbance buffer of 250 feet should be delineated around active nests until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.
15	Public Draft EIS-R	Ch. 2	2-92	Table 2-8; MTBA-1	The most current guidance for Burrowing Owl can be found in the Staff Report on Burrowing Owl Mitigation (CDFG 2012). For buffer size refer to the Staff Report on Burrowing Owl Mitigation (CDFG 2012). Buffer size will vary based on the time of year and level of disturbance. Between April 1 and October 15 buffers should be between 200 to 500 meters depending on level of disturbance. Between October 16 and March 31 buffers should be between 50 and 500 meters depending on the level of disturbance.
16	Public Draft EIS-R	Ch. 2	2-92	Table 2-8; BRO-1	Occupied burrows cannot be destroyed during implementation of Project-related activities. Fish and Game Code Section 3513 and the MBTA prohibit the needless destruction of burrowing owls, their nests or eggs. If the Project proposes to evict burrowing owls that may be present, the Department recommends submitting a Burrowing Owl Exclusion Plan to the Department and Lead Agency describing how exclusion will occur and take will be avoided. If relocation is necessary, passive relocation is recommended and only during the non-breeding season. Active relocation that includes capture of burrowing owls is take and may result in a violation of Fish and Game Code. The Department also recommends replacement of occupied burrows with artificial burrows at a ratio of 1 burrow collapsed to 1 artificial burrow constructed (1:1) as mitigation for the potentially significant impact of evicting a burrowing owl. Burrows should be created one week prior to implementation of passive relocation techniques. The Department's Staff Report on Burrowing Owl Mitigation (CDFG 2012) recommends that foraging habitat be acquired and permanently protected to offset the loss of foraging and burrow habitat.
17	Public Draft EIS-R	Ch. 2	2-92	Table 2-8; BRO-2	

Item	Document	Chapter/Section	Page #	Line Number(s)	Comment
18	Public Draft EIS-R	Ch. 2	2-93	Table 2-8; BAT-2	The Department recommends surveys for bat species be conducted no more than 14 days prior to ground disturbance and/or construction activities and during the appropriate time of day to maximize detectability. Exclusion plans should be developed in consultation with the Department. The Department recommends that exclusion plans include methods to safely exclude roosting bats from the roosting structure to be removed, monitoring of the roost during eviction and a discussion of type, amount, and distance of suitable habitat near the habitat to be removed.
19	Public Draft EIS-R	Ch. 2	2-93-2-94	Table 2-8; FKR-1	The Department is recommending preconstruction trapping surveys for Fresno kangaroo rat (FKR) be conducted by a qualified wildlife biologist that is permitted to do so by both the Department and the USFWS. Survey methodology should be Department and FWS approved prior to initiating surveys. Surveys are recommended to be conducted well in advance of ground disturbing activities to determine presence. In order to implement full avoidance of FKR, the Department recommends a minimum 50 foot no disturbance buffer be employed around all burrows that could be used by these species. If full avoidance is not feasible and take could potentially occur as a result of Project implementation, acquisition of a State ITP for FKR would be warranted prior to initiating ground disturbing activities.
20	Public Draft EIS-R	Ch. 2	2-94	Table 2-8; FKR-3	Compensation requirements to fully mitigate for impacts to FKR will occur during the ITP process through the Department and through "take" consultation with the USFWS.
21	Public Draft EIS-R	Ch. 2	2-95	Table 2-8; RHSNC-1	Add in Conservation Measure RHSNC (c) from Table 2-7 as described in the SJRRP draft PEIS/R which describes compliance with Section 1602 of the California Fish and Game Code.
22	Public Draft EIS-R	Ch. 2	2-98	Table 2-8; SRCS-1	The 4(c) rules for the experimental population have been developed by NMFS and can be referenced within the conservation measure.
23	Public Draft EIS-R	Ch. 2	2-107	Table 2-10	Table 2-10 should include both CESA and Lake and Streambed Alteration Agreement permits.
24	Public Draft EIS-R	Ch. 5	5-5	12-19	Subsequent DNA analysis has indicated that the loach captured in this reach are not weather loach, as described in the text, but may be large scale loach ( <i>Paramisgurnus dabryanus</i> ) instead.
25	Public Draft EIS-R	Ch. 5	5-6	Table 5-2	Central Valley Steelhead are not a listed species under CESA. Central Valley Spring-run Chinook salmon are threatened under CESA.
26	Public Draft EIS-R	Ch. 5	5-9	37-41	This paragraph should be updated to include more recent trap and haul numbers and state that salmon evade Hills Ferry Barrier annually even in non-storm years.
27	Public Draft EIS-R	Ch. 5	5-11	1-10	The original quote may be from Yoshiyama et al. 1996 and/or Fry 1961 not McBain and Trush 2002, check references to ensure proper citation.
28	Public Draft EIS-R	Ch. 5, and 7			Impacts to fisheries and wildlife from maintenance activities should be discussed and evaluated within the impact analysis.
29	Public Draft EIS-R	Ch. 5	5-26	39-43	Alternative B has guidelines for agricultural practices including restricting areas where agricultural activities can occur, leaving cover on the ground and implementing an approved water quality plan. These measures should be integrated into all alternatives with agricultural activities occurring within the floodplain.
30	Public Draft EIS-R	Ch. 5	5-26	25-43	Impact AQUA-6 concludes that the impact on fish species due to agricultural practices on the floodplain would be less than significant, in part due to an analysis which assumes that agricultural activities would not occur within 300 feet of the active channel, on constructed floodplain benches, or on secondary channels. However, grazing is one of the listed potential agricultural activities and there is no description of actions to keep livestock from accessing the river and stream banks. Further information is needed to describe how livestock would be excluded from these areas to ensure that the impacts to fish species, water quality, and stream morphology would remain less than significant.

Item	Document	Chapter/Section	Page #	Line Number(s)	Comment
31	Public Draft EIS-R	Ch. 6	6-10	Table 6-3	Palmate bracted bird's beak may potentially occur in the southeast side of the project area. The Department recommends surveys for this plant should be conducted within impacted suitable habitat during the appropriate time period as indicated in Conservation Measure PALM-1 in Table 2-7 in the SJRRP Draft PEIS/R. If palmate bracted bird's beak is found within the Project area Conservation Measures PALM-1 and PALM-2, as described in the SJRRP PEIS/R Table 2-7, should be implemented as appropriate.
32	Public Draft EIS-R	Ch. 6	6-22	20-23	The Invasive Vegetation Monitoring and Management Plan in the draft PEIS/R is a draft form, is this document finalized?
33	Public Draft EIS-R	Ch. 6	6-33	7-13	Revegetation monitoring and maintenance should include survival standards, performance criteria, remedial actions to be taken if the performance is not met, and reporting are expected.
34	Public Draft EIS-R	Ch. 7	7-9 and 7-12	Table 7-2 and Table 7-3	Greater Sandhill Crane are also threatened under CESA.
35	Public Draft EIS-R	Ch. 7	7-9 and 7-12	Table 7-2 and Table 7-3	Tricolored blackbird is a Species of Special Concern.
36	Public Draft EIS-R	Ch. 7		General	Agricultural practices may occur within the floodplain in Alternative A and Alternative D, however it is unclear how much floodplain will be used for agricultural practices. If floodplain is utilized for agricultural purposes then it may not return to suitable habitat for special status species and may negatively impact long-term habitat
37	Public Draft EIS-R	Ch. 7	7-33	12-17	Although mitigation measures for giant garter snake will also benefit Western Pond Turtle, the Department recommends adding Conservation Measure WPT-1 into the analysis for all alternatives. WPT-1 includes relocation of Western Pond Turtles found within the project area out of harm's way to suitable nearby locations.
38	Public Draft EIS-R	Ch. 7	7-39	Table 7-6	For Alternative B, the potential impact to blunt-nosed leopard lizard habitat from borrow material collection is <0.5 acres and <0.3 acres for other. Blunt-nosed leopard lizard are a fully protected species and impacts to potential habitat should be avoided when feasible to avoid the potential for take of the species.

## II.4.4 Responses to California Department of Fish and Wildlife

### **Response to Comment S-DFW-1**

Your comments and the attachments to your comment letter have been reviewed and considered in preparation of the Final EIS/R.

The commenter has included a brief description of the Project. Please note that additional clarifying details are included in the Project description based on the 30 percent design. For example, revisions to the document for the preferred alternative (Alternative B) indicate that two grade control structures (not two to six) would be constructed in the Compact Bypass channel: also note that the Final EIS/R indicates that the Mendota Pool Fish Screen is included in the preferred alternative, as described in MCR-1 Mendota Pool Fish Screen.

### **Response to Comment S-DFW-2**

The comment refers to DFW's role as a trustee agency under CEQA. There are no specific statements about the Project or the EIS/R.

The CSLC is the CEQA lead agency for the Project as Reclamation would be applying for a State lands lease from the CSLC for a large portion of the Project. The CSLC is the State agency that will take the first State action on the Project and certify the EIR for its decision on the lease. The CSLC is a landowning agency and not a construction partner for the Project. Reclamation will be the sole constructing entity and has the authority and funding to implement the Project.

As a Federal agency and constructing entity, Reclamation would obtain all required Federal permits and approvals including those Federal permits and approvals delegated to State agencies by Congress (*i.e.*, Section 401 of the Clean Water Act and the Clean Air Act). Reclamation would not obtain a permit from DFW under section 1600 of the California Fish and Game Code, as the definition of an "entity" under this Section of the Code does not include Federal agencies. Similarly, Reclamation has no legal obligation to consult with DFW under CESA.

DFW is an Implementing Agency, and as such, extensive coordination occurs on a regular basis during SJRRP project development and implementation actions. Reclamation has included DFW in the development process of this Project, as their role as an Implementing Agency dictates.

The Project includes conservation measures, based on the SJRRP's Conservation Strategy, developed with the USFWS, NMFS, and DFW, which would be implemented for the Project. These measures address all potentially affected federally-listed and/or State-listed species, and all other species identified by USFWS, NMFS, or DFW as candidates, sensitive, or special-status in local or regional plans, policies, or regulations. The Project's conservation measures are described in Section 2.2.10 of this EIS/R.

The SJRRP's Conservation Strategy is described in the PEIS/R and in Attachment A of the SJRRP ROD (Reclamation 2012). The Conservation Strategy provides for State and federally-listed species and other biological resources. Reclamation will implement the

conservation measures, as applicable, for this Project. As such, conservation measures regarding State species are included in this EIS/R. This includes some measures specific to State-listed species only, such as measures for Swainson's hawk.

Reclamation is coordinating with DFW on the treatment of State-listed species, consistent with Reclamation commitments made as part of the Conservation Strategy. Effects to State-listed species are analyzed and disclosed in this EIS/R and, if federally protected, effects are also disclosed as part of the compliance with the ESA, Migratory Bird Treaty Act, Bald and Golden Eagle Act, Fish and Wildlife Coordination Act, and Magnuson-Stevens Act, as applicable. Reclamation is coordinating with DFW on State-listed species, such as giant garter snake, Swainson's hawk, bats, and Fresno kangaroo rat. This coordination includes transmittal of a memorandum that reiterates how effects to State-listed species would be addressed including any information pertinent to the conservation measures; transmittal of the administrative draft biological assessment (BA) or other ESA documentation for review by DFW; incorporating DFW's comments, as appropriate, into the environmental documentation including the ESA documentation transmitted to the USFWS; and providing DFW with a copy of the BA or any other ESA documentation when transmitted to the Services.

***Response to Comment S-DFW-3***

This comment refers to DFW's role as a responsible agency when it has discretionary approval over a project, typically in the form of an incidental take permit or a lake and streambed alternation agreement, and raises issues that are similar to comment S-DFW-2. Refer to response to comment S-DFW-2.

In addition, there is one project-specific statement, indicating that consultation with DFW is warranted to ensure that the Project does not result in unauthorized take of State-listed species. As a Federal agency, Reclamation is not legally obligated to consult with DFW under CESA; however, Reclamation is coordinating with DFW on the conservation measures, as applicable. See response to comment S-DFW-2 regarding coordination between Reclamation and DFW.

***Response to Comment S-DFW-4***

This comment refers to DFW's CEQA requirements for issuing an incidental take permit or a lake and streambed alternation agreement and raises issues that are similar to comment S-DFW-2. Refer to response to comment S-DFW-2 for a discussion of these permits.

***Response to Comment S-DFW-5***

Sections 5.3.3, 6.3.3, and 7.3.3 of this EIS/R consider impacts to species identified as candidate, sensitive, or special-status species (including listed species and State-protected species). For example, potential impacts to sensitive natural plant communities (*i.e.*, vegetation alliances) are described in Section 6.3.3 of this EIS/R.

***Response to Comment S-DFW-6***

This comment refers to DFW's jurisdiction over fully protected species and raises issues that are similar to comment S-DFW-2. Refer to response to comment S-DFW-2. With

respect to species-specific avoidance and minimization measures for blunt-nosed leopard lizard, see Section 2.2.10 of this EIS/R which describes the conservation measures that would be implemented by Reclamation.

***Response to Comment S-DFW-7***

This comment refers to DFW's jurisdiction over actions that may result in disturbance of active nests. See Section 2.2.10 of this EIS/R, which describes the conservation measures that would be implemented by Reclamation for Swainson's hawk, nesting raptors, riparian nesting birds, and other birds protected by the Migratory Bird Treaty Act.

***Response to Comment S-DFW-Item-1***

The No-Action/No Project Alternative is referred to in this EIS/R as this No-Action Alternative. See Section 5.3.3, No-Action Alternative, of this EIS/R for a discussion of these effects. Restoration Flows are included under No-Action conditions and the Restoration Flows, in-and-of themselves, provide some degree of benefit to fisheries. Although these effects are improvements over existing conditions, it is agreed that the benefits are minor compared to what is expected to be achieved with Project implementation. Because of this, the impact statements were qualified, stating in-text that effects "would not fully meet the Project purpose and need or achieve the Settlement goals."

***Response to Comment S-DFW-Item-2***

As described in Sections 7.1.3 and 7.3.3 of this EIS/R, although there is a low potential for San Joaquin kit fox to occur in the Project area, Conservation Measure SJKF-1 will be implemented to identify potential dens, avoid occupied dens near construction areas, and if dens are located within the proposed work area, time construction activities to avoid the normal breeding season. If dens are found, no further activity will occur until consultation with USFWS and coordination with DFW has occurred. SJKF-2 is not included as a conservation measure because the Project is not likely to adversely affect this species. Reclamation has initiated formal Section 7 consultation under the ESA with the USFWS for San Joaquin kit fox and other species. If San Joaquin kit fox were found in the Project area additional consultation and coordination would be required with USFWS. For additional information regarding Reclamation's coordination with DFW on State-listed species, see Response to Comment S-DFW-2.

***Response to Comment S-DFW-Item-3***

This comment raises issues that are similar to comment S-DFW-2. Refer to response to comment S-DFW-2 for a discussion of Fish and Game Code section 1600 and CESA compliance.

***Response to Comment S-DFW-Item-4***

As described in Section 2.2.4 of the Final EIS/R, rodenticide would not be used during Project implementation, including O&M. The Project description has been updated to specify that traps would be checked frequently for non-target species. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

**Response to Comment S-DFW-Item-5**

Figures have been revised in Section 2.2.5 of the Final EIS/R. The conceptual location of the grade control structures is included in the plan and inset map figures for Alternative A. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

**Response to Comment S-DFW-Item-6**

Figures have been revised in Section 2.2.6 of the Final EIS/R. The location of the grade control structures is included in the plan and inset map figures for Alternative B. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

**Response to Comment S-DFW-Item-7**

Section 5.3.3 of this EIS/R acknowledges that a false migration pathway would exist in Alternative B and that some fish would stray. Impact AQUA-3 (Alternative B), describes how this would affect the upstream migration of adult salmonids. The loss of some fish to straying is expected to occur under this alternative while still supporting the Restoration Goal for a naturally reproducing and self-sustaining fish population.

**Response to Comment S-DFW-Item-8**

State fully protected species are discussed in Chapter 7 of this EIS/R, including impacts to white-tailed kite, greater sandhill crane, golden eagle, and blunt-nosed leopard lizard.

**Response to Comment S-DFW-Item-9**

Protocol surveys will be implemented within 1 year of ground disturbing activities in areas identified as potentially suitable habitat in accordance with the USFWS's survey protocols for the SJRRP (USFWS 2009). Section 2.2.10 of the Final EIS/R has been updated to reflect this commitment. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R. Additionally, protocol surveys are planned for 2016. If all surveys are negative no additional avoidance or minimization measures are proposed. For additional information regarding Reclamation's coordination with DFW on State-listed species, see Response to Comment S-DFW-2.

**Response to Comment S-DFW-Item-10**

As discussed in Section 6.1.2 of this EIS/R, special-status plant surveys took place from August 2010 through July 2011 where access had been granted in the Project area. Plant surveys were performed in four phases at four different times of the year. Protocol surveys for the California jewel-flower (*Caulanthus californicus*), recurved larkspur (*Delphinium recurvatum*), Munz's tidy tips (*Layia munzii*), caper-fruited tropidocarpum (*Tropidocarpum capparideum*), California satintail (*Imperata brevifolia*), and San Joaquin woollythreads (*Monolopia congdonii*) were performed in the first phase, on March 4, 11, 17, 18, and 19, 2011. Heartscale (*Atriplex cordulata*), brittlescale (*Atriplex depressa*), Lost Hills crownscale (*Atriplex vallicola*), succulent owl's-clover (*Castilleja campestris* ssp. *succulenta*), and San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*) surveys were performed in the second phase, on April 7, 2011. Surveys for the late flowering species lesser saltscale (*Atriplex miniscula*), vernal pool smallscale (*Atriplex*

*persistens*), subtle orache (*Atriplex subtilis*), palmate-bracted bird's-beak (*Cordylanthus palmatus*), hairy Orcutt's grass (*Orcuttia pilosa*), and Sanford's arrowhead (*Sagittaria sanfordii*) were performed in the third phase, on May 28, June 24, and June 25, 2011, and in the fourth phase, which was conducted in the previous year on August 23 through 27, 2010 (SJRRP 2011b). Surveys were also conducted April 28 to 30, 2015, in the eastern-most portion of the Project area, on the south side of the San Joaquin River, south of the Chowchilla Bifurcation Structure, in an area where access was not previously available.

Conservation Measure PLANTS-1 in Section 2.2.10 of the Final EIS/R has been revised to indicate that protocol surveys will be conducted within 1 year of ground disturbance, according to *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (DFW 2009). The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R. See response to comment S-DFW-2 for a discussion of Project coordination actions between Reclamation and DFW.

***Response to Comment S-DFW-Item-11***

The Project would improve conditions for Swainson's hawk by increasing riparian habitat and nest trees and converting less-suitable orchards to highly suitable Swainson's hawk nesting or foraging habitat. Therefore, the Project may be self-mitigating. Conservation Measure SWH-1 includes avoidance and minimization measures intended to minimize impacts during construction. As described in Conservation Measure SWH-2, if the Project impacted foraging habitat is not replaced with an equal or greater amount of suitable foraging habitat in the completed Project area, then additional mitigation or offsite compensation will be pursued in coordination with DFW. Updates have been made in Section 2.2.10 of the Final EIS/R to the Swainson's hawk conservation measures and impact evaluation section to clarify this approach. The inclusion of these clarifying details in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R. See also response to comment S-DFW-2 for a discussion of Project coordination actions between Reclamation and DFW.

***Response to Comment S-DFW-Item-12***

The non-nesting season has been revised in Section 2.2.10 of the Final EIS/R to extend through January 31, as implied by the comment. Other additions and clarifications to Conservation Measure RAPTOR-1 have also been made per recommendations in this comment. The inclusion of these clarifying details in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment S-DFW-Item-13***

Conservation Measure RAPTOR-2 has been revised in Section 2.2.10 of the Final EIS/R to remove reference to DFW. This revision in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R. See response to comment S-DFW-2 for a discussion of Fish and Game Code section 1600 and CESA compliance.

***Response to Comment S-DFW-Item-14***

As described in Section 7.1.3 of this EIS/R, the potential for occurrence of least Bell's vireo is considered to be low, based on low-quality of the habitat, location of the Project

outside the species' current range, and 2 years of negative protocol surveys in some of the best potential habitat in the Project area. Therefore, Conservation Measure RNB-2, which discusses compensation, has been removed from Section 2.2.10 of the Final EIS/R. Conservation Measure RNB-1 has been updated in the Final EIS/R to clarify the commitment to preconstruction surveys and additional agency coordination (which for USFWS means reinitiating Section 7 consultation) if the species is found. The removal of Conservation Measure RNB-2 and the inclusion of these clarifying details in Conservation Measure RNB-1 in the Final EIS/R do not change the analysis or conclusions of the Draft EIS/R. Since the species is not expected, no specific additional avoidance or mitigation is proposed at this time. See response to comment S-DFW-2 for a discussion of CESA compliance.

***Response to Comment S-DFW-Item-15***

Conservation Measure MTBA-1 has been revised in the Final EIS/R to clarify commitment to preconstruction surveys, biological monitoring if nests are present, and use of buffers and limited activity to protect nests. The inclusion of these clarifying details in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment S-DFW-Item-16***

Conservation Measure BRO-1 has been updated in the Final EIS/R to reference the latest guidance from DFW. The inclusion of this clarifying detail in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment S-DFW-Item-17***

Conservation Measure BRO-1 of the Draft EIS/R stated that that occupied burrows will not be destroyed. The approach recommended in this comment is fairly consistent with that described in the Draft EIS/R under Conservation Measure BRO-2. Minor updates have been made to Conservation Measure BRO-2 in the Final EIS/R based on the latest guidance from DFW. The inclusion of this clarifying detail in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment S-DFW-Item-18***

The recommended timing of surveys has been added to Conservation Measure BAT-1 in the Final EIS/R. The Draft EIS/R already states that exclusion plans will be developed in coordination with DFW. Additional details describing what should be included in an exclusion plan have been added to Conservation Measure BAT-1 in the Final EIS/R. The inclusion of this clarifying detail in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment S-DFW-Item-19***

The timing of preconstruction surveys required in Conservation Measure FKR-1 has been updated in Section 2.2.10 of the Final EIS/R based on guidance provided in this comment. If all surveys are negative, the species will be considered not likely to occur in the Project area and no further avoidance or mitigation measures will be implemented. If presence is determined through surveys, then additional measures will be developed in consultation with USFWS. The inclusion of this clarifying detail in the Final EIS/R does

not change the analysis or conclusions of the Draft EIS/R. See response to comment S-DFW-2 for a discussion of CESA compliance.

***Response to Comment S-DFW-Item-20***

As described in Section 7.1.3 of the Final EIS/R, two areas with potential habitat for Fresno kangaroo rat were recently converted to agriculture. Based on the low-quality of habitat remaining within the Project footprint, and the fact that this species has not been detected for over two decades in more suitable habitat to the south, this species is no longer expected to occur in the Project area. Conservation Measure FKR-1 requires preconstruction surveys for Fresno kangaroo rat. This measure was revised to indicate that if Fresno kangaroo rats are detected within or adjacent to the Project area, FKR-3 (Compensate for Loss of Habitat or Species) from the PEIS/R will be implemented. Conservation Measure FKR-3, which discusses compensation, was removed from the Final EIS/R to reduce redundancy. The inclusion of this clarifying detail in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R. See response to comment S-DFW-2 for a discussion of CESA compliance.

***Response to Comment S-DFW-Item-21***

The commenter is referencing a conservation measure that refers to section 1602 of the California Fish and Game Code. See response to comment S-DFW-2 for a discussion of Fish and Game Code section 1600.

***Response to Comment S-DFW-Item-22***

Conservation Measure SRCS-1 was deleted in the Final EIS/R because this mitigation measure was considered to be applicable to the SJRRP, but not to this specific Project.

***Response to Comment S-DFW-Item-23***

See response to comment S-DFW-2 for a discussion of Fish and Game Code section 1600 and CESA compliance.

***Response to Comment S-DFW-Item-24***

The type of loach was corrected in Section 5.1.3 of the Final EIS/R. The inclusion of this information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment S-DFW-Item-25***

Table 5-2 was corrected in Section 5.1.4 of the Final EIS/R. The inclusion of this information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment S-DFW-Item-26***

Recent trap and haul information for adult fall-run Chinook salmon is included in Section 5.1.4 of the Final EIS/R. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

**Response to Comment S-DFW-Item-27**

The original author is cited, as well as McBain and Trush, in Section 5.1.4 of the Final EIS/R. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

**Response to Comment S-DFW-Item-28**

Sections 5.3.3 and 7.3.3 of this EIS/R discuss long-term effects to fisheries and wildlife resources that would occur during the O&M phase of the Project. Direct effects from Project O&M activities could also occur (*e.g.*, during removal of instream sediments). This is clarified in Sections 5.3.3 and 7.3.3 of the Final EIS/R.

**Response to Comment S-DFW-Item-29**

The Project alternatives provide a range of conditions that are analyzed by the impact analysis. Alternative B, the preferred alternative, provides greater specificity on where and how agricultural practices on the floodplain would be restricted. This is compared to Alternatives A and D, which does not include these measures.

**Response to Comment S-DFW-Item-30**

Additional text is included in Section 2.2.6 of the Final EIS/R to indicate that if grazing occurs the lessee would be required to develop and implement a Grazing Plan, approved by Reclamation and CSLC, if on CSLC-owned lands, in addition to the Water Quality Plan. The inclusion of these clarifying details in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

**Response to Comment S-DFW-Item-31**

Since originally proposed, the Project footprint has been revised to avoid alkali sink/scrub and alkali flat habitat, and access has been provided to the southeast extent of the Project area. Habitat located at the southwest extent of the Project area has been surveyed. It lies along the margin of the river, consists primarily of relatively dense annual grassland and elderberry savannah that is heavily grazed, and is not expected to support this palmate-bracted bird's beak. Potentially suitable habitat does exist south of the Project area. Preconstruction, protocol botanical surveys described in PLANTS-1 will provide another opportunity to confirm palmate-bracted bird's beak is absent from the Project area. If found, Reclamation will reinitiate Section 7 consultation with USFWS and implement PLANTS-2 from the PEIS/R. This is clarified in Section 2.2.10 of the Final EIS/R in Conservation Measure PLANTS-1.

**Response to Comment S-DFW-Item-32**

Section 2.2.6 of the Final EIS/R was updated to indicate that the SJRRP has an existing invasive species management plan and completed the *Invasive Vegetation Monitoring and Management Environmental Assessment* in 2012 that describes the methods that would be followed for Reach 2B invasive species removal. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

**Response to Comment S-DFW-Item-33**

Additional detail is included in Section 2.2.6 of the Final EIS/R for floodplain and riparian habitat restoration based on the 30 percent design for the Compact Bypass, including the list of potential species used for revegetation. The design report describes how development of specific monitoring protocols would be based on the goals of the Project and would be related to habitat metrics. These would potentially include a field-survey of successful plant establishment (live vs. dead), vigor (growth rate, photosynthetic measurements, *etc.*), and coverage (stem density or canopy cover) for desired species, and invasive species occurrences, as well as aerial or satellite imagery analysis, GIS integration, vegetation transects, vegetation quantification plots, and other potential tasks. Monitoring reports would include recommendations for adaptive management strategies to be applied as data become available. The inclusion of this additional detail in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

**Response to Comment S-DFW-Item-34**

Text has been revised. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

**Response to Comment S-DFW-Item-35**

Text has been revised. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

**Response to Comment S-DFW-Item-36**

Agricultural practices (*e.g.*, annual crops, pasture, or floodplain-compatible permanent crops) could occur on the floodplain in previous agricultural areas outside of State-owned and public trust lands. Similar to Alternative B, the amount of agricultural activities on the floodplain would be dependent on the number of farmers that would want to lease the land from Reclamation. The type of species that would use the restored floodplain may be different from those species that currently use the existing agricultural areas. For example, a more developed riparian corridor may become more suitable habitat for certain special-status species. Having adjacent agricultural areas could be similar to current conditions.

**Response to Comment S-DFW-Item-37**

Section 2.2.10 of the Draft EIS/R includes Conservation Measure WPT-1. Section 7.3.3 of the Final EIS/R has been updated to reference this measure.

**Response to Comment S-DFW-Item-38**

Borrow areas and “other” temporary impact areas would avoid potential blunt-nosed leopard lizard habitat. The impact table has been updated.

## II.5 Comments from Local Agencies and Responses

### II.5.1 City of Mendota



# CITY OF MENDOTA

*"Cantaloupe Center Of The World"*

August 10, 2015

Ms. Becky Victorine  
Bureau of Reclamation  
San Joaquin River Restoration Program Office, MP-170  
2800 Cottage Way  
Sacramento, CA 95825-1898

Subject: City of Mendota comments to the San Joaquin River Restoration Program Mendota Pool Bypass and Reach 2B Improvements Project Draft Environmental Impact Statement/ Environmental Impact Report

Dear Ms. Victorine:

**L- Mendota-1** The City of Mendota appreciates the opportunity to provide comments regarding the Mendota Pool Bypass and Reach 2B Environmental Impact Statement/Environmental Impact Report (EIS/R). Given Mendota's proximity to the project site, it is imperative that the project take into consideration potential impacts to the City and its residents. To that end please consider the following comments, which are intended to illustrate the City's concerns with the project as well as to clarify certain things and request clarification on others.

**L- Mendota-2** 1. Borrow areas are first mentioned on Page 15 of the Executive Summary and are discussed in other locations throughout the EIS/R. Figure 1-2 identifies a Potential Borrow Area comprising approximately 400 acres abutting the eastern city limits of Mendota. Of particular concern is the proximity of the Potential Borrow Area to the City of Mendota's wastewater treatment ponds. Should this borrow location be used, there exists the potential for wastewater seepage into the borrow area, failure of any levee or other barrier between the ponds and the borrow area, and/or other hazardous situations. The EIS/R references future geotechnical studies that would be performed prior to assist USBR in determining optimal borrow sites. The City requests that it be made aware of forthcoming site investigations, consulted about potential safety concerns, and made privy to geotechnical information relevant to borrowing that may occur in the vicinity of its pond system. In this manner, potential impacts to the City's wastewater treatment system and hazardous offsite environmental issues may be avoided.

**L- Mendota-3** 2. Figure 1-2 indicates an isolated triangular area at the far west of the overall project area near the confluence of the Outside Canal and the Intake Canal (labeled "FCWD Canal"). To the best that we can determine, the triangular area consists of all or part of

643 Quince Street Mendota, California 93640  
Telephone: (559) 655-3291 Fresno Line: (559) 266-6456 Fax: (559) 655-4064  
TDD/TTY 866-735-2919 (English) TDD/TTY 866-833-4703 (Spanish) [www.cityofmendota.com](http://www.cityofmendota.com)  
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<p>L- Mendota-3 cont.</p>	<p>]</p>	<p>Assessor’s Parcel Number 013-050-21T, an approximately 8.40-acre parcel owned by the City of Mendota.</p>
<p>L- Mendota-4</p>	<p>3. ]</p>	<p>Section 2.2.10 begins discussion of Environmental Commitments, which are described as “measures or practices adopted by a project proponent to reduce or avoid impacts that could otherwise result from project construction or operations” (Page 2-85, Lines 2-4). Then, the Conservation Strategy is described as “a tool built into the project description to minimize and avoid potential impacts to sensitive species and habitats” (Page 2-85, Lines 11-13). Although some of these activities are later discussed as mitigation measures, building in project components that are not otherwise required by statute, regulation, or policy in-lieu of including those same features as mitigation measures may be contrary to the holding of the 1<sup>st</sup> District Court of Appeal in <i>Lotus v. Department of Transportation</i> ((2014) 223 Cal. App. 4<sup>th</sup> 645).</p>
<p>L- Mendota-5</p>	<p>4. ]</p>	<p>Page 4-26, Line 1 incorrectly references the name of the <i>City of Mendota General Plan Update 2005-2025</i>.</p>
<p>L- Mendota-6</p>	<p>5. ]</p>	<p>Page 16-3, Line 17 references the Mendota population as 11,167 per the California Department of Finance, 2012. A later footnote on Page 21-3 indicates the population as 11,014 per the United States Census, 2010.</p>
<p>L- Mendota-7</p>	<p>6. ]</p>	<p>Page 17-9, Lines 10-11: the portion of the sentence “located within the city of Mendota in an unincorporated area of Fresno County” does not make sense, as a location cannot be both within a city and in an unincorporated area. Also, please see Comment No. 8 below.</p>
<p>L- Mendota-8</p>	<p>7. ]</p>	<p>Page 20-3, Lines 7-8 indicate that the City of Firebaugh is south of Mendota Dam; it is actually located to the northwest.</p>
<p>L- Mendota-9</p>	<p>8. ]</p>	<p>Page 20-3, Line 36 begins the first of numerous references to Mendota Pool Park. However, references to the physical extent of the park, ownership of the land, and responsibility for operation of the facilities are not entirely accurate. Based on information from the EIS/R and City of Mendota records, it appears that there are at least three distinct components to Mendota Pool Park. An approximately five-acre portion is located on the west side of Bass Avenue between the Outside Canal and the Delta-Mendota Canal. That parcel is owned and maintained by the City of Mendota. To the east of Bass Avenue between the Outside Canal and the Delta-Mendota Canal is a portion that is owned by Central California Irrigation District (CCID) and maintained by the City. To the City’s knowledge, it does not lease the land from CCID. Note that CCID also owns a very small (perhaps 0.25 acre) portion on the west side of Bass Avenue immediately south of the land owned by the City.</p>
<p>L- Mendota-10</p>	<p>]</p>	<p>The largest physical component of Mendota Pool Park described in the EIS/R is north of the Delta-Mendota Canal on land owned by CCID. The City does not lease this property,</p>

<p>L- Mendota-10 cont.</p>	<p>nor does it own, operate, or maintain any facilities on it. While it is possible that the City did construct the boat launch ramp located on this property, it does not currently perform any activities related to it.</p>
<p>L- Mendota-11</p>	<p>In addition to providing clarification, the intent of this comment is to ensure that potential impacts are accurately ascribed to the agency that may be impacted, and thus may be required to coordinate with the various project agencies during project development and/or operation.</p>
<p>L- Mendota-12</p>	<p>9. Page 23-24, Line 9 under <b>Impact UTL-4 (Alternative A)</b> is the first of several locations that briefly discuss impacts to the City of Mendota's water wells, and by extension, its water delivery pipelines. The EIS/R's treatment of the City of Mendota's water supply system appears to minimize the potential for impacts to the City and its residents. From the City's perspective, impacts to its well field and water delivery system are by far the most deleterious aspects of the project. The EIS/R does not adequately discuss this situation. The document notes that these three wells are the City's only source of potable water and repeatedly states (per the various project alternatives) that they would be "avoided, flood-proofed, protected, or relocated". Table 23-4 indicates that between 31,000 and 55,000 linear feet of water pipeline (per the various alternatives) would be abandoned. Presumably, this includes the City of Mendota's domestic water supply line, which is not discussed elsewhere.</p> <p>Taking the information presented in the EIS/R at face value, the City of Mendota can expect that a yet-to-be-determined action will occur regarding its three municipals wells, and that its water supply pipe will be abandoned. While the City understands that this is not an intended result of the project, relocation of its wells and (presumably) its pipeline present logistical issues, most importantly including the potential for temporary interruption of service, that are not addressed in the EIS/R.</p>
<p>L- Mendota-13</p>	<p>It should also be noted that, in a similar vein to Comment No. 3 above, relocation of wells and/or pipelines (not to mention other facilities) may not be considered project components, but rather mitigation for project-related impacts. Were the project to not relocate various facilities, clearly significant impacts would result. Relocation avoids, or mitigates, those potential impacts, and should be addressed as mitigation.</p>
<p>L- Mendota-14</p>	<p>Further, regardless of the disposition of these actions as project components or mitigation measures, CEQA requires that potential impacts resulting from those actions also be addressed (<i>Stevens v. City of Glendale</i> (1981) 125 Cal. App. 3d. 986). Because no potential sites are discussed for any of the facilities that are to be relocated, such analysis cannot occur.</p> <p>In short, the EIS/R discusses this issue more along the lines of a programmatic document rather than a project-level document.</p>

**L- Mendota-15** 10. Page 25-9, Lines 6-14 discuss the City of Mendota's SR 33 signalization project. The improvements to the intersections of SR 33 and Belmont Avenue and SR 33 and Bass Avenue included lane widening, utility relocation, striping, and installation of four-way signalization. These projects were completed in 2011.

**L- Mendota-16** 11. Page 25-9, Lines 15-20 discuss the SR 180 Westside Expressway Route Adoption Study. Caltrans adopted this study on March 5, 2013, and the California Transportation Commission finalized the route adoption process on May 7, 2013.

**L- Mendota-17** The City of Mendota supports the restoration of the San Joaquin River. However, the Mendota Pool Bypass and Reach 2B Improvements Project will result in numerous short- and long-term impacts to both the human and natural environments. This project-level EIS/R leaves many questions unanswered, particularly related to impacts to the City's water system and the potential for disruption to its wastewater treatment facilities. The City formally requests that the final EIS/R address these important issues. Please do not hesitate to contact me at 559.449.2700 or at [joneal@ppeng.com](mailto:joneal@ppeng.com) with any questions. Thank you.

Sincerely,  


Jeffrey O'Neal, AICP  
City Planner

Copy (via email): City Manager  
City Council

## II.5.2 Responses to City of Mendota

### **Response to Comment L-Mendota-1**

Your comments have been reviewed and considered in preparation of the Final EIS/R.

### **Response to Comment L-Mendota-2**

As discussed in Section 2.2.4 of this EIS/R, it is estimated that up to 350 acres of land would be needed for borrow areas, including locations inside and outside the Project levees. Due to potential complications associated with City of Mendota's wastewater treatment ponds, areas adjacent to those ponds were removed from being identified as potential borrow areas in the preferred alternative (Alternative B).

### **Response to Comment L-Mendota-3**

This parcel is identified as being used as a construction office. It has an Assessor's Parcel Number of 013-050-21 and is owned by the local government. Reclamation will coordinate closely with the City of Mendota to ensure locating a construction office on this parcel would not impact the City of Mendota, and would provide compensation as appropriate. This location may or may not be ideal for the construction office depending on construction sequencing and scheduling that would be further refined in final design.

### **Response to Comment L-Mendota-4**

In *Lotus v. Department of Transportation* (223 Cal. App.4th 645), the First District Court of Appeals found that the EIR in question failed to comply with CEQA because it failed to evaluate the significance of the project's impacts on the environment. The EIR did not (a) describe the environmental consequences of the project actions, *i.e.*, the construction activities, (b) identify a threshold of significance for the impact, (c) evaluate the effectiveness of the avoidance and minimization measure and/or environmental protection features and explain why the environmental protection feature would maintain impacts to a less-than-significant level, and (d) identify those environmental protection features in the project's mitigation monitoring and reporting program.

The Project incorporates conservation measures and the flood risk reduction measures consistent with the SJRRP's Conservation Strategy described in the PEIS/R (SJRRP 2011a). This is consistent with State CEQA Guidelines section 15126.4, subdivision (a)(1)(A), which requires that the EIR "distinguish between the measures which are proposed by project proponents to be included in the project and other measures... [which] could reasonably be expected to reduce adverse impacts if required as conditions of approving the project."

Unlike *Lotus v. Department of Transportation*, the Project conservation measures are based on commitments made in the PEIS/R ROD (Reclamation 2012) which sets the policy for the SJRRP, and the analysis of the Project's environmental commitments differs from what was found in the court case. Each resource chapter in this EIS/R (Chapters 4 through 24) defines the significance criteria for the environmental impacts. The EIS/R then describes the potential effects of the Project and discusses the effects of the avoidance and minimization measures and other environmental commitments that would be implemented by the Project. A significance determination is made at the

conclusion of each impact discussion for each of the resource topics. Chapter 26.9 of this EIS/R then tracks all of the mitigation measures described in the EIS/R as well as the conservation measures, flood risk reduction measures, and other environmental commitments. This approach is consistent with State CEQA Guidelines section 15126.4, subdivision (a)(1)(A) and differs from what was found in *Lotus v. Department of Transportation*.

***Response to Comment L-Mendota-5***

Correction made. The revised information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment L-Mendota-6***

The US Census Bureau estimate for 2010 was provided in Chapter 21 to be consistent with the same year and source data as the county estimates provided in Table 21-2. The population estimate used in Section 16.1.2 was reporting estimates for a different year.

***Response to Comment L-Mendota-7***

Correction made in Section 17.1.2 of the Final EIS/R to indicate that this location is “near” the City of Mendota. The revised information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment L-Mendota-8***

Corrections made in Section 20.1.1 of the Final EIS/R. The revised information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment L-Mendota-9***

Text has been revised in Section 20.1.2 of the Final EIS/R to indicate that the land west of Bass Avenue is owned by the City of Mendota and the land east of Bass Avenue is owned by the Central California Irrigation District and managed by the City of Mendota. Thank you for your correction. The revised information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment L-Mendota-10***

Text has been revised in Section 20.1.2 of the Final EIS/R to indicate that the boat launch is located on Central California Irrigation District property. The revised information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment L-Mendota-11***

The text is updated in Section 20.1.2 of the Final EIS/R to identify Central California Irrigation District’s ownership for a portion of the park. Thank you for your correction. The revised information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R

***Response to Comment L-Mendota-12***

Sections 2.2.4 and 2.2.6 of the Final EIS/R were revised to clarify that the City of Mendota’s three groundwater wells on the south side of the San Joaquin River to the east of Fresno Slough would remain in place. It further indicates that two of the wells are outside of the levee alignments and would remain unaffected. The third well is

immediately adjacent to the San Joaquin River and would be floodproofed, with the adjacent levee extending to protect the well. A new bridge may be constructed immediately adjacent to the Mowry Bridge, which holds the City of Mendota's water pipeline, for temporary construction access. The inclusion of this clarifying detail in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment L-Mendota-13***

See response to comments L-Mendota-4 and L-Mendota-12. The levee alignment was chosen to avoid or minimize impacts to the City of Mendota wells, to the extent possible. Floodproofing was also anticipated in the Project design for those wells that remain in the floodplain. Therefore these features were included in the Action Alternatives and were not added later as mitigation.

***Response to Comment L-Mendota-14***

In *Stevens v. City of Glendale* (125 Cal. App. 3rd 986), the Second District Court of Appeals found that if a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measure would be discussed but in less detail than the significant effects of the project as proposed. This has been codified in State CEQA Guidelines section 15126.4, subdivision (a)(1)(D).

Section 23.3.3 of this EIS/R details the existing water resources infrastructure in the Project area and includes an analysis of this potentially impacted infrastructure, including groundwater wells, water pipelines, and the City of Mendota groundwater wells. Section 23.3.3 of the Draft EIS/R indicates that the three City of Mendota groundwater wells would be avoided, flood-proofed, protected, or relocated. It further indicates that the proposed replacement, relocation, or protection of this water supply infrastructure would not result in a substantial change in public water supply reliability or water supply resources. Section 23.3.3 of the Final EIS/R includes additional clarifying detail regarding the City of Mendota groundwater wells and water pipeline. Specifically, it indicates that the City of Mendota's three groundwater wells would remain in place. Two of them are outside of the levee alignments and would remain unaffected. The third well is immediately adjacent to the San Joaquin River and would be floodproofed, with the adjacent levee extending to protect the well. A new bridge may be constructed immediately adjacent to the Mowry Bridge, which holds the City of Mendota's water pipeline, for temporary construction access. The inclusion of this clarifying detail in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R. See also response to comment L-Mendota-12.

***Response to Comment L-Mendota-15***

Paragraph has been removed.

***Response to Comment L-Mendota-16***

Text has been revised. The revised information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment L-Mendota-17***

See response to comment L-Mendota-12. Clarifying text is included in Section 2.2.4 of the Final EIS/R regarding the City of Mendota's three groundwater wells and the City of Mendota's water pipeline. See also response to comment L-Mendota-2, which describes how no borrow would occur near the City of Mendota's wastewater treatment plant as that area has been removed from potential borrow areas in this EIS/R.

## II.5.3 Gravelly Ford Water District



### GRAVELLY FORD WATER DISTRICT

18811 Road 27· Madera, CA 93638 (559)·474·1000 Fax: (559) 673· 108686

**Board of Directors**

Timothy DaSilva, Pres.

Steven Emmert, V. Pres.

Kenneth Basila

Seth Kirk

Diane Kirk

**Manager**

Don Roberts

Ms. Alicia Forsythe, Program Manager  
U.S. Bureau of Reclamation  
2800 Cottage Way  
Sacramento, CA 95825

August 7, 2015

RE: San Joaquin River Restoration Mendota Pool ByPass and Reach 2

Dear Ms. Forsythe:

L-

GFWD-1

Gravelly Ford Water District has raised concerns in the past about matters that affect the District's continued ability to divert water from the San Joaquin River. While our diversion is above the Mendota Pool, the District will be impacted by decisions that affect operations to the Pool.

This is to advise that Gravelly Ford Water District Contract Diversion from the San Joaquin River is at MilePost 36.5

L-

GFWD-2

The following items are of specific concern to Gravelly Ford Water District

1. Fish Screens –The issue of Fish Screens is of major significance to the District. Currently fish screens are not required on any diversions along the San Joaquin River between Friant Dam and the Mendota Pool. It is expected that fish screens would be required on all diversions, once the million dollar salmon reach this area of the River. It can only be concluded that that a requirement for such screens or other fish protective devices are a result of the San Joaquin River Restoration which means that that fish screens et al as well as their maintenance would be Restoration Project cost! GFWD has raised this issue in the past, and we were assured fish screens would not be our obligation.

L-

GFWD-3

2. Diversions Channel - GFWD's existing diversion channel was operational and functional prior to the Bureau's fish flows experimenting which has caused changes to the riverbed channel conditions. With the increased flows, scouring and deepening of the riverbed has been experienced. GFWD expects that provisions will be made in the riverbed to assure continued functionality of this channel. Operational maintenance of the diversion channel should be included in the environmental documentation and both the Federal and State Fish & Wildlife permit process. GFWD should be included as part of any regulatory project approvals and not be required to obtain separate approvals for any O &M operations within the river channel.

SJR Restoration

August 7, 2015

Page 2

L-

GFWD-4

3. Flood flows - Waters diverted into the Chowchilla Bypass are considered "flood" flows. During the occurrence of such flows, GFWD expects to be able to divert flows into the District's system at no cost to the District. Such "flood" water has been available to other diverters and at no cost.

L-

GFWD-5

4. San Joaquin River – Gravelly Ford Measuring Station - There is an issue with the channel and riverbed elevation at the Gravelly Ford recorder station. The increased and variable "Restoration Project" flows have changed the configuration of the channel to the point that a new measuring weir needs to be included as part of the Project in order that riparian and contract diverters are able to receive their divertible water without having to make continual modifications to their facilities which are being required as a result of the Restoration Project Operations. Any change to this facilities are a direct result of the Project and accordingly are a Project Cost obligation.

If you have any questions on this matter, please feel free to contact me at (559) 474-1000.

Sincerely,

Don Roberts  
Manager

Cc: Randall G. Houk  
Columbia Canal Co

## **II.5.4 Responses to Gravelly Ford Water District**

### ***Response to Comment L-GFWD-1***

The Gravelly Ford Water District's (GFWD) comments have been reviewed and considered in preparation of the Final EIS/R.

### ***Response to Comment L-GFWD-2***

The installation of fish screens upstream of the Project area is beyond the scope of this EIS/R. In addition, there is no requirement in the Settlement or Settlement Act for fish screens to be installed on all diversions. See MCR-1: Mendota Pool Fish Screen for a discussion of the exemption from incidental and accidental take of spring-run Chinook salmon under ESA and CESA for otherwise lawful activities.

### ***Response to Comment L-GFWD-3***

Effect from Restoration Flows upstream of the Project area is beyond the scope of this EIS/R. The release of Restoration Flows and the associated sediment transport is a SJRRP-related activity analyzed in the PEIS/R and not reanalyzed in this EIS/R as an environmental impact.

### ***Response to Comment L-GFWD-4***

The right to divert flood flows is outside of the scope of this EIS/R. The State Water Resources Control Board and State water right laws determine who has a right to divert flood flows. The SJRRP's Restoration Flows are protected under California water right law as they are part of Reclamation's appropriative water rights and would not be available for diversion.

### ***Response to Comment L-GFWD-5***

Effect from Restoration Flows upstream of the Project area is beyond the scope of this EIS/R (see response to comment L-GFWD-3). Reclamation is aware of the difficulties of measuring at Gravelly Ford and these difficulties occurred prior to the SJRRP's Restoration Flows.

## II.5.5 Kings River Conservation District and Kings River Water Association



August 10, 2015

Ms. Becky Victorine, Project Manager  
Bureau of Reclamation  
San Joaquin River Restoration Program Office  
MP-170, 2800 Cottage Way  
Sacramento, CA 95825-1898  
Email: Reach2B\_EISEIR\_Comments@restoresjr.net

Mr. Christopher Huitt, Project Manager  
California State Lands Commission  
100 Howe Avenue, Suite 100-South  
Sacramento, CA 95825-8202  
Email: CEQAcomments@slc.ca.gov

Subject: Comments on San Joaquin River Restoration Program  
Mendota Pool Bypass and Reach 2B Improvements Project  
Draft Environmental Impact Statement / Environmental Impact Report

Dear Ms. Victorine/Mr. Huitt:

**L-KRCD**  
**KRWA-1**

Please accept the following comments on the above-referenced San Joaquin River Restoration Program (SJRRP) Mendota Pool Bypass and Reach 2B Improvements Project Draft Environmental Impact Statement/Environmental Impact Report (DEIS/R) on behalf of the Kings River Water Association (KRWA) along with their member units (listed in Appendix A), and the Kings River Conservation District (KRC D). Please include these comments in the administrative record for the SJRRP Mendota Pool Bypass and Reach 2B Improvements Project DEIS/R.

The KRWA is an organization representing the 28 public districts and canal companies with Kings River water rights and the administrator of those entitlements and water release operations. The KRC D is a multi-county special district created in 1951 to manage resources within the watershed on the lower Kings River. KRC D serves constituents in an area comprising 1.2 million acres in portions of Fresno, Kings and Tulare counties. The KRWA and KRC D jointly oversee water resources in the area served by the Kings River. These two agencies partner with the California Department of Fish and Wildlife (CDFW) in the Kings River Fisheries Management Program (KRFMP) which is dedicated to improving and enhancing the Kings River watershed and fishery habitat while maintaining its beneficial uses, recognizing that a healthy river is essential to the region's well being and future quality of life.

**L-KRCD**  
**KRWA-2**

The Kings River is only hydrologically connected to the Mendota Pool and San Joaquin River on an infrequent and intermittent basis during flood events on the Kings River. Flood releases from the Kings River system can periodically contribute significant flow to the San Joaquin River downstream of

# San Joaquin River Restoration Program

Ms. Becky Victorine/Mr. Christopher Hult  
Mendota Pool Bypass and Reach 2B Improvements Project Draft EIS/EIR Comments  
August 10, 2015  
Page 2

**L-KRCD**  
**KRWA-2**  
**cont.**

Mendota Pool via the James Bypass and Fresno Slough during Wet and Normal-Wet water year types. The flood releases are typically of short duration from snowmelt events but may occur for a period of multiple months under some circumstances. The James Bypass has the design capacity to convey 4,750 cfs of flood water into Fresno Slough and the Mendota Pool. Even higher flood flows, over 5,000 cfs, have occasionally been recorded under extraordinary events. The U.S. Army Corps of Engineers (USACE) controls all flood releases on the Kings River and KRCD operates river facilities to meet USACE objective flows in portions of the Kings River.

**L-KRCD**  
**KRWA-3**

A fundamental premise of the SJRRP is that the Program is to have no impacts on parties other than the Friant Division contractors and their water users. Avoiding impacts to third-parties is a core principle embedded in the stipulation that resulted in the SJRRP, the legislation that implemented that stipulation, and in a number of other agreements and assurances provided as the SJRRP was being developed. The KRWA and KRCD are primarily concerned with potential anadromous fish straying and coordinated flood operations impacts and provide these comments as potentially affected third parties under both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA).

**L-KRCD**  
**KRWA-4**

- 1) In Chapter 2.2.5, Description of Alternatives – Alternative A, on page 2-33, lines 30-40, a Compact Bypass Channel is discussed in order to bypass the Mendota Pool. Lines 37-40 state *“The bypass channel and associated structures would provide downstream passage of juvenile Chinook salmon and upstream passage of adult Chinook salmon, as well as passage for other native fishes, while isolating Mendota Pool from Restoration Flows.”* This action addresses the issues of the downstream migration of smolt and the upstream migration of returning adults. The migrating fish are kept out of the Mendota Pool through the use of fish barriers and a Mendota Pool Dike at the respective downstream and upstream ends of the Mendota Pool. On pages 2-40 and 2-41, lines 40-42 and 1 respectively, the Reach 3 Fish Barrier is explained: *“A fish exclusion barrier would be included in Reach 3 near the downstream end of the Compact Bypass to prevent adult fish from migrating beyond the bypass channel up to the base of Mendota Dam, which during most flows out of Mendota Pool, would be a dead end for fish passage.”* Further, in Chapter 5.3.3 Impacts and Mitigation Measures – Alternative A, on page 5-22, lines 12-14, a proposed barrier is described as *“A fish guidance barrier would be installed in the San Joaquin River where the Compact Bypass joins the river in Reach 3 to direct upstream adult salmon into the bypass”* and page 5-24, lines 18-20 note that *“Alternative A would have a beneficial effect by facilitating upstream migration for adult salmon and by isolating or screening possible false migration pathways.”*

In Chapter 2.2.7, Description of Alternatives – Alternative C, on pages 2-63 and 2-64, lines 27-28 and 1-2, the Mendota Dam and Short Canal are described: *“Fish passage facilities at Mendota Dam and a fish screen on the Short Canal would be built to provide passage around Mendota Dam and prevent fish from being entrained in the diversion. A fish barrier would be built downstream of the Fresno Slough Dam to keep up-migrating fish in Reach 2B.”* Further, on page 2-68, lines 6 – 8, it is noted that *“A fish exclusion barrier would be included north of*

**L-KRCD  
 KRWA-4  
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*the Fresno Slough Dam to prevent adult fish from migrating into Fresno Slough during Kings River flood releases through the Fresno Slough Dam.”* Alternative D proposes a Fresno Slough Dam and fish passage facilities that are identical in function to the facilities described in Alternative C. The Fresno Slough Dam and fish passage facilities in both of these Alternatives provide a barrier that keeps migrating fish in Reach 2B and out of the Mendota Pool and Fresno Slough. They offer no false pathways for migrating fish to follow.

In Chapter 2.2.6, Description of Alternatives – Alternative B (Preferred Alternative), on page 2-54, lines 2-10, the fish screen on the Compact Bypass Channel is discussed, which will be located at the upstream end of the Mendota Pool. Lines 2-3 state *“A fish screen would be included adjacent to the head of the Compact Bypass where water deliveries would be diverted from the river to Mendota Pool, if appropriate”* and the related footnote states that the need for the Mendota Pool fish screen will be further evaluated as Project planning and design continues. Additionally, page 2-56 lines 24-26 state that *“This alternative does not include a fish barrier at the downstream end of the Compact Bypass to keep fish from migrating upstream of the Compact Bypass in Reach 3 toward the base of the Mendota Dam.”* In addition, in Chapter 5.3.3 Impacts and Mitigation Measures – Alternative B, on page 5-30, lines 31-37, states *“This alternative does not include a fish barrier at the downstream end of the Compact Bypass to keep fish from migrating upstream of the Compact Bypass in Reach 3 toward the base of Mendota Dam. A false migration pathway up to the base of Mendota Dam – of approximately 2,000 feet – would be available to fish in all years, and a false migration pathway into Mendota Pool and Fresno Slough (potentially into the Kings River system) would occur about once in 5 years when boards are taken out of Mendota Dam to pass Pine Flat flood releases into Reach 3.”*

**Alternative B, which is the preferred alternative, is the only alternative that fails to provide a barrier to keep migrating fish away from the base of the Mendota Dam and out of the Mendota Pool and potentially Fresno Slough. A fish screen/barrier on the upstream end of the Compact Bypass is mandatory, must be in place to keep fish out of the Mendota Pool during water deliveries and flood releases. If a fish barrier is identified to be needed in Alternatives A, C and D to prevent fish straying into false migration pathways, why would a fish barrier not be needed in Alternative B?**

The DEIS/R references that Kings River floodwater can reach Mendota Pool through the Fresno Slough about once in 5 years. In reality flood releases on the Kings River will reach the Mendota Pool on average once every 4 years. These infrequent, intermittent flood releases may occur for a period of weeks or months, and are the only time when the Kings River is hydrologically connected to the San Joaquin River. However, flood releases on the Kings River typically occur during the spring and early summer months, which coincides with the peak spring-run salmon migration periods.

A fish screen or other positive fish barrier is required to be installed on both ends of the bypass channel to keep fish in the bypass and prevent fish from entering Mendota Pool. Downstream migrating salmon must be kept out of the Mendota Pool from Reach 2B, and

L-KRCD  
KRWA-4  
cont.

upstream migrating salmon must not be able to enter the Mendota Pool from Reach 3. Studies have shown that straying among salmon species is not uncommon. Quinn *et al* (1991) found straying rates of between 9.9% and 27.5% in fall run Chinook salmon *Oncorhynchus tshawytscha* originating from lower Columbia River hatcheries. Installation of a positive fish barrier or fish screen at the downstream end of the Mendota Dam or Mendota Pool would be supported by language in multiple sections of Chapter 5.0, Biological Resources – Fisheries, as well as language in the San Joaquin River Restoration Settlement Act.

The Mendota Dam at the Mendota Pool should not be considered a positive fish barrier from Reach 3 to the Mendota Pool. While the Mendota Dam may appear impassable under most conditions, during flood releases the boards are pulled from the Dam and it becomes readily passable by virtually any species and life stage. The SJRRP PEIS/EIR references the presence of salmon in the San Joaquin River system as late as the 1990s, and logically the only way these salmon could have reached the system beyond Reach 3 would have been through the Mendota Dam and into the Pool. Without a fish barrier at the end of the bypass channel, a significant percentage of the returning fish may be lost, to the substantial detriment of the Program. Those fish could stray into the Fresno Slough and James Bypass during (admittedly infrequent) periods when floodwater is discharging into the Mendota Pool from the Kings River. Alternative B, the preferred alternative, relies solely on the Mendota Dam to keep up-migrating fish from entering the Mendota Pool, which has proven to be an ineffective barrier and will likely lead to fish straying into false migration pathways.

Previous San Joaquin River Restoration Program documents, specifically the Mendota Pool Bypass and Reach 2B Improvements Project Initial Options Technical Memorandum dated April 2010, notes the need for fish screens and barriers to be constructed at either end of the Mendota Pool Bypass to prevent fish from entering the Pool (see Section 7.1.3). This document proposes that a fish screen be constructed at the upstream end of the Bypass to keep downstream migrating fish in the Bypass channel and a fish barrier be constructed at the downstream end of the Bypass to keep upstream migrating adults in the Bypass. It is imperative that fish screens and barriers be installed on both ends of the Bypass to prevent fish from entering the Pool and that the fish screens and barriers be designed to handle all hydrologic flow conditions. Portions of the referenced document about the Mendota Pool Bypass Fish Barrier (see Section 7.2.6) state that “*For flood operations . . . the barrier could be removed to prevent hydraulic modification, excessive debris collection, and maintain channel capacity*”, but when flood flows are entering the Pool from the Kings River is precisely the time the fish barrier needs to be in place and operational to prevent fish in the San Joaquin River/Mendota Pool Bypass from entering the Pool and potentially entering a false pathway.

Given the straying rates of salmon as documented by Quinn *et al* (1991) and others (McIsaac 1990, Unwin and Quinn 1993), which would represent conservative estimates

**L-KRCD  
 KRWA-4 cont.**

because the salmon being re-introduced are from another watershed, a screen or barrier to minimize or avoid fish passage from Reach 3 to the Mendota Pool, discouraging fish from migrating into the false pathway of the Fresno Slough and James Bypass during flood events, would be a necessary installation for the program to properly “restore and maintain fish populations in good condition in the main stem of the San Joaquin River”, a fundamental principle of the Program. The omission of such a structure could potentially result in a third party impact to the Kings River interests, when “No Third Party Impacts” is a core aspect of the SJRRP and its implementation.

Upstream migrating salmon have the greatest chance of migrating up false pathways during flood releases from the Kings River. Alternatives A, C, and D all contain a fish barrier at the downstream end of the bypass to prevent access to false pathways into the Mendota Pool and hence the Fresno Slough. Alternative B, the preferred alternative, has a false pathway into the Mendota Pool and Fresno Slough (and potentially the Kings River) during flood releases.

Alternative B, the preferred alternative, is the only proposed alternative that fails to address the need for fish screens and barriers at both ends of the Mendota Pool Bypass. It specifically excludes a fish barrier at the downstream end of the bypass, and will only add a fish screen at the upstream end if it is “determined necessary.” This is an unacceptable potential impact to the Kings River interests.

M Quinn T.P. , R.S. Nemeth, and D.O. McIsaac. 1991. Homing and straying patterns of fall Chinook salmon in the lower Columbia River. Transactions of the American Fisheries Society 120:150-156.

McIsaac, D.O. 1990. Factors affecting the abundance of 1977-1979 brood wild fall Chinook salmon, *Oncorhynchus tshawytscha* in the Lewis River, Washington. PhD. Thesis, University of Washington, Seattle, 174p.

Unwin, M.J., T.P. Quinn. 1993. Homing and straying patterns of Chinook salmon (*Oncorhynchus tshawytscha*) from a New Zealand Hatchery: Spatial distribution of strays and effects of release date. Canadian Journal of Fisheries and Aquatic Sciences, 50:1168-1175.

**L-KRCD  
 KRWA-5**

- 2) In Chapter 5.3.3 Impacts and Mitigation Measures – Alternative B, on page 5-31, lines 2-4, it is stated that “Alternative B would have a beneficial effect by facilitating upstream migration for adult salmon and by isolating or screening possible false migration pathways.”

This is a misleading statement that implies Alternative B has sufficient fish screens and/or fish barriers to prevent fish straying into false migration pathways. As noted above, Alternative B, the preferred alternative, is the only alternative considered that fails to address the need for fish screens and barriers at both ends of the Mendota Pool Bypass. It specifically excludes a fish barrier at the downstream end of the bypass, and will only add a fish screen at the upstream end if it is “determined necessary.” This statement should be re-written to acknowledge that Alternative B does not prevent upstream migration of adult salmon into possible false migration pathways because sufficient isolation or screening is not provided.

**L-KRCD  
KRWA-6**

- 3) The design of the required fish barrier at the downstream end of the bypass channel is a potential concern during flood releases. In Chapter 2.2.4 on page 2-28 under Maintenance, lines 23 – 26 notes that *"Fish barrier maintenance is needed to ensure that the barrier is functioning to NMFS standards and capable of passing the required flow. Fish barrier maintenance includes periodic repair or replacement of screens, in-channel sediment removal in the structure vicinity, and debris removal."* The proposed Reach 3 Fish Barrier is described in Chapter 2.2.5, page 2-41, lines 5 – 12, as *"The exclusion barrier design would be a high-flow picket barrier, which is a flow-through structure of closely spaced bars (i.e. pickets) that prevent adult fish from traveling upstream in the river to Mendota Dam at flows up to a combined discharge of 4,500 cfs (Mendota Dam and the Compact Bypass). The design accounts for a range of flow options from routing the entire 4,500 cfs flow through the structure (flood flows from the James Bypass), to routing a 600 cfs irrigation delivery through the structure with up to 3,900 cfs being routed down the Compact Bypass, to routing no flow through the structure with up to 4,500 cfs down the Compact Bypass."*

**While a positive fish barrier is required at the downstream end of the bypass to prevent fish straying into false migration pathways, we are further concerned regarding debris removal during high flow Kings River flood releases. A significant amount of debris could be present at certain times during flood releases, and the fish barrier must be designed to remove a sufficient amount of debris to pass at least 5,000 cfs discharge from the Kings River. Chapter 2.3.2 notes that other types of barriers, such as electric barriers and acoustic barriers, were considered and eliminated, but we would encourage that these or other behavior barriers be re-evaluated as a physical barrier may be problematic regarding debris removal under high flow conditons.**

**L-KRCD  
KRWA-7**

- 4) Lines 32-33 on page 12-5 provide the basic flood guidelines for priority over the San Joaquin River below the Mendota Pool: *"In all cases, water from the Kings River system has priority to use available capacity in the San Joaquin River below the Mendota Pool."* Lines 19-25 on page 12-16 further breaks down the flood guidelines: *"The existing design capacity of Reach 3 is 4,500 cfs. Reach 3 can receive flood flow from the Kings River system through the James Bypass and Fresno Slough or can receive flood flow from the San Joaquin River system through Reach 2B. According to flood management guidelines, water from the Kings River system has priority to use available capacity in the San Joaquin River below Mendota Pool. If 4,500 cfs of flow is conveyed through Fresno Slough, there would be no flood flows conveyed through Reach 2B because there would be no additional capacity in Reach 3."*

**There are concerns regarding the capacity of the reaches of the San Joaquin River directly downstream of the Mendota Pool. Per the current flood guidelines, the Kings River system has priority to use all available capacity in the San Joaquin River below the Mendota Pool (Reclamation Board 1969). Subsidence, overgrowth, and sedimentation over time has likely decreased the capacity of these reaches below that required to safely convey Kings River floodwater. All of these issues, especially overgrowth and sedimentation, will be**

**L-KRCD  
 KRWA-7  
 cont.**

exacerbated by the restoration program’s increased flow rates and duration. If the capacity of the reaches downstream of the Mendota Pool decreases, then high-flow Kings River flood releases could potentially cause seepage and flooding issues to the surrounding areas. Maintenance programs and funding must be in place to maintain flood control capacities downstream of Mendota Pool. As part of future evaluation of downstream reaches, levee improvements and on-going maintenance requirements must be considered and implemented to achieve and maintain adequate conveyance capacity.

**L-KRCD  
 KRWA-8**

- 5) A potential change in flood management guidelines is discussed in section 12.3.3 on page 12-16, lines 36-39. *“Flood management agencies have ultimate discretion in directing flood flows. If flood management guidelines are revised subsequent to implementation of the Project, there is a potential that flood flows through Reach 2B could have priority over flood flows from Fresno Slough. However, this is unlikely to occur because overall flood flow conveyance in the system would not be optimized. (If flood flow through Reach 2B was prioritized over Fresno Slough flows, Chowchilla Bypass would have 2,000 cfs of additional flood conveyance capacity.)”*

Even with the changes in conveyance that would occur with the construction of the proposed alternative, operation of the flood control project must remain consistent with historic practices and the 1969 Reclamation Board Operation and Maintenance Manual for the San Joaquin River and Chowchilla Canal Bypass Automatic Control Structures and Appurtenances document. If changes were to occur in the operation of these facilities the Kings River Watershed would be put at risk of experiencing greater flood damages than it has historically experienced.

**L-KRCD  
 KRWA-9**

- 6) Alternative B, the preferred alternative, is the only alternative which noted that stream bed erosion would increase in Reach 2B as described on page 12-21 lines 10-36. *“The Compact Bypass design in Alternative B includes fewer grade control structures than the other alternatives, which would initiate channel bed erosion in Reach 2B to remove sediment that has been deposited in the San Joaquin River arm of Mendota Pool. The channel bed erosion in Reach 2B would result in sediment deposition in the Reach 3 channel for approximately 1 mile downstream of the Compact Bypass (RM 203). The maximum estimated water surface increase resulting from this sedimentation is approximately 0.25 feet.”*

This increase in bed erosion is unique to Alternative B, which is the preferred alternative. It is unclear where the increase in water surface of 0.25 feet occurs or where the estimate came from. If this is a long term average over a 1 mile stretch of river, we are concerned that the first few events will cause a much more severe impact as the sediment is being moved downstream. This sedimentation deposition will require levee improvements in downstream reaches to offset the expected temporary and permanent increase in the water surface level. Removal of sediment and raising of control structures should be utilized to reduce the impact of sedimentation on further reducing the capacity in the affected section of Reach 3, which will pose an issue during flood releases to the surrounding areas.

L-KRCD  
KRWA-10

- 7) All alternatives will permanently displace recreation opportunities in the Project area, including fishing, swimming, and boating. This is caused by Project design features that will restrict public access to portions of Reaches 2 and 3. In addition, page 20-9 lines 21-22 state that "Existing regulations designed to protect salmon populations would likely be enforced in areas that have not historically had salmon."

The addition of fish screens, fish passage facilities, fish barriers, and dams will permanently displace recreation in the Project area. Some of the displacement is due to public access restrictions by these new structures, and some of the displacement is due to fishing regulations that will now apply to new areas in the Project area. The Fresno Slough and Kings River are named multiple times in Chapter 20 as probable and viable replacement locations for the displaced recreation, including page 20-2 lines 39-40, page 20-3 lines 1-6, page 20-9 lines 35-39, and page 20-13 lines 19-33. Redirecting anglers, boaters, and swimmers to the Kings River system represents a third party impact on the Kings River. The increase in recreation along the Kings River poses public safety issues and could potentially lead to overfishing, which is another third party impact.

L-KRCD  
KRWA-11

In summary we have a number of potential concerns, especially regarding the preferred Alternative B, that must be addressed to avoid potential third-part impacts to Kings River interests. Thank you for your consideration of our comments. If you have any questions in regards to these comments, please direct these to:

Steven Haugen, Watermaster  
Kings River Water Association  
4888 E. Jensen Ave.  
Fresno, CA 93725  
(559) 266-0767  
[shaugen@kingsriverwater.org](mailto:shaugen@kingsriverwater.org)

and

David Merritt  
Deputy General Manager  
Kings River Conservation District  
4886 E. Jensen Avenue  
Fresno, CA 93725  
(559) 237-5567  
[dmerritt@krcd.org](mailto:dmerritt@krcd.org)



Steven Haugen  
Watermaster  
Kings River Water Association

L15-0093  
File: 300.21.08



David L. Orth  
General Manager  
Kings River Conservation District

Ms. Becky Victorine/Mr. Christopher Hult  
Mendota Pool Bypass and Reach 2B Improvements Project Draft EIS/EIR Comments  
August 10, 2015  
Page 10

**APPENDIX A**

The member units of the KRWA are as follows:

ALTA IRRIGATION DISTRICT, an irrigation district  
BURREL DITCH COMPANY, a corporation  
CLARK'S FORK RECLAMATION DISTRICT NO. 2069, a reclamation district  
CONSOLIDATED IRRIGATION DISTRICT, an irrigation district  
CORCORAN IRRIGATION COMPANY, a corporation  
CRESCENT CANAL COMPANY, a corporation  
EMPIRE WEST SIDE IRRIGATION DISTRICT, an irrigation district  
FRESNO IRRIGATION DISTRICT, an irrigation district  
JAMES IRRIGATION DISTRICT, an irrigation district  
JOHN HEINLEN MUTUAL WATER COMPANY, a corporation  
KINGS RIVER WATER DISTRICT, a water district  
LAGUNA IRRIGATION DISTRICT, an irrigation district  
LAST CHANCE WATER DITCH COMPANY, a corporation  
LEMOORE CANAL & IRRIGATION COMPANY, a corporation  
LIBERTY CANAL COMPANY, a corporation  
LIBERTY MILL RACE COMPANY, a corporation  
LOVELACE WATER CORPORATION, a corporation  
PEOPLES DITCH COMPANY, a corporation  
REED DITCH COMPANY, a corporation  
RIVERDALE IRRIGATION DISTRICT, an irrigation district  
SOUTHEAST LAKE WATER COMPANY, a corporation  
STINSON CANAL & IRRIGATION COMPANY, a corporation  
STRATFORD IRRIGATION DISTRICT, an irrigation district  
TRANQUILLITY IRRIGATION DISTRICT, an irrigation district  
TULARE LAKE BASIN WATER STORAGE DISTRICT, a water storage district  
TULARE LAKE CANAL COMPANY, a corporation  
TULARE LAKE RECLAMATION DISTRICT NO. 761, a reclamation district  
UPPER SAN JOSE WATER COMPANY, a corporation

## **II.5.6 Responses to Kings River Conservation District and Kings River Water Association**

### ***Response to Comment L-KRCD KRWA-1***

The Kings River Conservation District (KRCD) and Kings River Water Association's (KRWA) comments have been reviewed and considered in preparation of the Final EIS/R.

### ***Response to Comment L-KRCD KRWA-2***

The commenter is describing the hydraulic connection between the Kings River and Mendota Pool via James Bypass and Fresno Slough. There are no specific statements about the Project or the EIS/R in this comment.

### ***Response to Comment L-KRCD KRWA-3***

This comment raises concerns about impacts to Third Parties. The term "Third Parties" is a phrase commonly used in SJRRP documents, including the Settlement and the Settlement Act. In the context of this response to comment and Final EIS/R, Third Parties include landowners and agencies that have a vested interest in implementing the SJRRP.

The commenter asserts that there should be no impacts on parties other than the Friant Division contractors and their water users. Neither the Settlement nor the Settlement Act requires that the SJRRP have no impacts on Third Parties. Section 10004(d) of the Settlement Act require identification of project impacts and mitigation measures, which Reclamation is doing as part of this EIS/R.

The commenter is also concerned about the potential liability associated with harming reintroduced spring-run Chinook salmon in the Restoration Area. Section 10011(b) of the Settlement Act requires that spring-run Chinook salmon be reintroduced under the SJRRP as an experimental population under Section 10(j) of the ESA. Section 10011(c)(2) of the Settlement Act requires the Secretary of Commerce to issue a rule pursuant to Section 4(d) of the ESA that governs the incidental take of reintroduced spring-run Chinook salmon. As discussed under MCR-1: Mendota Pool Fish Screen, if spring-run Chinook salmon were to enter the Kings River watershed, Third Parties would be legally protected from incidental and accidental take of that salmon during otherwise lawful activities. NMFS issued its final rule package regarding reintroducing spring-run Chinook salmon on December 31, 2013. DFW concurred with NMFS' rule on March 17, 2014. This rule package provides an exemption to Third Parties from incidental and accidental take of spring-run Chinook salmon under the ESA and CESA for otherwise lawful activities.

### ***Response to Comment L-KRCD KRWA-4***

As described by the commenter, the Draft EIS/R includes the Reach 3 Fish Barrier at the downstream end of the Compact Bypass in Alternative A, excludes the fish barrier in Alternative B, and includes the Fresno Slough Dam Fish Barrier in Alternatives C and D. However, Section 2.2.4 of the Draft EIS/R indicates that the need for fish screens at diversion facilities would be further evaluated as Project planning and design continues. This was most clearly identified in Alternative B during the discussion of the Mendota

Pool Fish Screen, but this was also intended to apply to the South Canal Fish Screen in Alternative A, the Short Canal Fish Screen in Alternative C, and the North Canal Fish Screen in Alternative D. Section 2.2 of the Final EIS/R is revised to indicate that those screens are included in the alternative, if determined necessary.

The commenter is also correct that salmon migrated upstream past the Mendota Dam as recently as the late 1990s. Mendota Dam is equipped with a fish ladder originally constructed to facilitate upstream migration. While not a complete barrier to upstream migration, Mendota Dam is now considered to present a considerable barrier, particularly at low flow, and the fish ladder at Mendota Dam would likely require substantial modification to function properly (McBain and Trush 2002).

As described in MCR-1: Mendota Pool Fish Screen, Reclamation has completed an extensive analysis, based on the best available information, of the potential loss of fish to the Mendota Pool during water deliveries (Part VI – Appendices to the Responses). Reclamation has determined that the number of juvenile fall-run and spring-run Chinook salmon that would be lost to Mendota Pool without a fish screen is not within the range that is acceptable to the SJRRP. The number of juveniles expected to be entrained in Mendota Pool is small (on average approximately 6 to 7 percent of the annual population) when considered over a variety of water year types, but could include multiple years in a row with more than 20 percent of the annual population of juveniles entrained in Mendota Pool. The greatest entrainment is expected to occur during flood releases in February and March. Calls on Friant to satisfy the Exchange Contract in late spring and early summer months would have minimal impact to juvenile fall-run and spring-run Chinook salmon because the fish are expected to emigrate out of the area prior to mid-May. The effect on annual fish population entrainment due to May and June calls on Friant is very small. In one out of every 20 years, less than 2 percent of the annual fish population would be entrained by these deliveries to Mendota Pool (SJRRP 2016b).

Reclamation and the CSLC analyzed and disclosed the potential impacts of constructing and operating the Mendota Pool Fish Screen in the Draft EIS/R to allow the flexibility to construct and operate the feature, should the agencies determine it is needed as part of the overall Project in support of the Restoration Goal. Based on the detailed technical analysis performed by Reclamation (provided in Part VI – Appendices to the Responses), the SJRRP has determined that it is appropriate to include construction and operation of the Mendota Pool Fish Screen in the preferred alternative. The purpose of this change is to disclose the increased likelihood that the SJRRP could include this feature in the selected alternative for the Project. A final decision on the selected alternative for the Project will be made in the ROD/NOD, following public review of the Final EIS/R.

If a fish barrier is not constructed at the bottom of the Compact Bypass or at the base of the Fresno Slough Dam, only a small portion of the up-migrating adult salmon is expected to stray into Mendota Pool during flood flows. Adult salmon are expected in both the river and the flood bypasses during flood flows as the flood management agency splits the flows. In Alternative B, migration would be delayed for some fish due to the false migration pathway, but many of the up-migrating salmon in the river are expected to use the Compact Bypass when the San Joaquin River is conveying flood flows. Those

lost to Mendota Pool are expected to be within the range that is acceptable to the SJRRP, as that the number lost is not expected to impact the SJRRP's ability to meet the Restoration Goal.

For a discussion of potential Third Party impacts from spring-run Chinook salmon in the Kings River watershed, see MCR-1: Mendota Pool Fish Screen and response to comment L-KRCD KRWA-3. The Section 4(d) rule package issued by NMFS and concurred on by DFW provides an exemption to Third Parties from incidental and accidental take of spring-run Chinook salmon under the ESA and CESA during otherwise lawful activities such as agricultural activities.

***Response to Comment L-KRCD KRWA-5***

This sentence is a comparison of Alternative B and existing conditions and the No-Action Alternative, not a comparison of Alternative B and the other Action Alternatives. This sentence was revised in Section 5.3.3 of the Final EIS/R to indicate that fish passage is improved, compared to existing conditions and the No-Action Alternative, due to construction of the Compact Bypass. The revised information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R. Although a false migration pathway at the base of Mendota Dam would delay migration, the Compact Bypass provides a migration route that meets fish passage criteria.

***Response to Comment L-KRCD KRWA-6***

As described by the commenter, Section 2.2.5 of this EIS/R describes a high-flow picket fish barrier which would require debris removal and periodic maintenance.

Other types of fish barriers were considered during the appraisal-level design, including a floating picket weir, behavioral barriers (electric barriers and acoustic barriers), and velocity barriers, but these other types of barriers were found to be inferior to the high-flow picket barrier (see Section 2.3.2 of this EIS/R.) Floating picket weirs would not be effective at higher flows; electric barriers and acoustic barriers were found to have significant draw-backs, as described below; and velocity barriers would require substantial modifications to Mendota Pool.

Electric barriers generate an electric current through the water across a channel in order to deter fish. Based on existing and previous installations, electric barriers were found to present potential unavoidable electric shock hazards for fish (target and non-target species), other animals, people, and watercraft. Often target fish species either made it past the barrier or were killed. Velocities and depths need to be consistent for the barrier to be effective, something that has proven difficult on reaches with moveable beds and those with variable flows. Velocities also need to be sufficient to sweep stunned fish out of the barrier, which may be difficult in Reach 3 with its low slope and low velocity conditions. For all these reasons, the electric barrier was not recommended.

Acoustic barriers use a sound signal contained in a bubble curtain of air to deter fish; acoustic barriers may also incorporate the use of strobes and lights to deter fish. There are few existing installations of acoustic barriers, but they have been found to be most effective on juvenile fish with minimal effectiveness on adult fish. Effectiveness has also

been found to decrease with increasing flows. Acoustic barrier technology is not capable of functioning during high flows (*e.g.*, 4,500 cfs) and therefore, the acoustic barrier was not recommended.

Because of the poor performance of electronic and acoustic barriers for the design flows, only the high-flow picket barrier is included in the alternative for analysis in the EIS/R during conceptual design.

***Response to Comment L-KRCD KRWA-7***

Reclamation and DWR have been conducting numerous studies in the Restoration Area to evaluate channel capacities in the San Joaquin River and flood bypasses. These channel capacity evaluations are updated annually through the SJRRP channel capacity report process (SJRRP 2016a).

As described in MCR-6: Flood Management Considerations and O&M Costs, levee evaluations along the San Joaquin River and flood bypasses are being conducted by DWR as part of the San Joaquin Levee Evaluation Project to assist the SJRRP in assessing flood risks due to levee seepage and stability associated with the release of Restoration Flows. Geotechnical evaluations have included geomorphology studies, collection of geophysical data, drilling programs along the levee crown and landside toe (including boreholes, cone penetration tests, and hand augers), and laboratory testing of soil samples. These geotechnical evaluations have been used to identify existing channel capacity, inform levee seepage and stability modeling for each reach, and to identify critical levee segments that have reduced capacity for future levee stability projects.

As described in MCR-3: Subsidence, Reclamation has been intensively monitoring subsidence within the Restoration Area since 2011 and Reclamation and DWR have performed subsidence monitoring along the Flood Control Project levees to help further refine subsidence rates in the flood bypasses. DWR has surveyed topographic ground elevations in Reach 2A, the Chowchilla Bypass, the Upper Eastside Bypass, the Middle Eastside Bypass, and the Mariposa Bypass. DWR also completed surveys in 2013 and 2014 of the levee and channel in the lower portion of Reach 3, Reach 4A, and the Middle Eastside Bypass (SJRRP 2014b). DWR, in coordination with Reclamation, will conduct a study to better understand the effects of long-term subsidence on channel capacity. This study is expected to be completed in 2016. In addition to updating the models and assessing the channel capacity to consider future subsidence, DWR has started to move forward with a study within the flood bypasses to understand how subsidence is changing sediment transport. The study is designed to better understand and quantify how subsidence-induced sedimentation will affect channel capacity and to provide information on the amount of sediment removal that may be required to maintain necessary design flow capacities.

As described in MCR-2: Seepage Management, Reclamation is currently monitoring more than 200 monitoring wells and piezometers and has identified areas vulnerable to seepage effects, developed groundwater thresholds, and has prioritized seepage control projects in the Restoration Area. The highest priority seepage projects in the Restoration Area are those located in areas that would be impacted at the lowest San Joaquin River

flows. Key areas of concern include the downstream end of Reach 2A, portions of Reach 3, and the downstream end of Reach 4A. SJRRP seepage projects are expected to be complete by 2020 in areas that would otherwise cause flow to be constrained below 1,300 cfs. Subsequent seepage projects are expected to be complete by 2025 in areas that would otherwise be affected by flows up to 2,500 cfs. All seepage projects are expected to be complete by 2030 to allow up to 4,500 cfs of Restoration Flows in the San Joaquin River.

Regarding O&M costs associated with the Flood Control Project, see MCR-6: Flood Management Considerations and O&M Costs.

***Response to Comment L-KRCD KRWA-8***

This paragraph was deleted in Section 12.3.3 of the Final EIS/R. The Final EIS/R was revised to indicate that the Flood Control Project is operated to minimize flood impacts throughout the flood protection area. Modification to flood management operations would require evaluation by the flood management agency from a system-wide perspective (and may require revisions to the Flood Control Manual) and is outside of the scope of this EIS/R. The revised information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment L-KRCD KRWA-9***

This discussion is consistent with the modeling information in the Project design report (Reclamation 2015a). Levee improvements in the upper portion of Reach 3 are included in Alternative B to maintain channel capacity if necessary.

***Response to Comment L-KRCD KRWA-10***

Section 20.3.3 of this EIS/R describes impacts to public access from access restrictions at structures (Impact REC-2) and impacts from fishing regulations being applicable to Project structures (Impact REC-3). Both of these impacts discuss displacement of recreation opportunities by the Project; however, the anticipated level of recreation pressure and fishing activity is small and is not expected to result in deterioration of existing recreation facilities and adverse physical effects on the environment at alternative fishing and recreation locations.

As discussed in Section 20.1.1 of this EIS/R, the Kings River was only one of several locations self-reported by people responding to the question on alternative fishing sites to Mendota Pool. The Fresno Slough arm of Mendota Pool, including areas near Mendota Pool Park, is often used by the same people who fish from Mendota Dam. The EIS/R is not “redirecting” anglers, boaters, and swimmers to new areas but discussing how these people often use alternative sites to the Mendota Dam area.

***Response to Comment L-KRCD KRWA-11***

See response to comment L-KRCD KRWA-3 regarding potential Third-Party impacts.

## II.5.7 Lower San Joaquin Levee District

**Lower San Joaquin Levee District**  
11704 West Henry Miller Avenue, Dos Palos, CA 93620  
Telephone: (209) 387-4545  
FAX: (209) 387-4237

*Directors*

**Roy Catania, Chairman**  
**George Park, Vice Ch.**  
**Sean Howard**  
**Robert D. Kelley, Jr.**  
**Aldo Sansoni**  
**Donald C. Skinner**  
**Case Vlot**

*Secretary-Manager*  
**Reggie N. Hill**

*Superintendent*  
**Darrell Chism**

August 10, 2015

Ms. Becky Victorine  
Bureau of Reclamation  
San Joaquin River Restoration Program Office, MP-170  
2800 Cottage Way  
Sacramento, CA 95825-1898

RE: SJRRP Mendota Pool Bypass and Reach 2B Improvements Project EIS/R

L-LSJLD-1

This letter is the Lower San Joaquin Levee District's comments on the San Joaquin River Restoration Program's Draft Environmental Impact Statement/Environmental Impact Report for the Mendota Pool Bypass and Reach 2B Improvements Project, dated June 2015.

The enclosed pages are those comments regarding Alternative B, which the SJRRP has determined is the preferred alternative. Comments are organized referencing the page, section and lines of the document.

Sincerely,



Reggie N. Hill

Enclosures

Draft Comments on  
Draft EIS/EIR for the Mendota Pool Bypass and Reach 2B Improvements Project  
August 10, 2015

General Notes

**L-LSJLD-2** [ There is an inconsistency relative to the support documentation mentioned in the report. Certain documents in support of your determinations have reference, but then inconsistencies arise in being accurate on referencing other documents.

**L-LSJLD-3** [ Also, there is a lack of meaningful information and details in the descriptions of the proposed alternatives. There is a lack of information on the proposed facilities, site layouts, and operations.

**Section 12.0 Hydrology Flood Management**

**L-LSJLD-4** [ **Page 12-2, Section 12.1.1, lines 27-29.** The flood project is correctly titled as “The Lower San Joaquin River Flood Control Project.” You are correct is stating it was constructed by the State.

**L-LSJLD-5** [ **Page 12-2, Section 12.1.2, lines 37-41.** Correct the information in depicting the storage space available in Millerton Reservoir. The reservoir has a minimum operating level of 130,000 AF, gross pool of 520,500 AF and a spillway flood pool of 555,450 AF. The reference in your document states 524,000 AF storage availability.

**L-LSJLD-6** [ **Page 12-3, Section 12.1.2, lines 10-28.** The correct identification for the two control structures at the bifurcation is - Chowchilla Canal Bypass Control Structure and the San Joaquin River Control Structure. **There is no Chowchilla Bifurcation Structure**, what is being incorrectly referenced is the San Joaquin River Control Structure. This needs to be corrected to be consistent with the San Joaquin River Flood Control Project description.

**L-LSJLD-7** [ **Page 12-4, Table 12-1, Footnote b.** Reference is made to design freeboard for the channel reaches of the river and bypass. The O&M manual for the San Joaquin River Flood Control Project, Page 35, Section 3100, states “Levees constructed along streams have been provided with a freeboard of 3 feet above maximum design water surface elevation and on bypass levees the freeboard is 4 feet.” Stating the Chowchilla Canal Bypass can pass flows with a freeboard of 3 feet is an encroachment into the freeboard design for those levees.

**L-LSJLD-8** [ **Page 12-5, Section 12.1.2, lines 5-8.** The San Joaquin River Flood Control Project was constructed by the State of California Department of Water Resources, not the Corps. You reference the San Joaquin River Flood Control Project as being constructed by the State on Page 12-2, Section 12.1.1. This needs to be consistent.

**L-LSJLD-9** [ **Page 12-5 Section 12.1.3 lines 29 - 30.** Need to cite appropriate DWR manual as McBain and Trush is not a valid reference for the intended level of flood protection.

L-LSJLD-10	<p><b>Page 12-5 Section 12.1.3 lines 30 - 31.</b> Need to note that the current capacity of Reach 2B is estimated at about 1200 cfs due to significant seepage issues.</p>
L-LSJLD-11	<p><b>Page 12-16 Section 12.3.3 lines 15 - 17.</b> This section needs to be rewritten. The increase in conveyance capacity above 2500 cfs in Reach 2B is a restoration benefit only. Increased flood flows through this reach will cause more downstream seepage and sediment impacts to the City of Firebaugh, along Reach 3, and in the Eastside Bypass. Portraying this as a benefit is incorrect.</p>
L-LSJLD-12	<p><b>Page 12-16 Section 12.3.3 lines 29 - 30.</b> This section needs to be rewritten. The operational strategy is to maximize the amount of flood flow in the Chowchilla Canal Bypass to minimize impacts to the City of Firebaugh and along Reach 3. Allowing more flow through Reach 2B will increase impacts to the system and adjacent land owners.</p>
L-LSJLD-13	<p><b>Page 12-16 Section 12.3.3 lines 36 - 39.</b> This statement is purely hypothetical and has no merit. This section needs to be rewritten.</p>
L-LSJLD-14	<p><b>Page 12-17 Section 12.3.3 lines 6 - 11.</b> This section needs to be rewritten. The flood project is operated as a complete system to minimize flood impacts, and not in a piece wise fashion as suggested in the text. Any modifications to the system that impact flood management will require an evaluation of flood operations and potential revisions to the O&amp;M manual for the project from a system wide perspective. As an example, if there is 4500 cfs of restoration flow in the Mendota Bypass and flood flows are forecast coming from the Kings River, there needs to be clear direction in the O&amp;M manual that the restoration flows will be diverted into the Chowchilla Canal Bypass and Friant releases will be reduced to accommodate priority Kings River flows through Mendota Pool. When Kings River diverts flows into the Mendota Pool area, all flow releases from Friant are then considered flood flows (if that has not already been determined prior to Kings River releases) and will be handled as such. Under this scenario, restoration flows must be decreased to not create any flow impacts into the Chowchilla Canal Bypass channel design capacity.</p>
L-LSJLD-15	<p><b>Page 12-17 Section 12.3.3 lines 16 - 21.</b> How will the program set aside adequate funding to support the increased O&amp;M that will be required due to increased restoration flows that will cause erosion, sedimentation, and vegetation growth?</p>
L-LSJLD-16	<p><b>Page 12-17 Section 12.3.3 lines 26 - 28.</b> This period provides some insight into past hydrologic conditions, but does not account for projected increases in extreme flow events due to climate change.</p>
L-LSJLD-17	<p><b>Page 12-17 Section 12.3.3 lines 33 - 37.</b> This increase from 0.5 to 2.5 percent seems minimal, but these flows can be very damaging and cause extensive erosion, sedimentation, and seepage damage at the city of Firebaugh and along Reach 3.</p>
L-LSJLD-18	<p><b>Page 12-18 Section 12.3.3 lines 8 - 11.</b> The significant increase in flows for events less than the 2 percent annual exceedance will cause additional downstream erosion, sedimentation, and seepage impacts. The 2000 cfs increase from 1000 cfs to 3000 cfs at the 50 percent exceedance will cause the city of Firebaugh to monitor flows and initiate sand bagging if flows reach 4000 cfs under current conditions. The city also experiences a rise in local groundwater levels that stops percolation at the waste water treatment plan settling ponds, saturates embankments and levees, and floods recreation facilities. The document does not adequately describe potential impacts of increased flow frequency.</p>

<b>L-LSJLD-19</b>	<p><b>Page 12-18 Section 12.3.3 lines 15 -16.</b> This section needs to be rewritten. The conclusion that the increase in design capacity is neutral is incorrect. The significant increase in the frequency and damage caused smaller events is not offset by a decrease in events greater than 2 percent exceedance. The channel capacity is only designed for 4500 cfs and San Joaquin River flows are diverted into the Chowchilla Canal Bypass to keep flows below this level. Flows above the 2 percent exceedance would not be routed through Reach 2B and into Reach 3, especially if Kings River flows are coming over through Fresno Slough.</p>
<b>L-LSJLD-20</b>	<p><b>Page 12-18 Section 12.3.3 lines 18 -19.</b> How will the program set aside adequate funding to support the increased O&amp;M that will be required due to increased restoration flows that will cause erosion, sedimentation, and vegetation growth?</p>
<b>L-LSJLD-21</b>	<p><b>Page 12-21 Section 12.3.3 lines 40 -41.</b> See comments on Impact FLD-1 (Alternative A). The section needs significant reevaluation to adequately characterize flood control operations and management issues.</p>
<p><b><u>Section 21.0 Socioeconomics and Economics</u></b></p>	
<b>L-LSJLD-22</b>	<p><b>Page 21-12, Section 21.1.6, lines 1-3.</b> The paragraph needs to be rewritten. The flood project we maintain begins at River Mile 118 and ends at River Mile 227, which is 108 miles. The flood project with its levees and bypasses was designed to minimize flood damage along this length of the river. LSJLD boundaries encompass parts of Firebaugh within its City Limits, but not Mendota’s City Limits. Mendota is impacted by what happens along the San Joaquin River and James Bypass as far as flood flows, but is not within the LSJLD boundaries. LSJLD boundary encompasses portions of Merced, Madera and Fresno Counties.</p>
<b>L-LSJLD-23</b>	<p><b>Page 21-12, Section 21.1.6, lines 19-26.</b> This paragraph alludes to the intent the USBR/SJRRP will be entering into a financial assistance agreement for increased O&amp;M for the Levee District caused by SJRRP. Initially, having an agreement was true, but now USBR is going back on their initial intent. Orally, SJRRP Program Manger Ali Forsythe has communicated the USBR will no longer be pursuing a financial assistance agreement with the Levee District. Increased O&amp;M costs are therefore expected to be bourn by the Levee District, which was not the original understanding the Levee District was lead to believe in cooperating with SJRRP. Initially, the costs were estimated using costs associated with that time period, but those costs are now higher due to the economy of doing business, and will continue to increase over time. As stated, any loss of a revenue source is unacceptable.</p>
<b>L-LSJLD-24</b>	<p><b>Page 21-17, Section 21.3.3, line 10.</b> There is no “Valley” in the Lower San Joaquin Levee District.</p>
<b>L-LSJLD-25</b>	<p><b>Page 21-27, Section 21.3.3, lines 24-31.</b> The paragraph relating to Alternative B and the impacts on the Levee District, the statement of “less than substantial” impact is an incorrect approach in determining fiscal impacts to the Levee District. Any loss of revenue to the Levee District is unacceptable, no matter the amount. Lost revenue, with no offer of replacement mitigation taxes an already limited budget, and adversely impacts the responsibility of the Levee District to comply with its obligation toward public safety.</p>
<p>3</p>	

## **II.5.8 Responses to Lower San Joaquin Levee District**

### ***Response to Comment L-LSJLD-1***

Your comments have been reviewed and considered in preparation of the Final EIS/R.

### ***Response to Comment L-LSJLD-2***

Supporting documentation are cited in the EIS/R where referenced.

### ***Response to Comment L-LSJLD-3***

Although detailed design documents are not included in the EIS/R, the Action Alternatives include descriptions of each of the Project features including channels, structures, fish habitat, vegetation, deliveries, and construction considerations. The EIS/R is based on the level of engineering and planning currently available and is adequate to identify potential environmental impacts of the alternatives and identify appropriate mitigation measures. See MCR-4: Project Design and Operations.

### ***Response to Comment L-LSJLD-4***

Text has been revised in Section 12.1.1 of the Final EIS/R to indicate that it is the Lower San Joaquin River Flood Control Project. The revised information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

### ***Response to Comment L-LSJLD-5***

Text has been revised in Section 12.1.2 of the Final EIS/R to indicate that the storage capacity is 520,500 acre-feet. The revised information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

### ***Response to Comment L-LSJLD-6***

As described in Sections 1.6.2 and 3.1.3 of the Draft EIS/R, this document uses the term “Chowchilla Bifurcation Structure” to collectively refer to both control structures. A footnote is included in Section 12.1.2 of the Final EIS/R to clarify. The revised information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

### ***Response to Comment L-LSJLD-7***

Text has been revised in Section 12.1.2 of the Final EIS/R, Table 12-1, to distinguish between the required freeboard in the river reaches and in the bypass. The revised information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

### ***Response to Comment L-LSJLD-8***

Text has been revised in Section 12.1.2 of the Final EIS/R for consistency. The revised information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

### ***Response to Comment L-LSJLD-9***

This sentence was deleted in the Final EIS/R. Deletion of this sentence in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

**Response to Comment L-LSJLD-10**

The recommended capacity for conveyance of Restoration Flows at Reach 2B is 1,120 cfs, based on the ground elevations near the landside levee toe (SJRRP 2016a). Text was revised in Section 12.1.3 of the Final EIS/R to include this clarifying information. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

**Response to Comment L-LSJLD-11**

This sentence was revised in the Final EIS/R to indicate that the increase in conveyance capacity in Reach 2B may have an indirect effect of providing flood management agencies additional flexibility in how flood flows are managed in the lower San Joaquin River system, if deemed appropriate. This sentence is caveated with a footnote that indicates the following: (1) flood management agencies have ultimate discretion in directing flood flows, (2) the Flood Control Project is operated to minimize flood impacts throughout the flood protection area, and (3) prior to use of the additional capacity in Reach 2B, the flood management agency would evaluate flood operations from a system-wide perspective. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

Also note that seepage and levee stability projects are anticipated to be implemented in the Restoration Area between FY 2015 and FY2029, as discussed in MCR-6: Flood Management Considerations and O&M Costs and MCR-2: Seepage Management. The seepage and levee stability projects are anticipated to have a direct effect by strengthening levees in lower river reaches and by reducing seepage effects for flows up to 4,500 cfs, which will indirectly benefit the City of Firebaugh and landowners along Reach 3 when the same reaches are conveying higher-level flood flows.

**Response to Comment L-LSJLD-12**

Several paragraphs were deleted and text was revised in Section 12.3.3 of the Final EIS/R to indicate that current flood management operational strategies are to maximize the amount of flood flows conveyed through the Chowchilla Bypass to minimize potential flood impacts to the City of Firebaugh and to landowners along Reach 3. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

The Project would increase the channel capacity and improve levees in Reach 2B. This has the potential to translate flood hydrographs, and possibly, flood damages downstream to lower reaches of the river. SJRRP conducted a flood risk assessment on the translation of flood risk from Reach 2B to reaches downstream, *i.e.*, to Reach 3 and Reach 4A. The objective of the analysis was to determine if damages would change based on changes in the flood hydrographs and if the likely failure points for levees used in the PEIS/R evaluation were reasonable. The analysis included a comparison of flood hydrographs at four index points in Reaches 3 and 4A, an evaluation of flood damages at these locations, and an evaluation of the updated levee data in Reach 3 and Reach 4A. The study concluded that, based on a comparison of changes to flood hydrographs, there would be little to no increase in damages – the one area that showed a slight increase in damages was likely due to perturbation effects in the model – and therefore redirected flood

impacts would be minor. Furthermore, the risk analysis also evaluated information from recently completed levee evaluations including the drilling information and seepage and stability analysis in Reaches 2A, 3, and 4A. A review of the levee evaluations concluded that the likely failure points for these levees that were used in the PEIS/R were reasonable and conservative. For additional information, see MCR-6: Flood Management Considerations and O&M Costs. MCR-6 also has additional detail on the SJRRP's commitment to maintain flows below then-existing channel capacities.

***Response to Comment L-LSJLD-13***

This comment is substantially the same as comment L-LSJLD-12. See response to comment L-LSJLD-12.

***Response to Comment L-LSJLD-14***

This comment is substantially the same as comments L-LSJLD-11 and L-LSJLD-12. See responses to comments L-LSJLD-11 and L-LSJLD-12.

Additionally, Section 1.6.3 of this EIS/R describes flow scenarios where flood flows and Restoration Flows would be conveyed through Reach 2B. This section indicates that the flood management agencies will have ultimate discretion in directing flood flows, and when both are anticipated in the river, some portion of the San Joaquin River flood flows would perform as Restoration Flows in the reach. Reclamation will not release Restoration Flows on top of flood control releases when flood control releases already meet the Restoration Administrator's flow targets.

***Response to Comment L-LSJLD-15***

The commenter has expressed concerns related to O&M costs for the flood system. It is unclear if the commenter is referring to the O&M costs of the Project facilities or the O&M costs for the Flood Control Project. See MCR-5: Project Funding for more information on the Project O&M costs. See MCR-6: Flood Management Considerations and O&M Costs for more information on the responsible party for O&M of the Flood Control Project.

Also note that SJRRP monitoring and maintenance efforts are included in the budget described in the Revised Framework (SJRRP 2015). Costs to implement the SJRRP's Physical Monitoring and Management Plan and Channel Capacity Advisory Group, which includes actions to ensure that the SJRRP is not impacting flood conveyance in Reach 3, are included in the "Channel Capacity Advisory Group" line item.

***Response to Comment L-LSJLD-16***

The San Joaquin River Restoration Daily Flow Model was developed in RiverWare based on best available information. The Daily Flow Model models the restoration reaches of the San Joaquin River system from Millerton Lake and Friant Dam near Friant, California to just below the confluence with the Merced River near Newman, California. The Daily Flow Model used as its basis of climatology the actual record of precipitation in the basin, from water years 1922 to 2003, and synthesized a future condition under which Restoration Flows were fully operational and unconstrained by channel conveyance. The model accounts for Millerton inflows, Millerton flood operations for rain events and for

snowmelt events, outflow ramping at Millerton, Madera and Friant-Kern canals diversions, the Restoration Flow schedule, inflows along the San Joaquin River and flood bypasses, diversion requests, channel flow losses, and flow routing. The Daily Flow Model includes the SJRRP-specific information needed to predict future flows under restoration conditions.

Reclamation has developed climate change projections for four climate change scenarios that are representative of more than 100 discrete climate model simulations and for a fifth “consensus scenario” that is an ensemble of the central tendency of temperature and precipitation. Key conclusions include (Reclamation 2015b):

- The consensus scenario predicts air temperatures in the basin to rise by 3.6° F (2.0° C), with the suite of four scenarios predicting a range from 1.8° to 4.7° F (1.0° to 2.6° C).
- The consensus scenario predicts runoff in the basin to decline by 6%, with a suite of four scenarios predicting a range from +25 percent to -31 percent.
- The consensus scenario predicts that reduction in runoff will be primarily from reduced number of “Normal-wet” years in favor of “Normal-dry” years. The proportion of “Dry,” “Critical-high,” and “Critical-low” water year types are predicted to remain relatively stable under this scenario.
- All scenarios predict the timing of peak runoff to advance, occurring slightly earlier in the year. Earlier runoff as predicted by all climate models may benefit restoration efforts as it more closely coincides the timing of natural runoff with anticipated Restoration Flow releases.

Reclamation’s climate change results shows that climate change is both uncertain and variable. The climate change results indicate that runoff to the basin would, on average, decrease by 6 percent, however the variability in this climate change prediction indicates that runoff to the basin could be up to 23 percent higher or as little as 31 percent lower. If the Daily Flow Model was reanalyzed to account for climate change, the uncertainty that would be introduced into the analysis (as seen by climate change predictions for basin runoff that range +25 percent to -31 percent) would be much greater than the expected change in the results (in this case, a 6 percent decrease in runoff.)

***Response to Comment L-LSJLD-17***

This analysis shows that the frequency increases for 4,500 cfs flows. However, as described in the PEIS/R (and Section 2.2.10), Restoration Flows would be maintained at or below estimates of the then-existing channel capacity in the reaches that convey the flow. Erosion would be monitored and maintenance would occur, or Restoration Flows would be reduced, as necessary, to avoid erosion-related impacts. These avoidance and minimization measures implemented by the Program will reduce the risk of levee failure for flows up to 4,500 cfs. With respect to seepage damage in Reach 3 and the City of Firebaugh, see response to comment L-LSJLD-11.

**Response to Comment L-LSJLD-18**

The flow frequency analysis provided in Section 12.3.3 of this EIS/R describes how often flows of a certain size would occur and shows that flows below the 2 percent annual exceedance would occur more frequently under restoration conditions; it does not predict that there would be a 2,000 cfs increase in flows.

Section 12.3.3 of the Final EIS/R provides additional information on whether a given event would be larger with implementation of the Action Alternatives and result in more damages. SJRRP conducted a flood risk assessment on the translation of flood risk from Reach 2B to reaches downstream, *i.e.*, to Reach 3 and Reach 4A. The objective of the analysis was to determine if damages would change based on changes in the flood hydrographs and if the likely failure points for levees used in the PEIS/R evaluation were reasonable. The analysis included a comparison of flood hydrographs at four index points in Reaches 3 and 4A, an evaluation of flood damages at these locations, and an evaluation of the updated levee data in Reach 3 and Reach 4A. The study concluded that, based on a comparison of changes to flood hydrographs, there would be little to no increase in damages – the one area that showed a slight increase in damages was likely due to perturbation effects in the model – and therefore redirected flood impacts would be minor. Furthermore, the risk analysis also evaluated information from recently completed levee evaluations including the drilling information and seepage and stability analysis in Reaches 2A, 3, and 4A. A review of the levee evaluations concluded that the likely failure points for these levees that were used in the PEIS/R were reasonable and conservative. See MCR-6: Flood Management Considerations and O&M Costs for additional details.

As described in the PEIS/R (and Section 2.2.10 of this EIS/R), Restoration Flows would be maintained at or below estimates of the then-existing channel capacity within reaches that convey the flow. In addition, seepage projects and levee stability projects have been identified in the Restoration Area where potential seepage impacts or levee stability would otherwise cause a constraint in Restoration Flows, including areas near the City of Firebaugh. Restoration Flows would not increase in the river reaches until Reclamation, through the seepage management efforts and through the channel capacity report process, determines that such flows would not damage adjacent landowners or impact levee stability. Erosion would also be monitored and maintenance would occur, or Restoration Flows would be reduced, as necessary, to avoid erosion-related impacts. (See MCR-6: Flood Management Considerations and O&M Costs and MCR-2: Seepage Management.)

This information is included in Section 12.3.3 of the Final EIS/R. The inclusion of this additional information in the Final EIS/R does not change the conclusions of the Draft EIS/R.

**Response to Comment L-LSJLD-19**

This paragraph was deleted and text was revised in Section 12.3.3 of the Final EIS/R to describe the avoidance and minimization measure that would be implemented by the Program (see response to comment L-LSJLD-18). This revision in the Final EIS/R does not change the conclusions of the Draft EIS/R. Current flood management strategies are also clarified, as discussed in response to comment L-LSJLD-12.

***Response to Comment L-LSJLD-20***

The commenter expresses concerns related to O&M costs for the flood system. It is unclear if the commenter is referring to the O&M costs of the Project facilities or the O&M costs for the Flood Control Project. See MCR-5: Project Funding for more information on the Project O&M costs. See MCR-6: Flood Management Considerations and O&M Costs for more information on the responsible party for O&M of the Flood Control Project.

***Response to Comment L-LSJLD-21***

This comment is referring to comments L-LSJLD-11 through L-LSJLD-20. See response to comments L-LSJLD-11 to L-LSJLD-20.

***Response to Comment L-LSJLD-22***

Text has been revised in Section 21.1.6 of the Final EIS/R to include these corrections. The revised information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment L-LSJLD-23***

Reclamation will continue to work with LSJLD to better understand how future conditions may affect their overall operations. Additionally, coordination will continue in order to assess the potential changes, if any, in O&M costs that may occur as a result of implementing the SJRRP. See MCR-6: Flood Management Considerations and O&M Costs for a discussion of changes to the O&M costs for the Flood Control Project.

***Response to Comment L-LSJLD-24***

Text has been revised in Section 21.3.3 of the Final EIS/R to correct this typographical error. This revision in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment L-LSJLD-25***

See MCR-6: Flood Management Considerations and O&M Costs. The federal government makes payment in lieu of taxes when purchasing land in a given county. The LSJLD may be able to find alternate sources of funding, some of which are described in Appendix E of the Revised Framework (SJRRP 2015). Reclamation also suggests the LSJLD embrace opportunities for multi-benefit projects that may enhance opportunities for obtaining O&M funding by combining flood control maintenance with habitat projects.

**II.5.9 Lower San Joaquin Levee District (2)**

**LINNEMAN LAW, LLP**

312 WEST 19<sup>TH</sup> STREET  
P. O. BOX 2263  
MERCED, CA 95344  
(209) 723-2137  
FAX (209) 723-0899

654 K STREET  
P. O. BOX 1364  
LOS BANOS, CA 93635  
(209) 826-4911  
FAX (209) 826-4766

1820 MARGUERITE STREET  
P. O. BOX 156  
DOS PALOS, CA 93620  
(209) 392-2141  
FAX (209) 392-3964

DIANE V. RATHMANN  
ALFRED L. WHITEHURST  
THOMAS J. KEENE

GABRIEL A. DELGADO

EUGENE J. VIERRA, RETIRED

L. M. LINNEMAN (1902-1983)  
JOSEPH B. BURGESS (1902-1990)  
JAY H. WARD (1942-1995)  
C. E. VAN ATTA (1919-1997)  
JESS P. TELLES, JR. (1920-2004)  
JAMES E. LINNEMAN (1933-2015)

August 10, 2015

Ms. Becky Vistorine  
Bureau of Reclamation  
San Joaquin River Restoration Program Office  
2800 Cottage Way, MP-170  
Sacramento, California 95825-1898

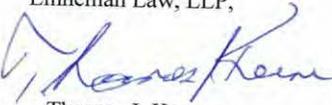
Re: The Lower San Joaquin Levee District comments on the Mendota Pool Bypass  
and Reach 2B Improvement Project Draft Environmental Impact  
Statement/Report dated June 2015

Dear Ms. Vistorine:

Enclosed please find the above referenced document.

Very truly yours,

Linneman Law, LLP,



Thomas J. Keene

cc: Reggie Hill, Secretary/Manager  
Lower San Joaquin Levee District

Enclosure

**Lower San Joaquin Levee District's Comments on the  
Mendota Pool Bypass and Reach 2B Improvement Project  
Draft Environmental Impact Statement/Report dated June 2015**

Operation and Maintenance

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LSJLD(2)-1

From the perspective of the Lower San Joaquin Levee District, the principal point of concern with this Draft Environmental Impact Statement/Report, (DEIS/R) is the failure of the document to address who will be responsible for the operation and maintenance of the various improvements which are to be constructed as a part of the Mendota Pool Bypass and Reach 2B Improvement Project, (the "Project"), both during the project's design and construction, after this Project is complete and, most importantly, after the Program itself is completed. The answer to this question necessarily leads to the question of what will be the funding source or sources of the agency or agencies who assume these responsibilities. While the document at least (and at last) recognizes that there will be significant operations and maintenance costs resulting from this construction<sup>1</sup>, it never answers either of these two questions.

The Draft Programmatic Environmental Impact Statement/Report (Draft PEIS/R) which was issued in the summer of 2012 notes that the Levee District maintains the Lower San Joaquin River Flood Control Project, (the "Flood Project"), but it then provides:

"Increased maintenance activities and costs are required as a result of implementing the Settlement, including additional erosion management actions identified through the monitoring activities. . . Reclamation would conduct or enter into an agreement with others to conduct such additional maintenance activities." (Draft PEIS/R Page 2-28, lines 18-22)

It does not specify who the "others" might be but, from the context, the Levee District could clearly be one of those "others". The Draft PEIS/R acknowledges that Reclamation and the District had, in fact, had an agreement by which Reclamation reimbursed the District for its additional costs of Operation and Maintenance which were caused by the River Restoration Program's activities, but that one-year agreement had expired. In fact, Reclamation and the Levee District were in negotiations at the time of Draft PEIS/R for a two year agreement similar in nature to the lapsed one-year agreement.

The final Programmatic Environmental Impact Statement/Report (PEIS/R) which is dated July of 2012, includes a Master Comment Response (MCR). Section 2.8 of the MCR addresses the question of who would provide operation and maintenance services. It recognizes that the Levee District and the Central Valley Protection Board are responsible for "routine operations and maintenance" of capital improvements in the Flood Project. The MCR acknowledges that

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<sup>1</sup>See, for example DEIS/R page 2-27, line 26 to page 2-30, line 38.

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Reclamation was then working with the District to develop a new financial assistance agreement to offset the District's added costs of operations and maintenance. The MCR also recognizes that there might be a need to revise the District's Operation and Maintenance Manual.

"Additional discussions with [the Army Corp of Engineers, the Central Valley Flood Protection Board, the Levee District] and Third Parties would need to occur to determine if these changes are necessary. However, [the Levee District] would continue to operate the flood management system and, in coordination with the [Central Valley Flood Protection Board], would be responsible for developing the necessary agreements and revisions." [MCR, page 2-38 to page 2-39].

Since that time, the District has made efforts to develop an agreement with Reclamation, without much of a response from Reclamation. However, as recently as June 28, 2013, Reclamation indicated that it was still interested in entering into a financial assistance agreement with the District. Finally, on October 27, 2014 the District was informed orally by Reclamation that Reclamation would not be entering into a new Cooperative Agreement and that Reclamation's attorney had determined that such an agreement would not be legal. In a letter dated October 24, 2014, the District followed up its oral request to get a written decision from Reclamation of its changed position and some indication of how it reached its conclusion that such an agreement would be illegal. When no written response was received to that letter from the District, another letter was written on April 28, 2015, asking for this same information. It went on to ask that, if Reclamation was not going to enter into a new agreement with the District was it going to enter into an agreement with someone else or was Reclamation going to start providing operation and maintenance services itself. No written response to that letter has been received to date and no indication has been received by the District indicating who would provide these services.

The DEIS/R makes it quite clear that, as these new structures are being built and as existing structures are modified to accommodate the Program, there will be an increasing need for operation and maintenance on these physical facilities. It does not say who will provide those services. Certain structures, such as the control structure on the River side of the Chowchilla Bypass, are to be modified by this Project in a way that increases the need for maintenance. The District operates that structure. Is the plan for the District to take on the added cost of operation and maintenance and increase the assessment the District levee on the landowners in the District? Similarly, the Mendota Pool is currently operated by the Exchange Contractors. Will the new control structure which will be built to regulate water going into the Pool now be operated and maintained by the Exchange Contractors? How about the new control structure which will be on the Mendota Pool Bypass itself, (which will now be a part of the River)? Will it be the responsibility of the District because it is on the River and so a part of the Flood Project, or will

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it be the responsibility of the Exchange Contractors because it is part of the Mendota Pool? Will the Exchange Contractors have to assess their water users in order to pay the cost of operating and maintaining these facilities? The Monitoring Activities discussed at page 2-31 of the DEIS/R, clearly include activities which no one is yet performing since, for example, the fish screens have not yet been installed and so not one has the responsibility to monitor them, and there is no flood plain presently in existence and so there is not need to monitor invasive species. Who will be performing those additional functions during the Project and who will perform those functions after the completion of this Project?<sup>2</sup> Who will pay those costs after the completion of the Program?

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Levee District Financial Viability

Chapter 21.0 does attempt, for the first time, to address the District's concern that its tax base will be reduced as land is taken out of private ownership and so can no longer be assessed by the District, (DEIS/R page 21-27). Unfortunately, it does not deal with the other half of the equation which is what will the District's costs be. Without knowing that information, it is impossible to determine whether the District will remain economically viable. Chapter 21.0 also asserts that operation and maintenance on the project, once the improvements are built will

"generate long-term economic benefits to the region. Under Alternative B, [the preferred alternative], the total operations and maintenance budget is approximately \$1.2 million (corresponding to the direct output value of the Project operations) which includes \$963,000 for expenditures on goods and services and \$278,000 in labor payroll that would support roughly four jobs."  
(Page 21-26, starting at line 32)

Where is this money coming from? Who will be the employer of these four people? Was the employer's financial condition examined in determining how much would be paid in personnel

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<sup>2</sup>The DEIS/R indicates that non-native species would continue to be removed during the "maintenance period", (DEIS/R page 2-59 starting at line 5). The DEIS/R also indicates that there will be a need for "long term" management of invasive plants, (DEIS/R page 2-44, starting at line 21), but it does not indicate if "long term" includes the time period after the completion of the River Restoration Program. In fact there is nothing in the DEIS/R which indicates definitively if the cost of managing the riparian habitat or any of the other costs of operation and maintenance after the completion of the Program has even been considered. Presumably the "long term" economic benefits of the Project touted in Chapter 21.0 does include the time period after the completion of the Program but even that is left vague.

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costs? Without this background information, these assertions have little or no value. However in order to make these determinations the starting point must be who the employer will be. In short, if the Bureau of Reclamation employs these four people, the personnel costs are likely to be very different that they would be if these four people are employed by the Levee District. Without a reliable income stream, the very assertion that these jobs would continue to exist after the River Restoration Program was complete is nonsense.

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**LSJLD(2)-3**

Computer Models and the Derivation of Design Parameters

The Draft PEIS/R, refers repeatedly to hydraulic modeling to support the conclusion that there will be no significant additional risk of flooding as a result of the Program, (e.g. Draft PEIS/R Page 11-31, Section 11.3.4). This is in spite of the fact that the design parameters of the individual projects had not yet been determined at the time of the PEIS/R.<sup>3</sup> Ultimately, the PEIS/R concludes that there are potentially significant impacts from all of the alternatives considered by the PEIS/R other than the No Project Alternative, to “expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam,” (Draft PEIS/R pages 11-31 to 11-32, Section 11.3.4). The only mitigation measure provided in the PEIS/R with regard to the construction of improvements is to require the “project proponents for the site-specific project [to] incorporate actions into site-specific design of individual projects to reduce the predicted flood flow impacts to less-than-significant levels.” (Draft PEIS/R Page 11-40, Section 11.3.4). Presumably, as a consequence of this conclusion in the Draft PEIS/R, a significant portion of Chapter 12 of the DEIS/R is given over to reciting some of these action which will be incorporated into the site-specific designs.

The analysis in the DEIS/R with regard to the possibility of people or structures to a significant risk of loss, injury or death involving flooding, (DEIS/R pages 12-16 to 12-18), is difficult to follow. It seems to say that the evaluation of additional flood risks elsewhere in the system because of the increased capacity in Reach 2, an estimate was made of flows in Reach 3 for a number of years. This data was used to calculate an average flow and annual maximum flows. This analysis led to the conclusion that there would be more small increases in the flow through the system but fewer large flood events. While a computer model was apparently used in making the estimates, there is no indication that there was computer modeling of the entire River to determine the impact of the improvements to be constructed as a part of this Project. This discussion is not persuasive.

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<sup>3</sup>“Because the details of the program-level actions are not known at this time, there is insufficient information available to describe specific actions that would reduce this impact to less than significant levels.” (Draft PEIS/R, page 11-40, Section 11.3.4).

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As a part of this discussion, the DEIS/R provides some parameters for the design of the flood plains and the other improvements which will be constructed as a part of this Project, (e.g. DEIS/R page 2-51 starting at line 7, and page 2-55, starting at line 23). Unfortunately, after reciting those parameters, it does not indicate whether there was any further computer modeling performed in order to determine the effect of this Project on the potential for flooding. In fact, it gives almost no information as to what went into choosing the design parameters or whether, in choosing these parameters, the danger of flooding was even considered. For example, it asserts that a minimum 300-foot buffer between the existing channel and the proposed new levee is generally provided where appropriate and feasible, but that in locations where it is not, the levees would be protected from erosion by revetment, (DEIS/R page 2-20, starting at line 13). No reason for the set back being 300 feet instead of say 350 feet or 200 feet is given. Whether not having such a set back where they are not feasible will have any consequences on flood protection is not addressed.. Nor is it explained if, in determining the size of the flood plain and the design of the new levees, whether the carrying capacity of the new water way will be equal to or less than the existing water way after taking into account the loss of capacity resulting from the development of the riparian habitat once the recruited vegetation has reached maturity. Further explanations of these choices are needed in order to determine if there is or is not an increased risk of damage from flooding.

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#### Three Integrated Measures

The "three integrated measures that collectively minimize increases in flood risk during Settlement implementation" discussed at the bottom on page 2-100 and continuing onto page 2-101 of the DEIS/R appear in the Draft PEIS/R, and are repeated a number of times in the responses to the comments of the Levee District and the Exchange Contractors in the Final PEIS/R. The first of three measures is the Channel Capacity Advisory Group which is to determine and update estimates of Channel Capacities as needed. As the DEIS/R admits, unfortunately there is "only limited data ... currently available on San Joaquin River channel capacities and levee conditions", (DEIS/R page 2-101, line 13). Little progress has been made in establishing a base line for channel capacities in the years between the PEIS/R and the DEIS/R. This makes it almost impossible for the Channel Capacity Advisory Group to function. This need for current, reliable data is not fully addressed in the DEIS/R.

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#### Subsidence

After the certification of the PEIS/R, the District, in its letter of August 17, 2012, to Reclamation, raised the issue of the impact of subsidence on the River Restoration Program. In

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that letter, the Levee District urged Reclamation to consider either decertifying the PEIS/R or immediately initiating a subsequent or supplement EIR to address this issue. It went on to suggest that the construction projects should not proceed until the subsidence issue had been studied. The District is pleased to see that the DEIS/R does at least acknowledge that subsidence is an issue, (DEIS/R page 2-32, stating at line 18). Unfortunately, this issue is given very little attention in the document. It only provides that,

“During the design process, causes of the observed subsidence, data from previously conducted studies, subsidence locations expected to require special design considerations, anticipated subsidence rates, and methods to mitigate the anticipated ground subsidence would be identified and incorporate into the design.”

Whether this yet-to-be discovered data on subsidence will result in a change in the few design parameters mentioned in the DEIS-R is not addressed. It is understandable how design can adequately address changes which have occurred as the result of subsidence up until now but it is very difficult to understand how design can adequately address the ongoing changes which are likely to continue after the Project is built. Subsidence is a major hurdle which not only this Project but the entire Program needs to address. To ignore it puts the entire Program at risk of becoming a waste of money. The District still is of the opinion that the subsidence issue should be studied at the programmatic level but it also believes that subsidence should also be addressed more in fully in project level documents than is the case in the DEIS/R.

## **II.5.10 Responses to Lower San Joaquin Levee District (2)**

### ***Response to Comment L-LSJLD(2)-1***

Although the implementing agencies responsible for the SJRRP are Reclamation, USFWS, NMFS, DWR, and DFW, Reclamation has taken the lead role in development and implementation of the Project. Reclamation is currently working on the Project design and is responsible for Project construction. As described in the Revised Framework (SJRRP 2015; Tables 4-10 and 5-11), all of the costs for the Mendota Pool Bypass in the Five Year Vision and all of the costs for the Reach 2B levee expansion in the Ten Year Vision are Federal costs. Although DWR would continue to have a lead role in SJRRP implementation, including levee stability in downstream reaches, DWR does not have the principal responsibility for Project implementation of the setback levees.

Although actual maintenance activities may be performed by others under contract (to be determined), Reclamation would be funding Project O&M. Table 5-2b of the Revised Framework identifies an O&M budget of \$200,000 a year for the Mendota Pool Bypass starting in FY 2020, after construction has been completed in FY 2019. Table 5-2b also assigns this cost to the Federal government (Reclamation). In addition, Table 6-2b of the Revised Framework identifies an O&M budget of \$200,000 a year for the Reach 2B Improvements starting in FY 2026, after construction has been completed in FY 2025. Table 6-2b also assigns this cost to the Federal government (Reclamation). These O&M costs are included until FY 2029, which is the end of the planning horizon for the Revised Framework. In addition, the SJRRP has committed to long-term O&M activities to be implemented in the SJRRP Restoration Area that could contribute to actions in the Mendota Pool Bypass and Reach 2B area. These activities including invasive species management (\$300,000 per year) and vegetation management (\$200,000 per year), both funded through FY 2029 in the Revised Framework (again, the end of the planning horizon in the Revised Framework). Although the budget has not been developed beyond FY 2029, funding for Project O&M activities is intended to continue for the life of the Project. For additional information on SJRRP funding, see MCR-5: Project Funding.

As described in Section 2.2.4 of this EIS/R and MCR-4: Project Design and Operations, O&M of the Project control structures includes annual operating maintenance for control gates, lubricating the fittings, greasing and inspecting the motors, replacing parts and equipment, in-channel sediment removal in the structure vicinity, and cleaning the trash rack. Although the budget has not been developed beyond 2029, funding for Project O&M is intended to continue for the life of the Project. Reclamation anticipates that the San Joaquin River Restoration Fund would serve as the long-term funding source for all SJRRP O&M activities, including O&M activities that are part of this Project. The long-term collections (post FY 2029) in the San Joaquin River Restoration Fund would be comprised of the Friant Surcharge collections and Sales of Water and Property. Reclamation estimates these sources to result in an average of \$6.2 million per year. These funds would be available for use as they are collected (the current restrictions on the expenditure of these funds are lifted in FY 2020). Reclamation recognizes that the roughly \$400,000 O&M estimate for both the Mendota Pool Bypass and Reach 2B levees would be subject to inflation over time, however, the collections in the San Joaquin River Restoration Fund are more than sufficient to cover these costs. Reclamation remains

cognizant of all of the SJRRP long-term O&M funding needs and is working to ensure that all long-term O&M funding needs remain within the estimated \$6.2 million per year in collections. In addition, Federal appropriations would likely also be available for any extraordinary O&M activities. For additional information on Project funding see MCR-5: Project Funding.

Regarding O&M costs associated with the Flood Control Project, see MCR-6: Flood Management Considerations and O&M Costs.

***Response to Comment L-LSJLD(2)-2***

Reclamation would be acquiring all lands in fee title or as an easement and therefore, there would be some loss of tax base as the Federal government does not pay taxes. As mentioned by the commenter, Section 21.3.3 of this EIS/R discusses the effects on tax revenues for the LSJLD (and for Fresno and Madera counties). Although Reclamation understands the challenge a loss in tax revenues presents for the LSJLD, fundamentally, the LSJLD, the CVFPB, and the State are responsible for implementing routine O&M or capital improvements to the Flood Control Project. In addition, the SJRRP is taking on a variety of actions in the Restoration Area through the Physical Monitoring and Management Plan that could reduce the LSJLD's O&M actions and costs to some extent. Reclamation would like to work with the LSJLD to find ways to coordinate on these actions and help reduce costs to the extent possible. See response to comment L-LSJLD(2)-1 and MCR-5: Project Funding regarding Project O&M costs. See MCR-6: Flood Management Considerations and O&M Costs regarding O&M costs associated with the Flood Control Project.

As described in Section 21.3.3 of this EIS/R, the Project is anticipated to support an estimated four jobs for Project O&M. Project O&M will be funded by Reclamation. See MCR-5: Project Funding regarding Project O&M costs.

***Response to Comment L-LSJLD(2)-3***

As discussed in MCR-4: Project Design and Operations, the EIS/R is based on a 15 to 30 percent level of design for the Project. The hydrologic, hydraulic, and sediment transport modeling used as the basis for the Project design is described in detail in Appendix C of the Project design report (Reclamation 2015a). The design report includes a discussion of sediment transport through the bypass, effects to floodplain habitat, and effects to flood conveyance in Reach 3. As described in Section 2.2.4 of the Draft EIS/R, a 300-foot buffer was chosen based on an assessment of the sediment transport conditions in the Project design. Additional clarifying details are included in the Project description (Sections 2.2.4 and 2.2.6 of the Final EIS/R) based on the most recent design and hydrologic, hydraulic, and sediment transport modeling. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

As indicated in Section 12.3.3 of this EIS/R, flows from the San Joaquin River Restoration Daily Flow Model developed in RiverWare were used for the flood frequency analysis referenced by the commenter. The San Joaquin River Restoration Daily Flow Model was developed in RiverWare based on best available information. The

Daily Flow Model models the restoration reaches of the San Joaquin River system from Friant Dam to just below the confluence with the Merced River. The Daily Flow Model uses as its basis of climatology the record of precipitation in the basin, from water years 1922 to 2003. Future conditions were developed assuming Restoration Flows were fully operational and unconstrained by channel conveyance. The Daily Flow Model accounts for Millerton inflows, Millerton flood operations for rain events and for snowmelt events, outflow ramping at Millerton, Madera and Friant-Kern canals diversions, the Restoration Flow schedule, inflows along the San Joaquin River and flood bypasses, diversion requests, channel flow losses, and flow routing. This model includes the SJRRP-specific information needed to predict future flows under restoration conditions.

SJRRP conducted a flood risk assessment (see MCR-6 for the analysis) on the translation of flood risk from Reach 2B to reaches downstream, *i.e.*, to Reach 3 and Reach 4A. The objective of the analysis was to determine if damages would change based on changes in the flood hydrographs and if the likely failure points for levees used in the PEIS/R evaluation were reasonable. The analysis included a comparison of flood hydrographs at four index points in Reaches 3 and 4A, an evaluation of flood damages at these locations, and an evaluation of the updated levee data in Reach 3 and Reach 4A. The study concluded that, based on a comparison of changes to flood hydrographs, there would be little to no increase in damages – the one area that showed a slight increase in damages was likely due to perturbation effects in the model – and therefore redirected flood impacts would be minor. Furthermore, the risk analysis also evaluated information from recently completed levee evaluations including the drilling information and seepage and stability analysis in Reaches 2A, 3, and 4A. A review of the levee evaluations concluded that the likely failure points for these levees that were used in the PEIS/R were reasonable and conservative. For additional information, see MCR-6: Flood Management Considerations and O&M Costs.

***Response to Comment L-LSJLD(2)-4***

Reclamation and DWR have been conducting numerous studies in the Restoration Area to evaluate channel capacities in the San Joaquin River and flood bypasses. These channel capacity evaluations are updated annually through the SJRRP channel capacity report process (SJRRP 2016a).

As described in MCR-6: Flood Management Considerations and O&M Costs, levee evaluations along the San Joaquin River and flood bypasses are being conducted by DWR as part of the San Joaquin Levee Evaluation Project to assist the SJRRP in assessing flood risks due to levee seepage and stability associated with the release of Restoration Flows. Geotechnical evaluations have included geomorphology studies, collection of geophysical data, drilling programs along the levee crown and landside toe (including boreholes, cone penetration tests, and hand augers), and laboratory testing of soil samples. These geotechnical evaluations have been used to identify existing channel capacity, inform levee seepage and stability modeling for each reach, and to identify critical levee segments that have reduced capacity for future levee stability projects.

As described in MCR-3: Subsidence, Reclamation has been intensively monitoring subsidence within the Restoration Area since 2011 and Reclamation and DWR have

performed subsidence monitoring along the Flood Control Project levees to help further refine subsidence rates in the flood bypasses. DWR has surveyed topographic ground elevations in Reach 2A, the Chowchilla Bypass, the Upper Eastside Bypass, the Middle Eastside Bypass, and the Mariposa Bypass. DWR also completed surveys in 2013 and 2014 of the levee and channel in the lower portion of Reach 3, Reach 4A, and the Middle Eastside Bypass (SJRRP 2014b). DWR, in coordination with Reclamation, will conduct a study to better understand the effects of long-term subsidence on channel capacity. This study is expected to be completed in 2016. In addition to updating the models and assessing the channel capacity to consider future subsidence, DWR has started to move forward with a study within the flood bypasses to understand how subsidence is changing sediment transport. The study is designed to better understand and quantify how subsidence-induced sedimentation will affect channel capacity and to provide information on the amount of sediment removal that may be required to maintain necessary design flow capacities.

As described in MCR-2: Seepage Management, Reclamation is currently monitoring more than 200 monitoring wells and piezometers and has identified areas vulnerable to seepage effects, developed groundwater thresholds, and has prioritized seepage control projects in the Restoration Area. The highest priority seepage projects in the Restoration Area are those located in areas that would be impacted at the lowest San Joaquin River flows. Key areas of concern include the downstream end of Reach 2A, portions of Reach 3, and the downstream end of Reach 4A. SJRRP seepage projects are expected to be complete by 2020 in areas that would otherwise cause flow to be constrained below 1,300 cfs. Subsequent seepage projects are expected to be complete by 2025 in areas that would otherwise be affected by flows up to 2,500 cfs. All seepage projects are expected to be complete by 2030 to allow up to 4,500 cfs of Restoration Flows in the San Joaquin River.

SJRRP studies have provided a substantial amount of information that is used in the analysis of the then-existing channel capacities in the river reaches and flood bypasses. These data are used to support the design of the site-specific projects in Reach 2B, Reach 4B, and at the Arroyo Canal diversion in Reach 3, as well as the levee, seepage projects and other site-specific project designs in Reaches 2A through 4B.

***Response to Comment L-LSJLD(2)-5***

See MCR-3: Subsidence for a discussion of Reclamation's and DWR's ongoing action to evaluate subsidence in the Restoration Area. With respect to Project structures, Reclamation is designing new Reach 2B levees and water control structures, such as the Mendota Pool Control Structure and the Compact Bypass Control Structure, to account for 5 feet of subsidence. This is equivalent to the current rate of subsidence for 25 years. This design criterion is considered conservative, because in 2040 (25 years from now) the Sustainable Groundwater Management Act will have required Groundwater Sustainability Agencies to reach sustainable levels of groundwater withdrawal in critically-overdrafted State groundwater basins. This presumably means that subsidence will have stopped in the Project area by 2040. The Project area is in a critically-overdrafted basin. To account for subsidence, Reclamation is designing additional freeboard on levees, additional height of control structures and intake facilities, and additional stoplogs or concrete walls to maintain the same low flow elevation after years

of subsidence on control structures. These factors will allow the Mendota Pool Bypass and Reach 2B project structures to remain operable and effective for many decades to come.

## II.5.11 San Joaquin Valley Air Pollution Control District



August 10, 2015

Becky Victorine  
Bureau of Reclamation  
San Joaquin River Restoration Office, MP-170  
2800 Cottage Way  
Sacramento, CA 95825-1898

**Agency Project: Draft Environmental Impact Statement/Environmental Impact Report – The Mendota Pool Bypass and Reach 2B Improvements Project**

**District CEQA Reference No: 20150534**

Dear Ms. Victorine:

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The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the Draft Environmental Impact Statement/Environmental Impact Report (Draft EIS/EIR) for the project referenced above. The Bureau of Reclamation is the Federal Lead Agency under the National Environmental Policy Act (NEPA). The California State Lands Commission serves as the lead agency for compliance with the California Environmental Quality Act (CEQA). The Mendota Pool Bypass and Reach 2B Improvements Project is a component of Phase 1 of the San Joaquin River Restoration Program which seeks to restore flows to the San Joaquin River from Friant Dam to the confluence of the Merced River, and restore a self-sustaining Chinook salmon fishery in the river while reducing or avoiding adverse water supply impacts associated with restoration flows. The Project includes the construction, operation, and maintenance of the Mendota Pool bypass and improvements in the San Joaquin River channel in Reach 2B. The project study area includes the Mendota Pool which is formed by the Mendota Dam and Reach 2B. Reach 2B extends from the Chowchilla Bifurcation Structure to the Mendota Dam. The Chowchilla Bifurcation Structure consists of two structural components: the river control structure that spans the San Joaquin River and the bypass control structure at the head of the Chowchilla Bypass. The Bifurcation Structure is used to route flood flows down the Chowchilla Bypass.

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The District offers the following comments:

1. **NEPA:** Based on information provided to the District, construction emissions of NOx

Seyed Sadredin  
Executive Director/Air Pollution Control Officer

**Northern Region**  
4800 Enterprise Way  
Modesto, CA 95356 8718  
Tel: (209) 557-6400 FAX: (209) 557-6475

**Central Region (Main Office)**  
1990 E. Gettysburg Avenue  
Fresno, CA 93726-0244  
Tel: (559) 230-6000 FAX: (559) 230-6061

**Southern Region**  
34946 Flyover Court  
Bakersfield, CA 93308-9725  
Tel: 661-392-5500 FAX: 661-392-5585

[www.valleyair.org](http://www.valleyair.org) [www.healthyairliving.com](http://www.healthyairliving.com)

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<p>L- SJVAPCD -2 cont.</p>	<p>and VOC are expected to exceed the <i>de minimis</i> threshold of 10 tons/year NOx and 10 tons/year VOC. Construction emissions of PM10 dust, PM10 exhaust, PM2.5 dust and PM2.5 exhaust are not expected to exceed the <i>de minimis</i> threshold of 100 tons/year each.</p>
<p>L- SJVAPCD -3</p>	<p><b>General Conformity:</b> On-road construction vehicle emissions will exceed the General Conformity NOx <i>de minimis</i> threshold, and also, in certain years, exceed the VOC <i>de minimis</i> threshold. As a result, a General Conformity Analysis must be performed.</p> <p>Table S-3 Summary of Impacts and Mitigation Measures, page 32, of the Executive Summary provides the following:</p> <ul style="list-style-type: none"> <li>• <b>Impact:</b> <ul style="list-style-type: none"> <li>○ AQ-3: Create excess amounts of construction related criteria air pollutants that exceed SJVAPCD thresholds of Significance or cause or contribute to exceedances of the AAQS"</li> </ul> </li> <li>• <b>Significance before mitigation:</b> Significant</li> <li>• <b>Mitigation Measures:</b> <ul style="list-style-type: none"> <li>○ AQ-1A: Reduce criteria exhaust emissions from construction equipment</li> <li>○ AQ-1B: Reduce criteria exhaust emissions from material hauling vehicles</li> <li>○ AQ-1C: Offset project construction emission through a SJVAPCD Voluntary Emission Reduction Agreement</li> </ul> </li> <li>• <b>Significance after mitigation/conservation measure:</b> Less than significant</li> </ul> <p>In general, all emissions are subject to the General Conformity rule. When exceeding a <i>de minimis</i> threshold, the District requires that the emissions be mitigated to "net zero", i.e. not to the <i>de minimis</i> threshold. The District will not be able to provide a letter of concurrence for conformity until the VERA is in place to mitigate any emissions above the <i>de minimis</i> threshold to "net zero".</p>
<p>L- SJVAPCD -4</p>	<p>2. <b>CEQA:</b> Based on information provided to the District, construction emissions of criteria pollutants are expected to exceed District significance thresholds of 10 tons/year NOx, 10 ton/year ROG (VOC), and 15 tons/year PM10. Therefore, under CEQA, the proposed project would have a significant impact on air quality.</p> <p>The VERA undertaken under NEPA for NOx and VOC would also mitigate those impacts under CEQA. However, PM10 and PM2.5 would remain significant under CEQA. Therefore, the District recommends implementing a Voluntary Emission Reduction Agreement (VERA) for PM10 and PM 2.5 for CEQA.</p>
<p>L- SJVAPCD -5</p>	<p>3. <b>Voluntary Emission Reduction Agreement (VERA):</b></p> <p>The District recommends the Bureau of Reclamation engage in immediate discussions with the District regarding adoption of a development mitigation contract, also known as a Voluntary Emission Reduction Agreement (VERA), prior to the</p>

<p><b>L- SJVAPCD -5 cont.</b></p>	<p>finalization and certification of the environmental document. This process will allow the environmental document to appropriately characterize the project's emissions and demonstrate that the project's NOx and VOC emissions impact on air quality will be fully mitigated to "net zero" to comply with General Conformity under NEPA as a result of the implementation of the adopted VERA. The District encourages such discussion as well for CEQA</p>
<p><b>L- SJVAPCD -6</b></p>	<p>4. Based on information provided to the District, the proposed project does not meet the definition of a development project. Therefore, the District concludes that the proposed project is not subject to District Rule 9510.</p>
<p><b>L- SJVAPCD -7</b></p>	<p>5. The District has reviewed the health risk assessment (HRA) from construction activities. In addition to a "No Build" alternative, the Draft EIS/EIR considered four (4) alternatives, A, B, C, and D. Alternatives A and B include a bypass of the Mendota Pool. Alternatives C and D include the construction of a dam on the Fresno Slough. Alternative B is the preferred option. The entire project is a construction project lasting 9 to 13 years (for Alternative B). Emissions from maintenance will be minimal.</p>
<p><b>L- SJVAPCD -8</b></p>	<p>The District has the following comments on the health risk assessment (HRA).</p> <p>1) A receptor flagpole height of 1.8 meters was used. The San Joaquin Valley Air Pollution Control District (the "District") does not normally use flagpole heights. When the District does use flagpole heights, the height is never above 1.5 meters.</p>
<p><b>L- SJVAPCD -9</b></p>	<p>2) For HRAs, discrete receptors for sensitive populations such as schools, hospitals, residents, etc. are modeled. A grid of receptors such as that modeled in this analysis is not used.</p>
<p><b>L- SJVAPCD -10</b></p>	<p>3) All sources were modeled as volume sources. Typically, construction areas would be modeled as elevated area sources. Truck travel routes would be modeled as a series of volume sources forming an approximation to a line source.</p>
<p><b>L- SJVAPCD -11</b></p>	<p>4) It does not appear that idling emissions from the haul trucks or the offroad construction equipment were included in the analysis.</p>
<p><b>L- SJVAPCD -12</b></p>	<p>5) Age Sensitivity Factors (ASFs) were used in calculating risk although the District did not have guidance at that time for using ASFs. Such policies are now in place including an increase in the significance threshold for cancer risk from 10 in a million to 20 in a million. The new procedures also require use of Version 2 of the Hot Spots Analysis and Reporting Program (HARP 2) because the Office of Environmental Health Hazard Assessment (OEHHA) guidelines include other changes as well as the use of ASFs.</p>

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6) Truck haul routes outside of the project study area may have been modeled. District policy requires that only the emissions from truck traffic within the boundaries of the project and that are not on public highways be included. The modeling for this project may have exaggerated the truck travel impacts.

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7) It appears that sources were modeled at 1 g/s. To obtain the risk, the predicted concentrations would have had to be multiplied by the source's actual emission rate in g/s. Then, the actual predicted concentration would have been multiplied by the unit risk of 4.1453E-4 to obtain the cancer risk. Normally, the actual emission rates are modeled. The series of calculations required in this analysis are not outlined. The emissions for individual sources, the concentrations predicted by individual sources, and the risks associated with individual sources are not given. Thus, verifying the risks reported is not feasible. It is also not clear that a 70-year cancer risk was calculated. At the time that this HRA was completed, the District did not allow risks to be calculated for a 9- to 13-year exposure period.

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8) Given that such high risks are reported, there should be a substantial discussion of mitigation measures. Since the project is significant, the use of all feasible mitigation measures must be considered before approving the project based on overriding considerations.

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This HRA should be redone using the District's guidance. Computing resources could be conserved by using area sources, limiting the length of haul roads to the project area, and eliminating all receptors that are not required by District guidance. It is incumbent upon the project proponent to provide a more accurate estimate of risk even if the project is ultimately approved based on overriding considerations.

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6. The proposed project, or portions of the project, may be subject to the following District rules: Rule 2010 (Permits Required), Rule 2201 (New and Modified Stationary Source Review), Regulation VIII, (Fugitive PM10 Prohibitions), and Rule 4102 (Nuisance). In the event an existing building will be renovated, partially demolished or removed, the project may be subject to District Rule 4002 (National Emission Standards for Hazardous Air Pollutants).

The above list of rules is neither exhaustive nor exclusive. To identify other District rules or regulations that apply to this project or to obtain information about District permit requirements, the applicant is strongly encouraged to contact the District's Small Business Assistance Office at (559) 230-5888.

More information regarding compliance with District rules and regulation can be obtained by visiting the District's website:

- Complete listing of all current District rules and regulation: <http://www.valleyair.org/rules/1ruleslist.htm>;

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- Information on controlling fugitive dust emissions:  
[http://www.valleyair.org/busind/comply/PM10/compliance\\_PM10.htm](http://www.valleyair.org/busind/comply/PM10/compliance_PM10.htm)

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7. The District recommends that a copy of the District's comments be provided to the California State Lands Commission, the State lead agency.

If you have any questions or require further information, please contact Georgia Stewart by phone at (559) 230-5937 or by e-mail at [georgia.stewart@valleyair.org](mailto:georgia.stewart@valleyair.org).

Sincerely,

Arnaud Marjollet  
Director of Permit Services



For: Chay Thao  
Program Manager

AM: gs

## **II.5.12 Responses to San Joaquin Valley Air Pollution Control District**

### ***Response to Comment L-SJVAPCD-1***

Your comments have been reviewed and considered in preparation of the Final EIS/R.

### ***Response to Comment L-SJVAPCD-2***

The commenter is describing the information provided in Section 4.3.3 of the Draft EIS/R. There are no specific comments or questions on this information.

### ***Response to Comment L-SJVAPCD-3***

As described in Section 4.3.3 of this EIS/R, Mitigation Measure AQ-1C, mitigation includes purchasing offsets to net zero.

### ***Response to Comment L-SJVAPCD-4***

Section 4.3.3 of the Final EIS/R provides updated Project construction emissions. Based on recent geologic investigations, Reclamation anticipates that borrow would be taken primarily from within the setback levees for the new floodplain, and minimal if any borrow material would be needed from outside of the setback levees. Therefore, the air quality impacts for the Project were reanalyzed using more moderate assumptions for off-site hauling distances. This has allowed for a more accurate representation of the Project's construction related criteria pollutant emissions of CO, NO<sub>x</sub>, VOC, SO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>. As described in Impact AQ-1, the updated Project construction emissions estimates for CO, SO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> are not anticipated to exceed the SJVAPCD's CEQA significance thresholds. Based on these re-evaluated emissions estimates, the Project would have a significant impact for NO<sub>x</sub> and VOC, and Mitigation Measure AQ-1A, AQ-1B, and AQ-1C will be implemented to reduce NO<sub>x</sub> and VOC impacts to less-than-significant levels. The updated PM<sub>10</sub> and PM<sub>2.5</sub> emissions are below the SJVAPCD's CEQA significance thresholds, and the PM<sub>10</sub> and PM<sub>2.5</sub> impacts would be less than significant with no mitigation required. Therefore the SJVAPCD's recommendation of a Voluntary Emission Reduction Agreement for PM<sub>10</sub> and PM<sub>2.5</sub> is not applicable.

### ***Response to Comment L-SJVAPCD-5***

Reclamation has initiated meetings with the SJVAPCD in 2016 regarding the Voluntary Emission Reduction Agreement, and will include the commitment to implementing the agreement in the ROD.

As discussed in Response to comment L-SJVAPCD-4, note that the air quality impacts for the Project were reanalyzed using the assumption that local borrow would be sufficient and that all levee fill would come from local borrow sites. The air quality analysis presented in the Final EIS/R was updated accordingly. This has allowed for a more accurate representation of the Project's NO<sub>x</sub> and VOC emissions.

### ***Response to Comment L-SJVAPCD-6***

Text has been revised in Chapter 4 of the Final EIS/R, accordingly.

### ***Response to Comment L-SJVAPCD-7***

The commenter is describing the information provided in the Draft EIS/R. There are no specific comments or questions on this information.

**Response to Comment L-SJVAPCD-8**

The health risk assessment was revised as appropriate for the Final EIS/R based on the SJVAPCD's comments (see Section 4.3.3 of the Final EIS/R, Impact AQ-3). A receptor height of 1.5 meters was used in the updated Final EIS/R analysis per the SJVAPCD's comment, and the significance threshold for health impacts to sensitive receptors was changed to an incremental increase in cancer risk greater than 20 in a million based on the latest update to the District's Risk Management Policy (SJVAPCD 2015). The result of the revised assessment is that the Maximum Carcinogen Risk at Receptor and the Chronic Hazard Index both increased for the resident child and both decreased for the school child in the Final EIS/R compared to the results presented in the Draft EIS/R. As a result of the revised assessment, the impacts described in the Final EIS/R are less than significant for the school child and less than significant after implementation of Mitigation Measures AQ-3A and AQ-3B for the resident child. This is a decrease in significance from the analysis in the Draft EIS/R.

**Response to Comment L-SJVAPCD-9**

See response to comment L-SJVAPCD-8. Only discrete receptors for sensitive populations were evaluated, and a grid was not used for the health risk assessment analysis in the updated Final EIS/R.

**Response to Comment L-SJVAPCD-10**

See response to comment L-SJVAPCD-8. Modeling construction equipment operations with a grid of volume sources is an appropriate method for evaluating impacts from exhaust emissions. Per the California Office of Environmental Health Hazard Assessment's (OEHHA) risk assessment guidance, "emissions that are to be modeled as area sources are typical of fugitive sources characterized by non-buoyant emissions containing negligible vertical extent." Exhaust emissions from construction equipment are not characteristic of fugitive sources and are more appropriately characterized by volume sources which include plume rise. The treatment of construction equipment emissions as volume sources is also consistent with the South Coast Air Quality Management District's Localized Significance Threshold Methodology (SCAQMD 2008).

**Response to Comment L-SJVAPCD-11**

See response to comment L-SJVAPCD-8. Idling emissions from haul truck and off-road construction equipment were not explicitly modeled with separate calculations, but are accounted for using the load factor assumptions and operating durations used in the emissions calculations.

**Response to Comment L-SJVAPCD-12**

See response to comment L-SJVAPCD-8. Health risk calculations and thresholds for evaluating significance were updated in the Final EIS/R according to the most recent *Update to the District's Risk Management Policy to Address OEHHA's Revised Risk Assessment Guidance Document* (SJVAPCD 2015).

***Response to Comment L-SJVAPCD-13***

See response to comment L-SJVAPCD-8. Per SJVAPCD comments and SJVAPCD's *Guidance for Air Dispersion Modeling* (SJVAPCD 2006), delivery truck trips outside of the Project areas were excluded from the health risk assessment. Truck activity associated with the movement of concrete and borrow material between Project areas are included in the health risk assessment modeling analysis for the Final EIS/R. This activity is included in the impact analysis as these truck movements are anticipated to occur on and in the immediate vicinity of Project construction areas constituting the boundaries of the Project.

***Response to Comment L-SJVAPCD-14***

See response to comment L-SJVAPCD-8. AERMOD modeling was conducted using unit emissions of 1 gram per second for each source grouping. For large scale modeling projects, this approach provides flexibility in the modeling process. Detailed discussions and descriptions of this modeling approach and the lifetime cancer risk calculations, assumptions, and methodologies have been added to Appendix 4-A and Appendix 4-B (Health Risk Assessment Methodology Appendix).

***Response to Comment L-SJVAPCD-15***

As discussed in response to comment L-SJVAPCD-8, the revised health risk assessment resulted in findings of less than significant for the school child and less than significant after implementation of Mitigation Measures AQ-3A and AQ-3B for the resident child. See response to comment L-SJVAPCD-8 for more information. Section 4.3.3 of this EIS/R includes discussion of the applicable mitigation measures (AQ-3A and AQ-3B).

***Response to Comment L-SJVAPCD-16***

See response to comments L-SJVAPCD-8 through L-SJVAPCD-15.

***Response to Comment L-SJVAPCD-17***

The list of these rules are similar to what was identified in Section 4.2.3. District Rule 4002 is also described in that section of the Final EIS/R.

***Response to Comment L-SJVAPCD-18***

The CSLC has received, reviewed, and considered these comments.

## II.6 Comments from Organizations and Businesses and Responses

### II.6.1 Duane Morris LLP (on behalf of the Exchange Contractors)

<p>NEW YORK LONDON SINGAPORE PHILADELPHIA CHICAGO WASHINGTON, DC SAN FRANCISCO SILICON VALLEY SAN DIEGO SHANGHAI BOSTON HOUSTON LOS ANGELES HANOI HO CHI MINH CITY</p>	<p><b>DuaneMorris®</b> <small>FIRM and AFFILIATE OFFICES</small></p> <p>THOMAS M. BERLINER DIRECT DIAL: +1 415 957 3333 PERSONAL FAX: +1 415 520 5835 E-MAIL: <a href="mailto:tmberliner@duanemorris.com">tmberliner@duanemorris.com</a></p> <p><a href="http://www.duanemorris.com">www.duanemorris.com</a></p>	<p>ATLANTA BALTIMORE WILMINGTON MIAMI BOCA RATON PITTSBURGH NEWARK LAS VEGAS CHERRY HILL LAKE TAHOE MYANMAR OMAN <small>A GCC REPRESENTATIVE OFFICE OF DUANE MORRIS</small></p> <p>MEXICO CITY ALLIANCE WITH MIRANDA &amp; ESTAVILLO SRI LANKA ALLIANCE WITH GOWERS INTERNATIONAL</p>
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**VIA EMAIL**

Ms. Betty Victorine  
Ms. Katrina Harrison  
SJRRP Chief Engineer  
United States Bureau of Reclamation  
2800 Cottage Way, Mendota Pool-170  
Sacramento, CA 95825

[Reach2B\\_EISEIR\\_Comments@restoresjr.net](mailto:Reach2B_EISEIR_Comments@restoresjr.net)  
[kharrison@usbr.gov](mailto:kharrison@usbr.gov)

Mr. Chris Huitt  
Senior Environmental Scientist  
California State Lands Commission  
100 Howe Avenue, Suite 100 South  
Sacramento, CA 95825

[Christopher.Huitt@slc.ca.gov](mailto:Christopher.Huitt@slc.ca.gov)

**Re: Draft Mendota Pool Bypass and Reach 2B Improvement Project,  
Environmental Impact Statement/Environmental Impact Report, June 2015;  
FCH #2009072044**

**O-EC-1** Dear Ms. Victorine, Ms. Harrison and Mr. Huitt:

The following comments are submitted on behalf of the San Joaquin River Exchange Contractor's Water Authority, San Joaquin River Resource Management Coalition, Central California Irrigation District, and Columbia Canal Company. (For convenience, these entities are referred to herein collectively as "Exchange Contractors" or with regard to the water

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DUANE MORRIS LLP  
SPEAR TOWER, ONE MARKET PLAZA, SUITE 2200  
SAN FRANCISCO, CA 94105-1127  
DM2/6045261.1

PHONE: +1 415 957 3000 FAX: +1 415 957 3001

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providers as “Water Providers”). The Exchange Contractors are pleased to be able to comment on a project that was on their short list of priority projects as discussed in our comments to the 2015 Draft Framework for Implementation. These comments are included in Appendix J of the recently released Revised Framework for Implementation (Framework). The Framework and Appendices are included as an exhibit to these comments. (Due to the size of the Framework and its appendices, it is not possible to attach hardcopy to this letter. Here is the link to the [www.restoresjr.net](http://www.restoresjr.net) website where the Framework resides: <http://www.restoresjr.net/documentsreports/program-documents/>) This project, together with seepage protection/mitigation, Mendota Pool improvements and Sack Dam/Arroyo Canal improvements are the priority projects identified by the Exchange Contractors in the Framework. In addition, the significant subsidence that is damaging the flood control system and the San Joaquin River must also be proactively addressed.

**General Comments**

**O-EC-2**

The Exchange Contractors support Reclamation’s identification of the stakeholder consensus project as the preferred alternative. The process of developing the preferred alternative was inclusive and proactive. The Exchange Contractors are appreciative of Reclamation’s efforts in this regard.

**O-EC-3**

The following are overarching comments to the draft EIS/R.

**Funding.** As Reclamation is aware, the Exchange Contractors are concerned about the adequacy of secure funding for the San Joaquin River Restoration Program (SJRRP). We note that Reclamation has also forthrightly identified the funding shortfall problem both in the Framework (See for example, Framework, Page ES-3) as well as in response to Congressional inquiry as set forth in the March 18, 2014 letter from Acting Commissioner Pimley to Rep. Jim Costa which stated “The annual funding amounts and schedule provided in the June 2012 Framework continue to be difficult to achieve and likely unrealistic considering the funding realities that face the Program, Reclamation, and the Nation.” We note that in the just released July 2015 Revised Framework for Implementation, Reclamation has changed the accounting for federal budgeting from that in the draft Framework and has identified an additional at least \$60 million that may be available to the SJRRP due to an oddity of federal appropriations accounting. If correct, this will provide an additional increment of funding that will help meet the needs of the SJRRP.<sup>1</sup>

**O-EC-4**

**Prioritization of Projects.** Notwithstanding the continued funding challenges, prioritization of the key projects identified by the Exchange Contractors through the Framework process will enable Reclamation to put flows down the San Joaquin River and bypass channels at levels that are likely to be supportive of fish migration, absent considerations for habitat

<sup>1</sup> The Exchange Contractors express no opinion as to whether Reclamation’s interpretation of the accounting for federal budgeting is correct.

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sufficiency, maintenance of adequate temperature and predation. These challenges will continue in spite of the construction of various improvement projects. Nevertheless, the Mendota Pool Bypass and Reach 2B Improvements Projects (Project) is an essential step towards the implementation of the SJRRP.

O-EC-5

Project and Alternatives Description. The project description and description of alternatives is very general and conceptual. How the project is actually configured and operated will have profound impacts on adjacent lands, water supply from the Mendota Pool and downstream landowners. The EIS/R could be improved by providing meaningful information and details in the descriptions of the proposed alternatives, including information on proposed facilities configurations, site layouts, and operations. This information is essential to any meaningful analysis of the alternatives and their potential environmental effects.

According to the schedule set forth in the Framework, the Mendota Pool portion of the Project is to be completed by 2019 and the Reach 2B Bypass portion is to be completed by 2024. (See Framework, Table ES-1 on page ES-1) Seepage protection to 1300 cfs and 2500 cfs are to be completed by 2019 and 2024, respectively. We note that the schedule calls for expenditures on other SJRRP projects during this same period. It would be very helpful to track the expenditure of secured funds in the EIS/R, as distinguished from unappropriated and not yet authorized funds, on all of these projects to inform the stakeholders of the circumstances that are likely to exist given actually available funds and what may not be built if future sufficient funds are not forthcoming. For example, might Reclamation run out of funds after completing the construction of the Reach2B bypass and if so, what are the environmental impact of having a partially built program?

O-EC-6

Mendota Pool Fish Screen. The preferred alternative for the Project includes a fish screen at the Mendota Pool. Reclamation has stated several times that they do not believe a fish screen is necessary. This is a change in position from the letter sent to Regional Director Donald Glaser to the Exchange Contractors on September 1, 2009, wherein Reclamation promised a fish screen or other similarly effective device to keep fish out of the Mendota Pool where they would be entrained or otherwise perish. Specifically, Regional Director Glaser stated, "We will continue to evaluate the need for a fish screen or other fish diversion facility at this location [Mendota Pool] as part of the EIS/R and will commit to include such a facility as part of the project unless other measures can be taken to adequately reduce fish entrainment in the Mendota Pool." (Underscore added) (Copy of letter attached.) The Exchange Contractors and Water Providers want to make it emphasize that inclusion of a fish screen at the head of the Mendota Pool is an essential component of their support for the SJRRP. A fish screen is essential to keeping salmonids and other species out of the Pool during both flood years and low flow years when water must be delivered to the Mendota Pool. While Reclamation has taken the position that water will only pass into the Pool during flood years, the reality of a new critical period on the basis of the current drought dictates more conservative water management in the long run and the strong likelihood that calls on Friant will be more common in the future than they have

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been historically. This is even more so the case should the concerns related to climate change be realized with resulting decreases in long-term storage in the Sacramento basin.

O-EC-7

Land Subsidence. The serious issue of land subsidence is mentioned or discussed in Chapters 2, 11, 13, 14 and 25. For the most part, these discussions involve either general information about causes of subsidence in the Central Valley generally, historic rates of subsidence (e.g., 1950s or 1960s) or specific rates of subsidence near the Mendota Dam. Nowhere, however, does the Draft EIS/R discuss as part of the existing environmental conditions or environmental setting the alarming and serious rates of subsidence currently being measured in the vicinity of Sack Dam. This ongoing rate of subsidence of between 6-12 inches per year has the potential to cause serious and permanent impacts to the routing and hydrology of the San Joaquin River and necessary facilities on the river with implications for the success of the SJRRP as a whole and each component project. Reclamation has been aware of the issue of subsidence for some years. The Exchange Contractors included subsidence maps with its submission of supplemental comments to the Programmatic EIS/R on August 15, 2012. (Copy attached.) The failure of the current Draft EIS/R for the Mendota Pool Bypass and Reach 2B Improvement Project to account for the more serious rates of subsidence just downstream of the Project Area represents a flaw in the analysis of the Draft EIS/R that undermines its impacts analysis as a whole.

The draft EIS/R does not adequately discuss subsidence that has occurred since 2008. Please see comments to Chapter 13 which are set forth below. Pursuant to *Lands Council v. Powell*, 395 F.3d 1019, 1031, 1032 (9th Cir. 2005), an EIS must include up to date science. Failing to provide complete baseline data, or relying on stale or misleading data, violates the NEPA's requirement that agencies provide a fair benchmark for their decisions. See *N. Plains Res. Council v. Surface Trans. Bd.*, 668 F.3d 1067, 1084-86 (9th Cir. 2011) Relying on six year old data has been found to be arbitrary and capricious. (Id., citing *Lands Council*) CEQA provides for the same when environmental conditions are changing during the course of environmental review. (See *Communities for a Better Environment v South Coast Air Quality Management District* (2010) 48 Cal.4th 310, 327-328, wherein the court stated: "the date for establishing baseline cannot be a rigid one. Environmental conditions may vary from year to year and in some cases it is necessary to consider conditions over a range of time periods." (Save Our Peninsula Committee v. Monterey County Bd. of Supervisors, supra, 87 Cal.App.4th at p. 125.) In some circumstances, peak impacts or recurring periods of resource scarcity may be as important environmentally as average conditions. Where environmental conditions are expected to change quickly during the period of environmental review for reasons other than the proposed project, project effects might reasonably be compared to predicted conditions at the expected date of approval, rather than to conditions at the time analysis is begun. (Id. at pp. 125-126.) A temporary lull or spike in operations that happens to occur at the time environmental review for a new project begins should not depress or elevate the baseline; overreliance on short-term activity averages might encourage companies to temporarily increase operations artificially, simply in order to establish a higher baseline.")

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In the EIS/R the action agencies are relying on stale data. Significant subsidence has occurred in the Project area over the past several years. Apparently Reclamation is seeking to rely on a scoping document prepared in 2008. The information derived during scoping is now substantively stale due to changes in physical conditions at the Project site and adjacent thereto.

**O-EC-8**

Mendota Pool Operations. An additional consideration not included in the analysis is that the Mendota Pool has been used by many parties during the last few decades to convey/transfer water in and around the area. The Mendota Pool system has limited capacity. The introduction of Restoration Flows may have a significant impact on the balance that has been obtained by all parties currently using the system. The EIS/R does not contain any discussion of current operations and how changes to the Pool could impact current operations.

**O-EC-9**

State Lands Commission as Lead Agency for State of California. When the Notice of Intent (NEPA) and Notice of Preparation (CEQA) was issued in June 2009, the Department of Water Resources (DWR) was the state lead agency. At some point the State Lands Commission (SLC) was substituted. Pursuant to CEQA, the proper agency to be the lead agency is the agency with principal responsibility for implementing the project. (PRC § 21067; *PCL v DWR* (2000) 83 Cal.App.4<sup>th</sup> 982) Responsible agencies are those with responsibilities for implementation other than principal responsibility and for issuing permits, etc. It is unclear from the text of the draft EIS/R as to which agency, DWR or CSLC has principal responsibility and it is unclear as to why CSLC was substituted for DWR. A review of the EIS discloses only that CSLC will approve some leases and assess the State's property interests in the channel of the San Joaquin River. On the other hand, DWR is one of the State implementing agencies along with the Department of Fish and Wildlife, was the first state agency to take action on this project, possesses the necessary skills and charter to assist in the development of the project, and depending upon the responsibility for constructing new levees, may be the agency that at a minimum oversees that construction or may actually be the agency to perform the construction. While funding for levee improvements is unclear as to the responsible party, reclamation in the framework has identified DWR as being the entity that will construct the levees in reach 2B. As the framework states: "The responsible agency for levee stability improvements has not been identified, but it is assumed that California Department of Water Resources (DWR) would continue to lead the work on levee evaluations and improvements if State funds are available." (Framework, Page 3-9) The EIS/R should provide a clearer explanation as to how the roles of DWR and CSLC are differentiated such that one or the other is the principal action agency. (*PCL v DWR, supra; City of Sacramento v. State Water Resources Control Board* (1992) 2 Cal.App.4<sup>th</sup> 960)

**O-EC-10**

**Specific Comments**

The Executive Summary (ES) comments

ES1. *The ES states that "Project would be implemented consistent with the Settlement and the San Joaquin Restoration Settlement Act (Act), with implementation dates clarified by the*

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*draft Framework for Implementation (San Joaquin River Restoration Program [SJRRP] 2015)."* Pursuant to the Act, the SJRRP is to be implemented consistent with the Settlement. Pursuant to the Settlement, deadlines were established for the completion of the Paragraph 11, Phase 1 and Phase 2 Projects. There is no analysis of the environmental impacts associated with the delay in implementation of the various projects. Similarly, there is no analysis of the environmental impacts of the release of flows and the introduction of salmon without the required and necessary Paragraph 11 improvement projects. The PEIS/R did not analyze the flows and fish present but no improvements scenario. That scenario should be included here since the flows and fish are now present in the system.

Where the conditions under which a Project was to be implemented have to dramatically changed from that set forth in the environmental analysis, both CEQA and NEPA require that, at a minimum, supplemental analysis be conducted. There is no analysis of the materially changed circumstances.

O-EC-11

ES4. The first paragraph discusses the Mendota Pool Bypass, which would include a bifurcation structure which would include a fish passage facility to enable up-migrating salmon to pass the structure and "a fish screen, if appropriate, to direct out-migrating fish into the Bypass channel and minimize or avoid fish entrainment to the pool." What standard will be applied to determine whether a fish screen is necessary? What is the basis for this standard? Attached to these comments is a letter from the Regional Director, Reclamation, dated September 1, 2009, which specifically states that a fish screen or alternative facility to prevent fish from entering the Pool would be constructed. What changes have occurred in the program since the writing of that letter that would justify not constructing a fish stream to prevent the certain death of thousands of otherwise out-migrating salmon? In fact, due to the two consecutive years of calls on Friant, the incidence of occurrence of flows into the Pool have increased, not decreased since the time the Regional Director's letter was written. The increased occurrence of flows into the Pool would appear to provide even more justification to expend relatively small dollars for a substantial fishery benefit.

At the time of the preparation of the Programmatic Environmental Impact Study/Environmental Impact Report (PEIS/R), it was anticipated that flows to the Mendota Pool would "only" occur during flood years, which occur at least one out of five years on the San Joaquin River. Since 2012, due to dry hydrologic conditions, in two consecutive dry years, flows have been directed to the Mendota Pool in order to deliver water to the Exchange Contractors. The occurrence of deliveries to the Mendota Pool will occur with greater frequency in the future due to more conservative operations, climate change and likely increasing Delta regulation, all of which decrease the amount of water potentially available to the Exchange Contractors and other south Delta CVP water users. This greater frequency of shortages will increase the occurrence of deliveries to the Mendota Pool. What analysis has been conducted regarding the likely increase of deliveries to the Pool? At what threshold is loss of out-migrating salmon considered detrimental to the Program? The outmigrating fish could include both juveniles and 1 year old salmonids as well as steelhead kelts. At an initial target population of

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500 spring run Chinook salmon (SRCS), the loss of 20-40 percent of these fish in a year would be highly detrimental to the SJRRP, and these losses could occur in consecutive years.

**O-EC-12**

ES11. The descriptions of the four alternatives indicates that there would be conveyance of at least 4,500 cfs in Reach 2B and through the Mendota Pool Bypass and the diversion and screening of up to 2,500 CFS from Reach 2B into the Mendota Pool.

(a) Once construction is complete, what is Reclamation's timetable for increasing flows in the river?

(b) To what level will flows be increased?

(c) Flows at a level of 700 cfs have resulted in seepage damage to adjacent properties. Despite what will be by 2025 the then post-completion of construction of the Projects and the entirely foreseeable pressure to increase flows, how will Reclamation prevent seepage damage from occurring?

(d) It is unclear whether Reclamation is including screening of flows into the Mendota Pool or not. Previously it was stated that whether a screen would be included is yet to be determined. However, at page ES11, no contingency is included.

**O-EC-13**

ES24. It is stated the Project may utilize a phased approach to implementation. This phased implementation would involve building selected components of the Project in separate phases, thereby allowing project funding to be secured over time. What analysis has been conducted regarding the impacts of a failure of adequate funding? What if the Project is only partially built and no further funding is forthcoming? What analysis has been done on realistic phasing? How would phasing effect the other Paragraph 11 improvements and the timetable for completion of all of the improvements? In the EIS/R, no explanations are provided as to how the Project would be phased, how the Project will operate under phased condition, the environmental impacts of phasing, the impacts on fisheries, water supply, land use, flooding, backwater impacts, use of the river versus use of the flood control channel, etc. If this Project is to be phased, how will fish traverse up and down stream?

**O-EC-14**

ES25. The Project includes long-term operations and maintenance (O&M) of the facilities. According to the 2015 Framework for implementation, no funds have been set aside for O&M. What impacts will result in the event that O&M is not adequately funded? What impacts will occur if O&M is not implemented? As Reclamation is aware, the SJR in the area of the SJRRP is very sandy. Siltation has been a major problem. If there are insufficient funds for O&M, sands will quickly accumulate. What effects will this have on the river, fishery, fish migration, projects that are constructed?

**O-EC-15**

ES29. The strategy to minimize flood risk based on the use of then-existing channel capacity does not account for longer term seepage impacts that can cause levee failure. These failures are a function of the flow duration and not just the level of water surface elevation.

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To minimize flood risk the program must provide adequate funding to support the increased flood system O&M that will be required due to increased frequency of restoration flows that will cause erosion, sedimentation, and vegetation growth throughout the flood system.

O-EC-16

ES30. Areas of known controversy and issues to be resolved. Areas of known controversial issues are identified. Groundwater seepage is a controversial issue that the Project proponents intend to discuss elsewhere. Pushing off discussion of groundwater seepage is inappropriate. Mitigation for seepage damages is part and parcel of the effects of this project. Channel widening and the creation of floodplains is solely for the purpose of moving water through this area in order to provide habitat for fish. A direct result of that action is seepage damage. How seepage is mitigated bears directly on the extent of impacts from the Project.

The Project is designed to convey 2,500 – 4,500 cfs through this area. It has been established that flows of approximately 1,200 – 1300 cfs are not damaging in Reach 2B. Flows above that level are expected to cause damage. No analysis of flows above the 1,200 – 1,300 cfs level have been provided. If properly designed, new levees and seepage mitigation measures could eliminate flooding and seepage damage. The draft EIS/R contains insufficient information in order to analyze whether the expansion of the river and creation of floodplain will cause damage or not. Further, in order for flows of the magnitude of even 1,200 – 1,300 cfs to occur in this reach of the river, flows of that same magnitude will occur above and below this reach. Seepage impacts are significant below this reach of the river. Further, since the water supply to the San Luis Canal Company (SLCC) are in addition to the Restoration Flows, total flows will be 500-600 cfs higher. This level of flow needs to be analyzed.

The Project proponents contend that recreational development is not within the scope of the Project. However, various assumptions are being made regarding access to the river, the ability to cross the river, and to portage around Project structures. Signage regarding safety and trespass issues alone is insufficient. In order to cross the river, bridges or other crossings are necessary. It is not possible to use existing dam structures or any other structure protected from access by Reclamation homeland security-related requirements. There is no discussion regarding the lack of access across the river.

O-EC-17

ES32, et seq. Summary and comparison of impacts and mitigation measures. Table S-3 sets forth a summary of impacts and mitigation measures. Nowhere is phased development of the Project discussed. What impacts will there be on biological resources – fisheries? Will fish passage be impeded? Salmonids stranded in parts of the river? Salmonids subject to higher rates of predation because of an inability to quickly traverse portions of the river? Will there be temperature increases due to ponding of water in areas that should otherwise be riverine?

O-EC-18

Hydrology – Flood Management.

Will a phased project increase the possibility of flooding due to back-water impacts? Will drainage patterns be altered such that new areas of flooding or seepage could occur? Will

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levees be stressed due to increased water levels in the Mendota Pool in the event the Pool is blocked off from the San Joaquin river but is still fed flows from the Delta Mendota Canal and the Kings River?

The Lower San Joaquin River Flood Control Project is operated as a complete system to minimize flood impacts. Any modifications to the system that impact flood management will require a detailed evaluation of flood operations and potential revisions to the Operations & Maintenance (O&M) Manual prepared by the State for the flood project. Any proposed construction phasing will also require evaluation of impacts to flood operations to ensure there is no increased risk of channel erosion, sedimentation, or seepage that will compromise facility performance and endanger public safety. This analysis needs to include potential impacts to the project area, as well as to the city of Firebaugh, Reaches 3 and 4 and the Eastside Bypass. The program must provide adequate funding to support the increased flood system O&M that will be required due to increased frequency of restoration flows that will cause erosion, sedimentation, and vegetation growth throughout flood system.

Land Use Planning and Agricultural Resources.

**O-EC-19**

LU-4 indicates a less than significant impact regarding degradation of agricultural land productivity due to seepage. It is understood that seepage impacts do not occur until flows increase above 1,200 – 1,300 cfs. Yet, Project operations are anticipated at the 2,500 – 4,500 cfs level. This will cause seepage within the Project area. Further, flows at even the 1,200 – 1,300 cfs range will result in seepage impacts both above and below the Project area. How will the Project be operated in order to avoid significant impacts due to seepage?

Land Use Planning and Agricultural Resources.

**O-EC-20**

LU-1 indicates that land will be removed from agricultural production. The impact after mitigation is significant and it is designated as significant and unavoidable (SU). Pursuant to section 10004(d) of the Act, the Secretary of the Interior is legally required to mitigate the impacts identified. There is no provision within the Act for simply identifying an unavoidable impact and not mitigating. Failure to mitigate would constitute a violation of the Secretary's obligation. Similarly, LU-2 indicates that designated farm land will be converted to non-agricultural uses and that following mitigation impacts are significant and unavoidable. The same is true of LU-3 concerning conflicts with Williamson Act Contracts. Again, pursuant to the Act, the Secretary must mitigate these impacts.

LU-1 indicates that degradation of agricultural land productivity due to seepage will occur. The EIS/R indicates that the impact will be less than significant (LTS). Pursuant to section 10004(d) of the Act, seepage impacts must be mitigated. As discussed above, flows above approximately 1,300 cfs will result in significant seepage damage. Further, flows at the 1,300 cfs level above and below the Project area will cause seepage damage. There is no

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**O-EC-20  
cont.**

analysis of these impacts in EIS/R. It is unclear upon what basis the less than significant determination is made.

**O-EC-21**

Socio-economic and Economics.

This section indicates that there will be changes in agricultural production values and impacts on the economy that are less than substantial. What is intended by the standard "less than substantial" ?

**O-EC-22**

Transportation and Traffic

TRA-4 indicates that there is a potential to result in inadequate emergency access that is significant and unavoidable even after mitigation measures. This is absolutely unacceptable. Any loss of access to emergency services cannot be tolerated. People's lives cannot be put at risk by this program. It is unclear as to exactly what the impact will be because under the description of impact's to utilities and service systems, UTL-1, the summary indicates, page ES-43, that there is a less than significant impact related to an increased need for new or physically altered governmental facilities due to reduced emergency access and increased emergency response times. If no new facilities, including street crossings or stream crossings are needed, then how is there inadequate emergency access? This analysis seems inconsistent. Please explain.

**O-EC-23**

Table S-4 is a summary of impacts for environmental justice. It indicates that land will be moved from agricultural production that will have a disproportionate effect on communities of concern. Again, Section 10004(d) requires mitigation of impacts without regard to NEPA, etc.

**COMMENTS TO MAIN TEXT**

**O-EC-24**

**Chapter 1 Introduction comments**

1-18. This section describes the San Mateo Crossing in Reach 2B and states that the crossing is inundated at flows above 150 cfs. As noted in the text, the crossing is essentially a private river crossing because south portion of the crossing is on private land. The local landowners are amenable to having this crossing eliminated. The EIS/R should make it clear that the loss of this crossing will necessitate a far longer route to cross the river and that passage over critical infrastructure is not available due to Reclamation and homeland security-related restrictions.

**O-EC-25**

**Chapter 2 Description of Alternatives**

2-14 to 2-15. The No-Action alternative makes the incorrect assumption that other components of the SJRRP, and other reasonable foreseeable actions consistent with current management direction expected to occur in the Project area, would be implemented. The

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**O-EC-25 cont.** Mendota Bypass and Reach 2B Improvements Project are mandated Phase I improvements under Paragraph 11 of the Stipulated Settlement, which the Secretary of Interior is authorized and directed to implement by the Act. Other “components” of the SJRRP, such as the reintroduction of spring-run Chinook salmon, cannot be implemented in the absence of these or any other mandated improvement projects. As a result, the environmental analysis is comparing the impacts of the current Project, Mendota Pool Bypass and Reach 2B Improvement Project, against an “alternative” that cannot be implemented, that is in fact not a viable option or alternative. (14 C.C.R. 15091(a)(3), a project alternative is not feasible if: “[s]pecific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.”) Further, there has never been an environmental review of such a partially implemented SJRRP. All the alternatives analyzed in the PEIS/R included all common restoration actions mandated by the Stipulated Settlement.

**O-EC-26** 2-18. All Action Alternatives apparently include a further evaluation of the need for fish screens at diversion facilities as Project planning and design continues. Further, the following fish screens are included in the Activities in the event that they are determined necessary: the Lone Willow Slough fish screen, Big and Little Bertha pumps screens, and screens on other smaller diversions. This list excludes the Mendota Pool fish screen at the head of Mendota Pool, which is essential to keeping salmonids and other species out of the Pool.

The inclusion of fish screens is essential to the success of the SJRRP. The Program is not in a position to lose a substantial percentage of fish due to entrainment in multiple consecutive wet or very dry years. There is a substantial history of multiple consecutive years of flood flows and there is significant uncertainty regarding future CVP deliveries through the DMC due to changing Delta hydrology, outflow requirements, and endangered species restrictions on export pumping. Exchange Contractor calls on San Joaquin River water from Friant will most likely continue in the future, as has occurred the last two years. What standard will be applied to determine whether a fish screen is necessary? What is the basis for this standard?

**O-EC-27** 2-18. What is the technical basis for maintaining a 300-foot buffer zone between the levee and the river channel? The distance required may vary based river conditions and what criteria will be used to determine where it is appropriate?

**O-EC-28** 2-19. All Action Alternatives include seepage control measures, as necessary, including cut-off walls, interceptor drain or ditches, seepage wells, seepage berms, land acquisition (fee title or seepage easements) and other measures that can be implemented within the Project area. The Draft EIS/R, however, provides no environmental review of the Project Alternatives in which any of these particular seepage measures are actually implemented. For example, there is no analysis of the impacts of installing and operating cut-off walls or interceptor drains or ditches under any of the Action Alternatives, though some amount of under-seepage is expected. Instead, project-level environmental analysis for seepage management measures continues to be “kicked” down the road impermissibly segmenting the analysis of the impacts of such measures from the project-level analysis of the projects in which they are to be implemented, here the

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- O-EC-28 cont.** Mendota Pool Bypass and Reach 2B Improvement Project. As such, there is no way to assess the actual impacts of the Project, as a whole and at a project-level, which by necessity will contain seepage management measures.
- O-EC-29** 2-21. A sediment jetting and management system will be needed to prevent the buildup of sediment in front of and behind the fish screen.
- O-EC-30** 2-23 – 2-25. Existing infrastructure such as groundwater wells, pumps, electrical and gas distribution lines, water pipelines and canals in the Project area will require relocation, retrofitting or floodproofing to protect the structures from future Restoration Flows and increased floodplain area. Further, floodproofed wells must be provided with year-round vehicular access via a raised roadbed across the floodplain.
- O-EC-31** 2-23. A pilot channel dug from the low flow river channel to the relocated pump intake will fill with sediment and required continual maintenance.
- O-EC-32** 2-27. The project will require continued long-term maintenance due to sediment build up and operations of fish facilities and screens. Adequate long-term funding must be provided to support the intensive O&M that the project will require.
- O-EC-33** 2-32. Phased Implementation. See comment above to ES24.
- O-EC-34** 2-32. Project phasing must be developed to allow continued operation of all water supply and flood control facilities during and after construction. If the project is only partially completed and no further funding is available, all water supply and flood facilities must retain full operational capability without any reduction in protection for public safety.
- O-EC-35** 2-32. The fish screens should be constructed as an integral part of the bifurcation structure as part of a first phase to promote safe fish passage.
- O-EC-36** 2-52. An unlined earthen channel in sandy soils will be prone to migration. Grade control and revetment will be required to stabilize the channel and prevent scour, erosion, and migration of the channel toward Mendota Pool.
- O-EC-37** 2-51. Construction of a fish passage facility must not compromise the ability to pass flood flows or restrict flood operations.
- O-EC-38** 2-52. Proposed fish passage improvements must not compromise ability to pass flood flows or restrict flood operations. Flood operations must take precedent over all other operations during a flood event.
- O-EC-39** 2-53. The bifurcation structure will need to be designed to handle the backwater conditions from Mendota Pool and upstream. The pool water surface elevation of about 152 ft. will put about 6 feet of water on the downstream side of gates at the entrance to the pool. This is a significant water surface differential that must be accounted for in the design. The gates allowing flow into the bypass will also experience a significant head differential when the gates are closed to allow flows to be diverted into the pool for water supply purposes. A significant

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- O-EC-39**  
**cont.** backwater will need to be created to raise the water surface elevation enough in Reach 2B to allow flow to enter Mendota Pool. Inadequate design and consideration of all operation issues could result in a poor operations performance and hydraulic failure of the facility.
- O-EC-40** 2-53 to 2-54. Alternative B Compact Bypass Bifurcation Structure includes, if appropriate, the Mendota Pool Fish Screen. Please see General Comments and comments to ES4 and 2-18 regarding a fish screen for the Mendota Pool above.
- O-EC-41** 2-54.1. The inclusion of a fish screen is essential. There may be multiple consecutive years of flood flows and there is significant uncertainty regarding future CVP deliveries through the DMC due to changing Delta hydrology, outflow requirements, and endangered species restrictions on export pumping. Exchange Contractor calls on San Joaquin River water from Friant will most likely continue in the future, as has occurred the last two years.
- O-EC-42** 2-54.2. This section also needs to describe the impact to Mendota Pool operations that will be caused by the reduction in volume of the pool due to the construction of the new bifurcation structure cutting off the flow connection with the lower portion of Reach 2A upstream towards San Mateo Ave. This reduction in the operating volume of the pool will make the water surface elevation more sensitive to operational changes and cause potential seepage and pump cavitation problems with diverters upstream on Fresno Slough.
- O-EC-43** 2-54.3. The reduced pool volume will also have less of ability to dampen the impacts of changes in water quality associated with inflows to the pool from the DMC, Kings River through Fresno Slough, and San Joaquin River.
- O-EC-44** 2-54.4. Due to the large amount of debris in the river during flood flows, the fish screen facility must include a design to prevent debris from accumulating and damaging the trash rack and screen plate.
- O-EC-45** 2-54.5. Grade control structures must prevent channel incision, erosion, undermining, and migration toward Mendota Pool. Continual maintenance will be required to remove sediment build up behind structures.
- O-EC-46** 2-56. Since this alternative does not include a fish barrier below Mendota Dam, an intake and pipeline should be constructed from Mendota Pool to Reach 3 downstream of the Compact Bypass to convey irrigation deliveries without attracting fish toward the base of Mendota Dam.
- O-EC-47** 2-57. Passive habitat restoration must be designed to develop in a timely manner to prevent erosion of large areas and increased sediment conveyance into Reach 3 and the Eastside Bypass.
- O-EC-48** 2-60.1. The document needs to provide a full detailed description and site plans for the facilities and proposed operations to provide water deliveries to Mendota Pool under the entire range of potential flow conditions. A detailed hydraulic analysis of the full range of potential operating conditions is required to confirm the feasibility and identify any potential adverse impacts associated with these operations. Since the Mendota Pool operating level is almost 6 ft.

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- O-EC-48 cont.** higher than the upstream water surface this adds significant complexity to the design and operation of the facilities.
- O-EC-49** 2-60.2. The water deliveries section needs to describe proposed changes to Columbia Canal Company facilities, including the new pump station and siphon under Mendota Pool, required to provide water deliveries after construction of the bypass. These new facilities will need to be designed to prevent sedimentation and water quality issues.
- O-EC-50** 2.61. Project phasing must allow water supply and flood control operations to continue during construction.
- O-EC-51** 2-100.1. To minimize flood risk the Program must provide funding for additional operations and maintenance (O&M) needs due to increased sedimentation and vegetation growth in the flood bypass channels. Also, the flood project was designed for O&M under dry conditions and the release of restoration flows into normally dry flood bypasses will increase costs to perform O&M under wet conditions. How will the Program provide funds for this additional O&M?
- O-EC-52** 2-110.2. Flood control operations for public safety must take precedence over all proposed restoration flow releases and operations.
- O-EC-53** 2-108. Flood risk mitigation must provide funding for additional operations and maintenance (O&M) needs due to increased sedimentation and vegetation growth in the flood bypass channels. Also, the flood project was designed for O&M under dry conditions and the release of restoration flows into normally dry flood bypasses will increase costs to perform O&M under wet conditions. How will the Program mitigate this risk and provide funds for this additional O&M?
- O-EC-54** **Chapter 3. Considerations for Describing the Affected Environment and Environmental Consequences**  
3-1 to 3-4. The study area for direct, indirect and cumulative impacts does not include reaches downstream of Reach 3 or upstream of Reach 2A, even though potential impacts of the Project can occur in such areas. For example, the impacts of increasing flows through Reach 2B, made possible by the Projects increased channel capacities, can potentially have impacts to downstream reaches that warrant analysis, in particular if the Project (and other related SJRRP Projects in other reaches) are implemented in currently-unknown phases.
- O-EC-55** **Chapter 4. Air Quality**  
Section 4.1.2 describes sensitive receptors. Sensitive receptors include schools. The draft fails to identify Mendota Elementary School, which is located at 605 Bass Ave., Mendota, CA 93640.
- O-EC-56** **Chapter 5. Biological – Resources Fisheries**

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**O-EC-56**  
 cont.

5-1. The environmental setting narrowly focuses on Reach 2B with some minor inclusion of 1.7 miles below the Mendota Dam and parts of Fresno Slough. The San Joaquin River, however, is a hydrologic unit in which impacts of a Project that includes a re-routing of the river and creation of acres of new floodplain, will directly and indirectly affect both upstream and downstream reaches of the river. For example, the increased channel capacity in Reach 2B allowing for increased flows will impact water temperatures in downstream reaches with concomitant effects on fish habitat. Similarly, increased floodplain habitat will have an effect on the aquatic foodweb downstream. Finally, increased rearing habitat in Reach 2B may have an effect on fish assemblages and population sizes well upstream and downstream of Reach 2B.

**O-EC-57**

5-1. Existing conditions are defined as conditions existing when the Notice of Intent and Notice of Preparation were filed in July 2009 along with some information from more recent field efforts. Both the SJRRP and existing conditions in the Restoration Area have changed significantly since 2009. California is currently in a record multi-year drought. Salmon reintroduction efforts are showing low survivability with acknowledged problematic river temperature conditions and potentially high rates of predation. Moreover, there is a now-documented high rate of subsidence in reaches in, near and downstream of the Project area with the potential to significantly impact river conditions (e.g., channel location, channel capacity) including within the Project area. Due to the current and continued rates of subsidence the Reach 2b area has the potential to experience a flood disaster. The capacity of the Eastside Bypass has diminished significantly and the river has lost capacity as well mostly due to river channel vegetation. This public safety issue needs to be addressed prior to putting additional pressures on the fragile system due to the restoration program. These significant changes and new information have not been incorporated into the analysis.

**O-EC-58**

5-19.1. The No-Action Alternative incorrectly assumes that, among other components of the SJRRP, reintroduction of spring-run Chinook salmon can occur in the absence of these mandated, Phase I improvement projects, the Mendota Pool Bypass and the modification in Reach 2B. This assumption violates the Act, which expressly authorizes and directs the implementation of the Stipulated Settlement, including the mandatory Phase I improvement projects under Paragraph 11(a) found necessary for the reintroduction of spring-run Chinook salmon. Comparisons against a No-Action Alternative that violates the Act, and thus is technically non-implementable, provides no meaningful comparison of the true impacts of foregoing implementation of the analyzed Project. The correct No Action alternative is halting implementation of the SJRRP as a whole if a mandated Phase I project cannot be implemented.

**O-EC-59**

5-19.2. A number of the impacts analyzed for the No-Action Alternative find a beneficial effect, largely due to the assumed continued releases of Restoration Flows. (See e.g., AQUA-2 (salmonid rearing habitat), AQUA 3 (upstream migration of adult salmonids) and AQUA 4 (downstream migration of juvenile salmonids). However, it is questionable to call a marginal improvement in one factor in an environmental setting that remains far below sub-marginal for salmonid rearing as "beneficial." A partially-implemented SJRRP that releases restoration flows and reintroducing fish without addressing the habitat conditions necessary to sustain a viable fish

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- O-EC-59 cont.** population is not “beneficial” to a reintroduction effort that will fail without necessary habitat improvements. There is no analysis of beneficial or detrimental impact to the thousands/millions of juvenile salmon that would perish under the proposed No-Action approach.
- O-EC-60** 5-19.3. Impact AQUA-3 additionally assumes that there is sufficient infrastructure and funding for the long-term trapping and hauling of fish in its conclusion that the No-Action Alternative analyzed here would have a beneficial effect on upstream adult passage. There is no provision under the SJRRP for a permanent trap and haul program in perpetuity. A permanent trap and haul program would be contrary to the goal of a viable self-sustaining salmonid population.
- O-EC-61** 5-30.1. A fish screen will be required to prevent fish from entering Mendota Pool.
- O-EC-62** 5-30.2. An intake and pipeline should be constructed from Mendota Pool to Reach 3 downstream of the Compact Bypass to convey irrigation deliveries without attracting fish toward the base of Mendota Dam.
- O-EC-63** 5-31. The inclusion of a fish screen is essential. There may be multiple consecutive years of flood flows and there is significant uncertainty regarding future CVP deliveries through the DMC due to changing Delta hydrology, outflow requirements, and endangered species restrictions on export pumping. Exchange Contractor calls on San Joaquin River water from Friant will most likely continue in the future, as has occurred the last two years.
- O-EC-64** **Chapter 11.0 Geology and Soils**  
11-31. Scour and erosion monitoring and mitigation will be required to prevent impacts due to sediment transport of material from Reach 2B into Reach 3 and the Eastside Bypass.
- O-EC-65** 11-32. Under-seepage is a significant problem in the area due to the permeable soils. Long-term monitoring will be required to ensure the stability of all structures and facilities constructed as part of the program.
- O-EC-66** **Chapter 12.0 Hydrology Flood Management**  
12-5.1. Need to cite appropriate DWR manual as McBain and Trush is not a valid reference for the intended level of flood protection.
- O-EC-67** 12-5.2. Need to note that the current capacity of Reach 2B is estimated at about 1200 cfs due to significant seepage issues.
- O-EC-68** 12-16.1. Sec. 12.3.3. This section needs to be rewritten. The increase in conveyance capacity above 2500 cfs in Reach 2B is a restoration benefit only. Increased flood flows through this reach will cause more downstream seepage and sediment impacts to the City of Firebaugh, along Reach 3, and in the Eastside Bypass. Portraying this as a benefit is incorrect.
- O-EC-69** 12-16.2. Sec. 12.3.3. This section needs to be rewritten. The operational strategy is to maximize the amount of flood flow in the Chowchilla Canal Bypass to minimize impacts to the City of Firebaugh and along Reach 3. Allowing more flow through Reach 2B will increase impacts to the system and adjacent land owners.

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- O-EC-70** [ 12-16.3. Lines 36-39. This statement is purely hypothetical and has no merit. This section needs to be rewritten.
- O-EC-71** [ 12-17.1. Section 12.3.3. This section needs to be rewritten. The flood project is operated as a complete system to minimize flood impacts, and not in a piece wise fashion as suggested in the text. Any modifications to the system that impact flood management will require an evaluation of flood operations and potential revisions to the O&M manual for the project from a system wide perspective. As an example, if there are 4500 cfs of Restoration Flow in the Mendota Pool Bypass and flood flows are forecast from the Kings River, there needs to be clear direction in the O&M manual that the Restoration releases must be decreased from Friant and any remaining Restoration Flow in Reach 2A be diverted into the Chowchilla Canal Bypass and that Friant releases will be reduced to accommodate priority Kings River flows through the Mendota Pool.
- O-EC-72** [ 12-17.2. How will the program set aside adequate funding to support the increased O&M that will be required due to increased restoration flows that will cause erosion, sedimentation, and vegetation growth?
- O-EC-73** [ 12-17.3. This period provides some insight into past hydrologic conditions, but does not account for projected increases in extreme flow events due to climate change.
- O-EC-74** [ 12-17.4. This increase from 0.5 to 2.5 percent seems minimal, but these flows can be very damaging and cause extensive erosion, sedimentation, and seepage damage at the city of Firebaugh and along Reach 3.
- O-EC-75** [ 12-18.1. The significant increase in flows for events less than the 2 percent annual exceedance will cause additional downstream erosion, sedimentation, and seepage impacts. The 2000 cfs increase from 1000 cfs to 3000 cfs at the 50 percent exceedance will cause the city of Firebaugh to monitor flows and initiate sand bagging if flows reach 4000 cfs under current conditions. The city also experiences a rise in local groundwater levels that stops percolation at the waste water treatment plan settling ponds, saturates embankments and levees, and floods recreation facilities. The document does not adequately describe potential impacts of increased flow frequency.
- O-EC-76** [ 12-18.2. Sec. 12.3.3 lines 15 -16. The conclusion that the increase in design capacity of Reach 2B is neutral is incorrect. The significant increase in the frequency and damage caused by smaller events will not be offset by a decrease in events greater than 2 percent exceedance. Reach 3 has a design capacity of 4500 cfs. Therefore, San Joaquin River flood flows are diverted into the Chowchilla Canal Bypass to minimize flows in Reach 3 to protect the city of Firebaugh and prevent downstream seepage impacts. Flood flows above the 2 percent exceedance would not be routed through Reach 2B and into Reach 3, especially if Kings River flows are coming over through Fresno Slough. The decreased flows associated with the larger events would conveyed in the Chowchilla Canal Bypass and provide no offset in Reach 3.
- O-EC-77** [ 12-18.3. lines 18-19. How will the Program address the increased O&M that will be required due to increased restoration flows that will cause erosion, sedimentation and vegetation growth?

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**O-EC-78** 12-21. Lines 40-41. See comments on Impact FLD-1 (Alternative A). The section needs significant reevaluation to adequately characterize flood control operations and management issues.

**O-EC-79** **Chapter 13. Hydrology – Groundwater**  
  
General comments on Chapter 13: 13.1. The Exchange Contractors, Paramount Farming, and the Mendota Pool Group have been intensively studying, monitoring and managing groundwater in this area for over 15 years. The Mendota Pool pumpers are in the process of developing a 25-year extension of their program; significant work and modeling have gone into the preparation of the environmental documentation. This groundwater discussion and the cumulative impacts section should include the data from that joint effort that deals with all the topic areas contained in this 2B groundwater section.

**O-EC-80** 13.2. The rates, extent and threats that subsidence exerts on the Project needs to be thoroughly discussed. Subsidence in the patterns (if not the rates) as shown on figure 13-4, if they were to continue from this time forward, would reduce the available flow rate capacity in the river and bypass system, likely below the rates needed for successful restoration. This is especially the case including the new subsidence that is occurring in the Red Top area.

**O-EC-81** 13.3. This draft correctly identifies the construction of the San Luis Canal and import of water as the reason the historical pattern of subsidence has been reduced, or nearly eliminated for a number of years in this area. What the draft fails to articulate is the increase in subsidence due to the reduction of water imported into the area because of export restrictions. The draft needs to consider the data being generated in the BDCP process, extrapolate the bookends of CVP water into the area, and analyze how much subsidence will they have to deal with over a) the construction horizon, and b) a thirty-year Project horizon. If the subsidence continues unabated, the fishery will end up being routed through a warm water lake that will be formed by the time the final SJRRP is completed.

**O-EC-82** 13-1. Reference is made to Figure 1-2 of Chapter 1 to describe the Project area. The Project area described, however, does not include reaches 1, 4, or 5, and may not cover all of reach 3. Increased channel capacity in Reach 2B, however, enables higher flows to originate upstream and pass downstream through lower reaches, with resulting impacts including increased potential for seepage and groundwater recharge.

**O-EC-83** 13-5. There is discussion of subsidence in the San Joaquin Valley stating that maximum land subsidence rates occurred in the 1960s. (Page 13-9 discusses the Tulare Lake Region.) Figure 13-4 illustrates land subsidence contours in the San Joaquin River and Tulare Lake hydrologic regions from 1926 to 1970. The discussion completely ignores the more recent increased rates of subsidence documented in the vicinity of Sack Dam, which has serious implications for the SJRRP and its component projects.

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O-EC-84

13-12. There is discussion of subsidence in the Delta-Mendota subbasin as part of the “Project Setting”. It mentions average rates of subsidence near the Mendota Pool noting that maximum rates of subsidence were observed in the 1950s but that in recent years (2003-2008), the rate of subsidence has declined to 0.04 in/yr. The timeframe selected is not representative of subsidence currently occurring in and near Reach 2b. Data relative to subsidence at the COR station P304, near Mendota, shows that subsidence has occurred by as much as 8 inches over the past 3 1/2 years. These data are also verified by the 2013 USGS mapping of subsidence in the Central Valley and in particular along the Delta-Mendota Canal. In addition, the Draft EIR/S fails to discuss the more significant rates of subsidence downstream in the vicinity of Sack Dam as an existing environmental condition. Rates of subsidence in the vicinity of Sack Dam have the ability to impact the routing and hydrology of the San Joaquin River within the Restoration Area with impacts on the SJRRP both as a whole and each individual component. The subsidence also has affected the flood control system such that flow capacity has been reduced significantly, in excess of 25%. Further, the analysis must consider that there is a now-documented high rate of subsidence in reaches in, near and downstream of the Project area with the potential to significantly impact river conditions (e.g., channel location, channel capacity) including within the Project area. Due to the current and expected continued rates of subsidence the Reach 2b area has the potential to experience a flood disaster. The capacity of the Eastside Bypass has diminished significantly and the river has lost capacity as well mostly due to river channel vegetation. This public safety issue needs to be addressed prior to putting additional pressures on the fragile system due to the restoration program.

O-EC-85

13-17.1. It is stated that the USGS is currently updating the CVHM (Central Valley Hydrologic Model) for the Project Area as well as refined grid spacing and layering for the purposes of assessing SJRRP groundwater impacts, but that the revised CVHM was not available for the Draft Environmental Impact Statement/Report. A USGS paper was issued in 2014 called “Documentation of a Groundwater Flow Model (SJRRPGW) for the San Joaquin River Restoration Program Study Area, California” by Jonathan A. Traum, Steven P. Phillips, George L. Bennett, Celia Zamora and Loren F. Metzger that involved the CVHM. This documentation is not included in the reference section. Based on information, is our understanding that the report on the new SJRRPGW model was released in October 2014. This is well before the draft EIS/R was released in 2015. Why is information from the SJRRPGW not included in the draft EIS/R?

O-EC-86

13-17.2. All Alternatives, including the No-Action Alternative, assume the release of restoration flows and determine that changes to groundwater levels (seepage) would be less than significant due to the levee design features and the implementation of seepage management measures. The conclusion is that seepage impacts would be avoided or substantially reduced by implementation of Project design and seepage management measures. The Project, however, doesn't specify the exact seepage management measures that will be employed, but includes merely a laundry list of possibilities, and does not conduct an environmental review of the implementation of the seepage management measures. In fact, use of specific seepage management measures such as cut-off walls, seepage plugs, interceptor drains or berms as part of

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- B-EC-86 cont.** the SJRRP have not been subject to project-level environmental review. (See Draft Seepage Management Plan dated September 2014, p. 10-1.)
- B-EC-87** 13-17.3. In the Reach 2B modifications, the environmental impacts of land acquisition or easements to mitigate seepage impacts could be greatly different than the impacts due to the installation of interceptor drains or drainage ditches. None are reviewed here in this draft EIS/R. Pushing off the project-level review of the implementation of seepage management measures to an unknown future date instead of analyzing such measures as an integral part of the implementation of the Mendota Pool Bypass and Reach 2B Improvements Project is impermissible segmentation of the true impacts of the Project.
- B-EC-88** 13-17.4. There is also no analysis of the seepage impacts on downstream reaches (e.g., Reaches 3, 4 and 5) resulting from the increased capacity of Reach 2B and the release of restoration flows. Project-level review of the impact of restoration flows was undertaken in the Programmatic EIS/R issued in 2012 in isolation from the project-level review of the improvement projects to increase channel capacity to allow the release of restoration flows. However, an analysis of the impact of flows cannot be separated from an analysis of the increase in channel capacity in Reach 2B done for the express purpose of allowing the passage of restoration flows. The impacts of increasing channel capacity in Reach 2B to 4500 cfs must be analyzed in this Draft EIS/R. Here, the release of restoration flows is assumed in all alternatives, including the No-Action Alternative.
- B-EC-89** 13-17.5. In addition, there is no analysis of the impact on groundwater levels, including seepage, of a phased Project or phasing of the SJRRP. Is there a thought that if funding runs out, that seepage mitigation would not be constructed? There is no analysis of phasing in this regard. For example, if the channel capacity was increased but funding was lacking to complete installation of seepage management measures the landowners would be subject, at a minimum, to flooding impacts of a nature that have never before been experienced. So, it is not just a question of keeping Restoration Flows to non-damaging levels; there is the other issue of a totally altered environment with changed flow patterns that have never been experienced and not yet analyzed. Further, one seepage management measure includes the acquisition of land or easements. However, there is no analysis of a situation where not all landowners agree to such measures resulting in a patchwork of protection. Similarly, there is no analysis of a situation where there is a future lack of funding to operate and maintain seepage management measures long after installation has been completed.
- B-EC-90** **Chapter 14.0 Hydrology – Surface Water Resources and Water Quality**  
14-6.1. Lines 23 -25. Text needs to explain the importance of the Exchange Contractors water rights and capability to divert San Joaquin River water at Mendota Pool for irrigation purposes during flood flows and per the Exchange Contract. This information is critical to understanding the significance of the proposed water supply operations under the alternatives and the need for a fish screen for flow entering the pool from the San Joaquin River. Up to 700 cfs can be released through Mendota Dam for delivery to the Arroyo Canal.

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- O-EC-91** 14-6.2. Section 14.1.1 also needs to describe the impact to Mendota Pool that will be caused by the reduction in volume of the pool due to the construction of the new bifurcation structure cutting off the flow connection with the lower portion of Reach 2A upstream towards San Mateo Ave. This reduction in the operating volume of the pool will make the water surface elevation more sensitive to operational changes and cause potential seepage and pump cavitation problems with diverters upstream on Fresno Slough.
- O-EC-92** 14-6.3. The reduced pool volume will also have less of ability to dampen the impacts of changes in water quality associated with inflows to the pool from the DMC, Kings River through Fresno Slough, and San Joaquin River.
- O-EC-93** 14-31.1. Comments have been submitted on the numerous previous SJRRP documents describing modeling results for hydraulics, sediment transport, and channel dynamics. The primary focus of these comments are questions on the development of assumptions, adequacy of model calibration, and requests for sensitivity analysis and adequate characterization of uncertainty in the presentation and interpretation of model results. Simply referencing previous studies is inadequate and quantitative model results must be presented to substantiate impact analysis conclusions. The uncertainty associated with model input data, methods, calibration, and analysis results must be characterized for the reader to allow adequate understanding of the analyses that were conducted. Appendixes must be provided with a full descriptions of the modeling tools, methods, and quantitative comparisons of model results for all the action alternatives versus the No-Action Alternative and existing conditions.
- O-EC-94** 14-31.2. The document appendixes need to provide a full detailed description and site plans for facilities and proposed operations to provide water deliveries to Mendota Pool under the entire range of potential flow conditions. A detailed hydraulic analysis of the full range of potential operating conditions for each alternative must be provided to confirm the feasibility of the alternative and identify any potential adverse impacts associated with these operations.
- O-EC-95** 14-43.1. How will the program set aside adequate funding to support the increased O&M that will be required due to increased restoration flows that will cause erosion and sedimentation in Reach 3 and the Eastside Bypass?
- O-EC-96** 14-43.2. The uncertainty associated with the sediment transport model input data, assumptions, calibration, and results needs to be evaluated to adequately characterize the potential impacts including significant bed erosion and deposition in Reach 3. There needs to be a better understanding of the significant amount of sediment the project will generate in the first 15 years and where it will deposit downstream and the impact to O&M needs and funding. The feasibility of maintaining a stable channel in a sand bed environment is very challenging and potential impacts need to be fully understood. The channel down cutting in Reach 2B is extreme and could have unintended impacts upstream and to the adjacent bifurcation structure.
- O-EC-97** 14-44. The uncertainty associated with the sediment transport model input data, assumptions, calibration, and results used to develop the transport balance need to be evaluated to adequately characterize the potential impacts including significant bed erosion and deposition in Reach 3.

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**Chapter 16. Land Use Planning and Natural Resources**

**O-EC-98**

Chapter 16 analyzes potential impacts on agricultural resources, but primarily within the Reach 2B area ignoring impacts from increased channel capacity and resulting flows to lands beyond those just adjacent to the river inasmuch as seepage impacts will occur up to three miles away from the river. There is also no discussion of impacts in reaches downstream of Mendota Dam that will result if the increased flow capacity in Reach 2B is utilized. Increased flows in the San Joaquin River will have impacts on downstream agricultural land either rendering it unsuitable for agricultural production or degrading the production value of the land.

**O-EC-99**

16-19 to 16-20. Analysis of the No-Action Alternative concludes that implementation of seepage management measures would minimize impacts to agricultural resources, primarily keeping flows within channel capacity. Again, the No-Action Alternative assumes partial implementation of the SJRRP, restoration flows and reintroduction of fish among other components. However, the Act directs the mandatory completion of Phase I improvements set out in Paragraph 11 of the Stipulated Settlement. Thus, a No-Action alternative that violates the Act does not provide a meaningful comparison.

**O-EC-100**

16-20 to 16-21 (Alt. A), 16-29 to 16-30 (Alt. B), 16-33 to 16-34 (Alt. C), 16-37 to 16-38 (Alt. D). Under LU-1, all Action Alternatives find removal of land from agricultural production to be a significant but unavoidable impact. Pursuant to section 10004(d) of the Act, the Secretary of the Interior is legally required to mitigate the impacts identified. There is no provision within the Act for simply identifying an unavoidable impact and not mitigating. Failure to mitigate would constitute a violation of the Secretary's obligation.

**O-EC-101**

16-24 to 16-25 (Alt. A), 16-30 to 16-31 (Alt. B), 16-34 to 16-35 (Alt. C), 16-38 to 16-39 (Alt. D). LU-2 under all Action Alternatives indicates that designated farm land will be converted to non-agricultural uses and that even with mitigation impacts are significant and unavoidable. Such impacts cannot be simply deemed unavoidable but must be mitigated pursuant to Sec. 10004(d) of the Act.

**O-EC-102**

16-25 to 16-26 (Alt. A), 16-31 to 16-32 (Alt. B), 16-35 to 16-36 (Alt. C), 16-39 to 16-40 (Alt. D). The same is true of LU-3, for all Action Alternatives, concerning conflicts with Williamson Act Contracts. Again, pursuant to the Act, the Secretary must mitigate these impacts.

**O-EC-103**

16-26 to 16-27 (Alt. A), 16-32 (Alt. B), 16-36 (Alt. C), 16-40 (Alt. D.) LU-4 indicates that there will be degradation of agricultural land productivity due to seepage. The discussions state that a range of seepage control measures are incorporated or included into the Project that would avoid or minimize seepage outside the levee alignments. Such measures could include slurry walls, interceptor drains, seepage wells, seepage berms, land acquisition (fee title or seepage easements) and other measures as laid out in Section 2.2.4. However, none of these measures are actually planned for in the Project and the impact of implementing such measures are not subject

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**Duane Morris**

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**O-EC-103  
cont.**

to environmental review in the Draft EIS/R, as already noted in comments above. It is currently unknown which seepage measures will actually be used and each one carries its own environmental impacts. For example, the impact of installing seepage wells or interceptor drains can be greatly different from environmental impacts associated with taking agricultural land out of production. Such measures should be actually “incorporated” or “integrated” into the Project” and subject to the review process in the Draft EIS/R. Otherwise, the true impacts of the Project cannot be assessed. As it is now, the Draft EIS/R improperly segments the project-level environmental review for the Mendota Pool Bypass and Reach 2B Improvement Project. Further, the EIS/R indicates that the impact LU-4 will be less than significant (LTS) due to seepage mitigation measures. Since it is unclear which measures will be implemented, their impacts and effectiveness, it is unclear on which basis the less than significant determination is made.

**Chapter 21. Socioeconomics and Economics**

**O-EC-104**

21-16. The impacts analyzed in this chapter were determined to be “substantial” or “less than substantial” based on (1) the value of the agricultural production relative to region-wide conditions, (2) regional employment and/or income level relative to region-wide conditions, and (3) property tax revenue relative to region-wide conditions. Evaluating an economic impact only on an essentially region-wide scale, may be missing the significant economic impacts to individual landowners or groups/associations of landowners who may own appreciable land along the San Joaquin River. This is particularly true here inasmuch as the Fresno County assessor is raising property taxes based on water rights held by parcels plus production under Williamson Act, which becomes substantial under the new Delta operations. Pursuant to the Act, all impacts are required to be mitigated and landowners are only required to assume costs that they volunteer to incur.

**O-EC-105**

21-17. Restoration flows are assumed to continue under the No-Action Alternative. See comments to formulation of No-Action Alternative above.

**O-EC-106**

21-19. Alternative A permanently removes over a thousand acres of farmland from production and shifts agricultural use to pasture on another 580 acres but the impact to agricultural production (ECON-1) is found to be less than substantial when viewed on a regional-scale. However, the economic impact to individual landowners or corporations within the Project area from the creation of the floodplain and seepage impacts can be substantial or significant. Under the Act, all such impacts must be mitigated. The discussion does note that the direct economic impact on farmers would be negligible because privately-owned farmland would be purchased and property owners compensated at fair market value for their land. This does not necessarily account, however, for land that will be economically degraded due to seepage impacts. It also assumed that all landowners would be amenable to purchase at rates set by the SJRRP.

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**O-EC-107**

21-25. The same is true of Alternative B in which significant acreages is either taken out of production or agricultural use is shifted to a lower-value use such as grazing pasture on the floodplain. Again, analysis on a regional scale missing the significant socio-economic impact to the more local area such as individual landowners, groups or associations of landowners or, even, nearby communities such as the City of Mendota.

**O-EC-108**

21-24, 21-27 to 21-28 and 21-30. Alternatives B, C and D make the same analysis of changes in agricultural production as Alternative A. See the above comment to ECON-1.

**O-EC-109**

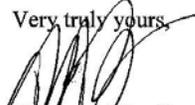
**Chapter 25. Cumulative Impacts**

25-21. The analysis concludes that while there is an overall significant cumulative impact on groundwater due to past, present and reasonably foreseeable probable future actions, the Project Alternatives will not cause an incremental contribution to a cumulative significant impact on groundwater levels in the Project area largely due to monitoring and implementation of mitigation measures. This is even though the Project intends to raise the capacity of Reach 2B to 4500 cfs to allow for the release of full restoration flows. This conclusion assumes that all other components of the SJRRP, such as downstream channel capacity improvements, will be implemented and that potential seepage mitigation measures will be successfully implemented. However, none of the available measures are actually planned for implementation and none have been subject to environmental review.

**O-EC-110**

**Conclusion**

Thank you for this opportunity to comment. If any of our comments are unclear, please contact us and we will attempt to clarify. The Exchange Contractors look forward to continuing to work with Reclamation and others to ensure that the SJRRP is developed and implemented in a manner that meets the needs of all stakeholders.

Very truly yours,  
  
Thomas M. Berliner

TMB/koj

Enclosures

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DuaneMorris\*

FIRM and AFFILIATE OFFICES

THOMAS M. BERLINER  
DIRECT DIAL: 415-957-3333  
PERSONAL FAX: +1 415 520 5835  
E-MAIL: tmberliner@duanemorris.com

www.duanemorris.com

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LAKE TAHOE

MEXICO CITY  
ALLIANCE WITH  
MIRANDA & ESTAVILLO

August 15, 2012

VIA E-MAIL AND  
REGULAR MAIL

Ms. Alicia Forsythe  
SJRRP Program Manager  
Bureau of Reclamation  
2800 Cottage Way, MP-170  
Sacramento, CA 95825-1898  
Email to:  
PEIS/RComments@restoresjr.net and  
aforsythe@usbr.gov

Ms. Fran Schulte  
California Department of Water  
Resources  
South Central Region Office  
3374 East Shields Avenue  
Fresno, CA 93726  
Email to: fschulte@water.ca.gov

**Re: Supplemental Comments to the Final PEIS/R Based on New Information  
from the San Joaquin River Exchange Contractors Water Authority and the  
San Joaquin River Resource Management Coalition**

Dear Ms. Forsythe and Ms. Schulte:

These supplemental comments to the Final PEIS/R are submitted by the San Joaquin River Exchange Contractors Water Authority and the San Joaquin River Resource Management Coalition (hereafter collectively as "Exchange Contractors").

It recently came to our attention that there is a substantial occurrence of subsidence in the general area of Restoration Reaches 3 and 4 of the San Joaquin River that has resulted in a halt to the further engineering and construction of the Sack Dam/Arroyo Canal project, one of the Phase One and Core projects identified in the Settlement and the draft Framework for Implementation, respectively. The existence of this subsidence problem should have been analyzed in the PEIS/R. Given that the subsidence has resulted in the halt of the Sack Dam/Arroyo Canal project and could, if unchecked, significantly impact the San Joaquin River and the flood control system to a degree that would cause a substantial reconsideration of the SJRRP in that area, further analysis is necessary. The Exchange Contractors raised this issue in their protest to the petitions filed by Reclamation with the State Water Resources Control Board pursuant to Water

DUANE MORRIS LLP  
SPEAR TOWER, ONE MARKET PLAZA, SUITE 2200  
SAN FRANCISCO, CA 94105-1127

PHONE: +1 415 957 3000 FAX: +1 415 957 3001

## San Joaquin River Restoration Program

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Code 1700, *et seq.* A copy of the Exchange Contractors' protest was provided to Reclamation on or about June 17, 2012.

Based upon measurements that have recently been made public by Reclamation and DWR, subsidence since 2008 in the subject area has been as much as 1.2 feet. If unabated, within ten years subsidence in this area could be more than five additional feet. The impact on the San Joaquin River and flood control system is such that the flow capacity is being seriously degraded, the dry year restoration flow hydrograph routed through the area will result in flooding of thousands of acres of prime farm land and threaten the flooding of the City of Dos Palos which is significantly lower than the river (about 10 feet lower). As noted in the Final PEIS/R, neither Reclamation nor DWR has authority to regulate groundwater pumping, which is the cause of the subsidence. Yet, Reclamation and DWR must analyze the impacts of this groundwater overdraft and identify mitigation measures or unavoidable impacts to the restoration area and program.

The following is more specific factual information concerning this issue.

Differential subsidence on the scale of up to 0.6 feet per year has been documented within the study area of the San Joaquin River Restoration Program (Program) near Western Madera. The subsidence is a result of recently initiated deep well pumping from under the Corcoran Clay for overlying lands. The Program will need to determine how to address existing and increasing future subsidence effects and how this will impact the planning and design of Program facilities and overall implementation schedule.

Surveys by RBF Consulting for the CA Department of Water Resources as part of the FloodSafe Program identified subsidence based on comparison of survey observations and previous LiDAR measurements (RBF Memo, July 2010). USGS informally evaluated Interferometric Synthetic Aperture Radar (InSAR) measurements from 2008 to 2010 to map the spatial extent of subsidence in the area and confirmed the conclusion. It appears that the installation of a large number of deep wells at the center of the subsidence area in unincorporated Madera County and associated planting of orchards, vineyards and other crops is likely the cause of the recent subsidence. In addition, the large permanent planting acreages are new, meaning that pumping rates will increase as they mature, increasing the rate of subsidence along the river and flood control system.

This extreme rate of subsidence may have a significant impact on the SJRRP schedule to complete the planning, design, and construction of the Phase 1 projects. Phase 1 facilities and other critical river reaches in the general vicinity will be impacted by this subsidence issue. The potential maximum subsidence in the area is huge as documented in a nearby area that was similarly impacted by deep well pumping induced subsidence. The area located southwest of the

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city of Mendota experienced over 28' of land subsidence from 1926 to 1972. Phase 1 facilities and river reaches that will be impacted include:

- Modifications to Sack Dam and Screening the Arroyo Canal
- Flow capacity of Reaches 3 and 4A
- Flood flow capacity in the Chowchilla Bypass
- Flood flow capacity in the Eastside Bypass
- Modifications at the Reach 4B headgate
- Modifications to the Sand Slough Control Structure
- Modifications in San Joaquin River Reach 4B1

The USGS has proposed a study to measure subsidence in more detail and the CA Department of Water Resources needs to assess the potential impacts to the State Flood Control Project and the SJRRP. If unchecked, local irrigation districts, including Central California Irrigation District, will have to construct additional improvements to their facilities to accommodate the additional differential subsidence in the surrounding area. Accompanying this letter is are two diagrams of the subsidence that has been measured in the subject area. The first chart was prepared by USGS and the second chart was prepared by RBF for DWR. We understand that your agencies have additional information on this problem.

We look forward to reviewing the analysis of the impacts of this subsidence on the environment in the lower reaches of the upper San Joaquin River, most likely in the form of a recirculated PEIS/R.

Sincerely yours,

*Thomas M. Berliner (jrk)*  
Thomas M. Berliner

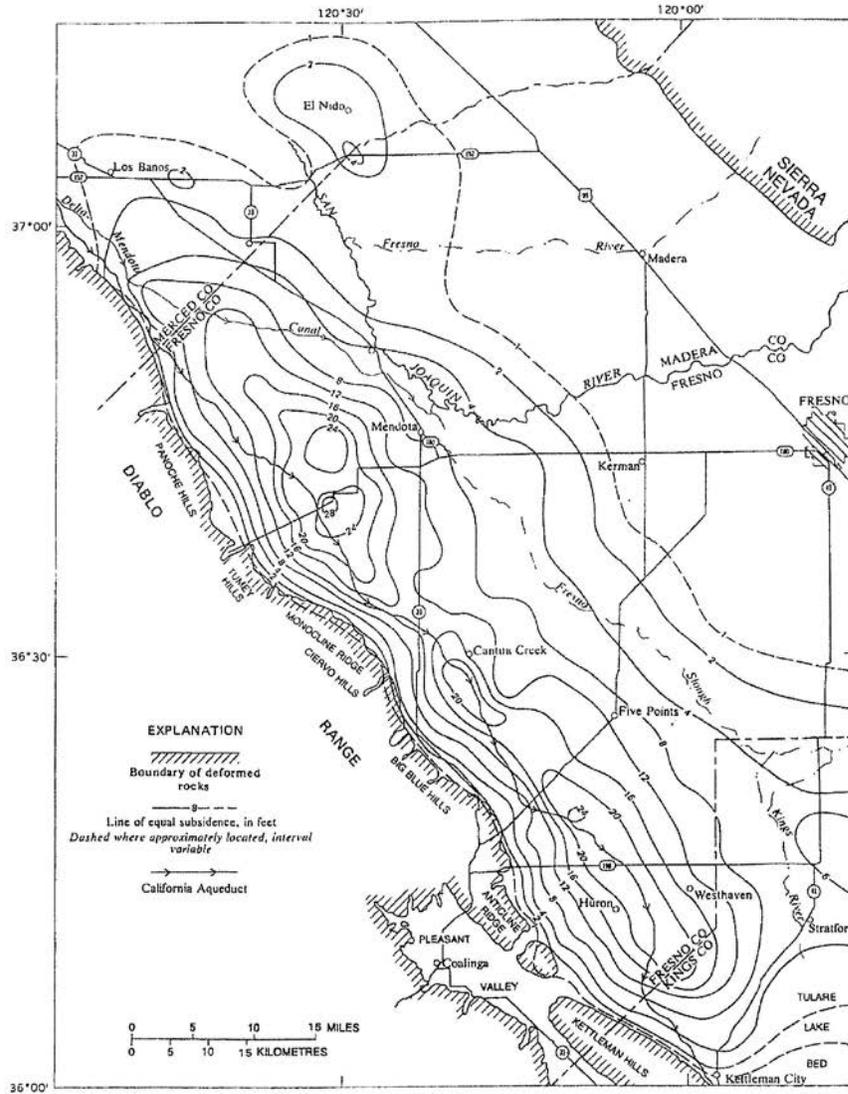
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Attachments

cc: San Joaquin River Exchange Contractors Water Authority  
San Luis & Delta-Mendota Water Authority  
San Joaquin Tributaries Association  
Lower San Joaquin Levee District

San Joaquin River Restoration Program

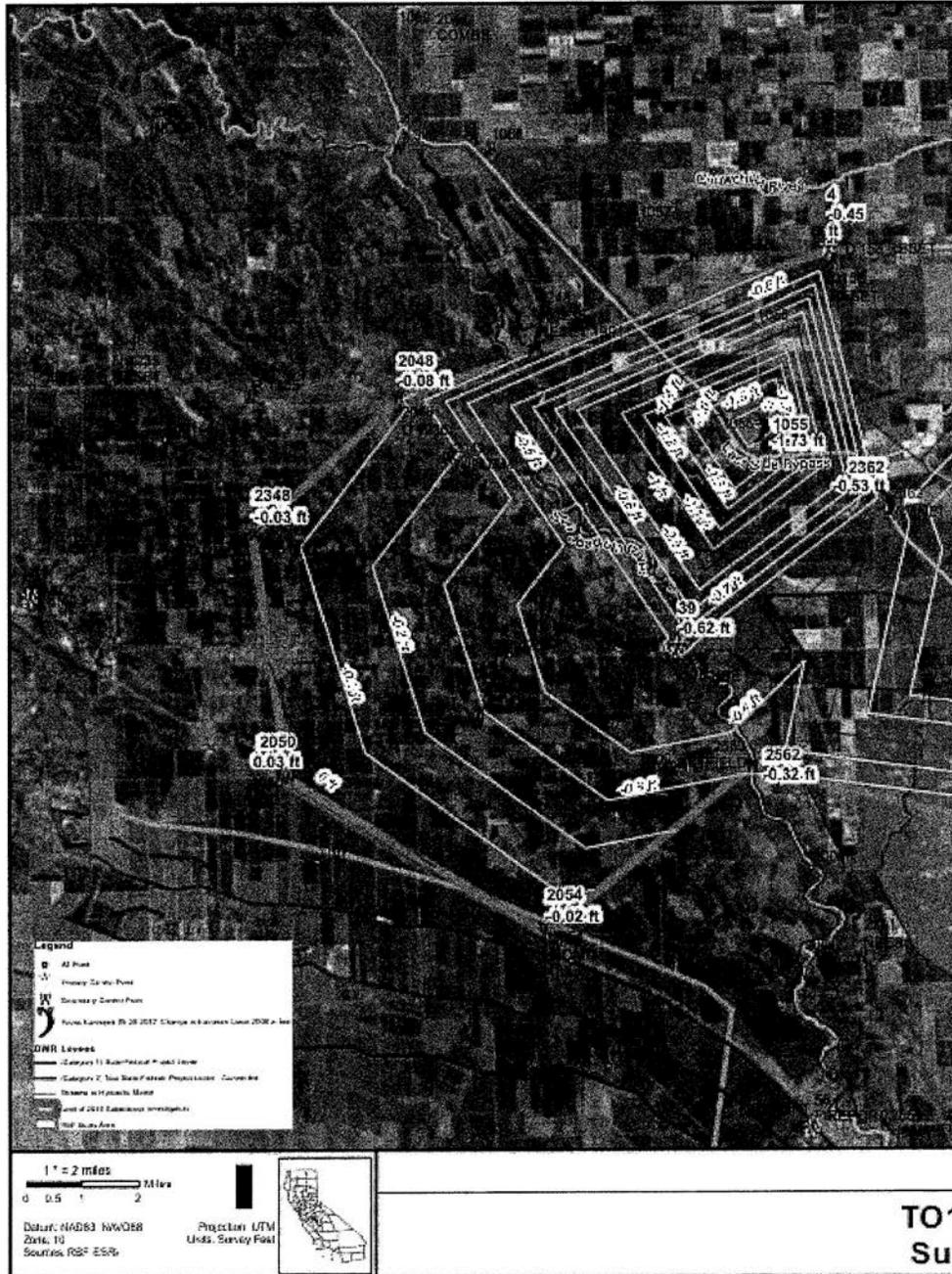
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STUDIES OF LAND SUBSIDENCE



Base from U.S. Geological Survey Central Valley map, 1:250,000, 1958

FIGURE 17.—Land subsidence, 1926-72, Los Banos-Kettleman City area. Compiled as sum of subsidence for 1926-69 (fig. 15) and for 1969-72 (fig. 18).





IN REPLY REFER TO:

MP-170  
LAW-1.00

United States Department of the Interior

BUREAU OF RECLAMATION  
Mid-Pacific Regional Office  
2800 Cottage Way  
Sacramento, California 95825-1898



SEP 01 2009

Mr. Steve Chedester  
Executive Director  
San Joaquin River Exchange  
Contractors Water Authority  
P.O. Box 2115, 541 H Street  
Los Banos, CA 93635

Subject: San Joaquin River Restoration Program - San Joaquin River Resources Management  
Coalition Concerns Regarding Interim Flows and Fish Screens at the Proposed Mendota  
Pool Bypass

Dear Mr. Chedester:

Thank you for coming to my office on August 27, 2009, to discuss specific concerns regarding the implementation of the Water Year (WY) 2010 Interim Flows Project as part of the San Joaquin River Restoration Program (Program). This letter is to respond to concerns that are highlighted in the briefing paper dated August 20, 2009, by the San Joaquin River Resource Management Coalition (RMC), which was the topic of discussion at our meeting.

The San Joaquin River Restoration Settlement Act (Act), included in Public Law 111-11, directs the Secretary of the Interior (Secretary) to implement the terms and conditions of the Stipulation of Settlement (Settlement) in *Natural Resources Defense Council, et al. v. Kirk Rodgers, et al.* The Act also contains several conditions that must be met during the implementation, including conditions that deal specifically with Interim Flows. The Bureau of Reclamation is committed to implementing the stipulations in the Settlement, and will do so in full compliance with all applicable State and Federal laws, including the Act. As described in this letter, it is our belief that we have been complying with and in no way have we been in violation of these laws.

Regarding Interim Flows specifically, the Settlement requires the Secretary to initiate Interim Flows no later than October 1, 2009, in order to "collect relevant data concerning flows, temperatures, fish needs, seepage losses, recirculation, recapture, and reuse." The Settlement also states that "...the Secretary agrees to undertake all reasonable measures to protect such rights to manage and control Restoration Flows and Interim Flows, including requesting necessary permit modifications and initiation of any appropriate enforcement proceedings to prevent unlawful diversions of or interference with Restoration Flows and Interim Flows." The Act has conditions as well regarding the Interim Flows, specifically as follows:

**(h) INTERIM FLOWS—**

- (1) **STUDY REQUIRED**—Prior to releasing any Interim Flows under the Settlement, the Secretary shall prepare an analysis in compliance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), including at a minimum—
- (A) an analysis of channel conveyance capacities and potential for levee or groundwater seepage;
  - (B) a description of the associated seepage monitoring program;
  - (C) an evaluation of—
    - (i) possible impacts associated with the release of Interim Flows; and
    - (ii) mitigation measures for those impacts that are determined to be significant;
  - (D) a description of the associated flow monitoring program; and
  - (E) an analysis of the likely Federal costs, if any, of any fish screens, fish bypass facilities, fish salvage facilities, and related operations on the San Joaquin River south of the confluence with the Merced River required under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.) as a result of the Interim Flows.
- (2) **CONDITIONS FOR RELEASE**—The Secretary is authorized to release Interim Flows to the extent that such flows would not—
- (A) impede or delay completion of the measures specified in Paragraph 11(a) of the Settlement; or
  - (B) exceed existing downstream channel capacities.
- (3) **SEEPAGE IMPACTS**—The Secretary shall reduce Interim Flows to the extent necessary to address any material adverse impacts to third parties from groundwater seepage caused by such flows that the Secretary identifies based on the monitoring program of the Secretary.

The requirements of the Settlement and Act and the RMC's concerns are addressed in more detail below.

**WY 2010 Interim Flow Environmental Assessment (EA)**

As described above, pursuant to Paragraph 15 of the Settlement, we are implementing an Interim Flows program to collect relevant data concerning flows, temperatures, fish needs, seepage losses, recirculation, and recapture and reuse. The Interim Flows program is to be initiated no later than October 1, 2009. In mid-2008, we began the planning and environmental compliance activities for the first year of Interim Flows, referred to as WY 2010 Interim Flows. At our December 2, 2008, meeting the Program Manager, Jason Phillips, shared our strategy for this first year of Interim Flows with the RMC and Exchange Contractors. Throughout early to mid 2009, we developed the WY 2010 Interim Flows project description and conducted the analysis for the WY 2010 Interim Flows EA. During this time, we regularly sought input from the RMC, Exchange Contractors, and local landowners on the project description and analysis in the EA via focused meetings, regularly scheduled landowner meetings, and monthly RMC meetings. The cooperation and information provided at these meetings has been very helpful to Reclamation. On June 3, 2009, we released a

joint EA/Initial Study with the California Department of Water Resources (DWR) for the project. The document describes the direct, indirect, and cumulative effects of the WY 2010 Interim Flows on the environment. The Draft EA was released for a 30-day public review period. Based on requests from the RMC and others, the 30-day review period was extended and comments were due on July 20, 2009.

The RMC has expressed three primary concerns regarding the WY 2010 Interim Flows EA. First, the RMC has expressed that the proposed 1-year Interim Flows action violates the National Environmental Policy Act (NEPA). We prepared the EA in accordance with the requirements of NEPA, conducted the appropriate analysis of impacts under NEPA, and followed the procedural requirements of NEPA. We feel that the 1-year action constitutes a complete project under NEPA because it is a demonstration project that has independent utility and provides useful information on flows, temperatures, fish needs, seepage losses, recirculation, and recapture and reuse conditions regardless of the future implementation of the Settlement. As such, we do not feel that the EA is in violation of NEPA.

Secondly, the RMC has expressed concerns that Reclamation has not met with the RMC to review their comments and will issue the Final EA regardless of the comments submitted. As required under NEPA, we are preparing responses to all comments received on the Draft EA, including the RMC's comments. The responses to comments and changes to the Draft EA will be included in the Final EA. The Final EA is scheduled to be released in mid-September, prior to the scheduled flow releases beginning on October 1. We will consider all comments received on the Draft EA when deciding to approve and carry out the Project. Additionally, we have scheduled a meeting with you for September 3 to discuss your comments.

Lastly, the RMC has expressed concerns that Reclamation has not complied with Section 10004(h)(1) of the Act, and specifically Sections 10004(h)(1)(B) and 10004(h)(1)(E) in preparing the EA. As described previously in this letter, Section 10004(h)(1)(B) of the Act requires a description of the seepage monitoring program for Interim Flows. The Interim Flows Seepage Management Plan (Plan) was included as Appendix D of the Draft EA. The Plan describes management objectives for groundwater and levee seepage, approaches for detecting seepage, monitoring conditions indicating that seepage management objectives have been attained, and potential actions that could be taken to address seepage before it impacts adjacent lands. As required by Section 10004(h)(3) of the Act, the Plan includes the reduction of Interim Flows to the extent necessary to address any material adverse impacts for groundwater seepage that the Secretary identifies based on the monitoring program of the Secretary.

Section 10004(h)(1)(E) of the Act requires an analysis of the Federal costs, if any, of fish screens, fish bypass facilities, fish salvage facilities required under the Endangered Species Act (ESA) as a result of Interim Flows. As described in Chapters 2 and 4 of the EA, the Hills Ferry Barrier (Barrier) will be installed by the California Department of Fish and Game (CDFG) during the fall flows and a monitoring plan will be developed prior to February 1, 2010, with the National Marine Fisheries Service (NMFS) to check for Central Valley steelhead during spring Interim Flows. These actions were also included as part of the WY 2010 Interim Flows Biological Assessment (BA). The BA finds that the WY 2010 Interim Flows may affect, but are not likely to adversely affect, special status fish species. We are seeking concurrence from NMFS on this finding, and

such concurrence or formal consultation is needed prior to releasing Interim Flows past the Merced River confluence. Although our BA has found that fish screens, fish bypass facilities, fish salvage facilities as a result of Interim Flows are not anticipated to be necessary at this time, if such facilities are determined to be necessary under the ESA, we will comply with the terms of the Act. Consistent with Section 10004(h)(4) of the Act, if it is determined that any unintended upstream migration of anadromous fish upstream of the Merced River confluence occurs and is caused by the Interim Flows, and such migration will result in regulatory action against third parties, the Secretary is authorized to assist CDFG with improving the Barrier. Additionally, if third parties are required to install fish screens or fish bypass facilities due to the release of Interim Flows in order to comply with the ESA, the Secretary shall bear the costs of the installation of such facilities except to the extent that such costs are willingly borne by the State of California or by the third parties.

#### Friant Dam Water Rights Petition

The RMC has expressed concerns that the water right permit change petition submitted by Reclamation for the WY 2010 Interim Flows violates the State Water Resources Control Board (State Board) rules and NEPA and will result in injury to downstream landowners and water users. The State Board has indicated that our petition is complete and has not indicated that its rules have been violated in any manner. Additionally, and as described previously in this letter, we have prepared a Draft EA for the project. As described in this EA, the WY 2010 Interim Flows were formulated in such a way to avoid impacts and material seepage damages to downstream landowners and water users, and impacts in the EA were determined to be less than significant. We have taken a very conservative approach to determining non-damaging flows for the WY 2010 Interim Flows and do not feel that the flows will result in injury to downstream landowners and water users.

The RMC also requests that the petition be withdrawn. As described previously in this letter, the Settlement requires that "... the Secretary agrees to undertake all reasonable measures to protect such rights to manage and control Restoration Flows and Interim Flows, including requesting necessary permit modifications ...." Withdrawing the petition would not be consistent with our requirements in the Settlement.

#### Facility Use Agreements

The RMC has expressed concerns that Reclamation must enter into agreements with facility owners in order to release WY 2010 Interim Flows and that these agreements do not exist nor have negotiations been started for these agreements. We are currently working with facility owners and operators on the San Joaquin River to understand the coordination needs and any additional resource requirements resulting from Interim Flows. The status of these discussions is provided below.

- Lower San Joaquin Levee District (Levee District) – Discussions with the Levee District began early this year and a financial assistance agreement addressing additional operations and maintenance needs by the Levee District as a result of the Interim Flows has been developed and is in process.

- San Luis-Delta Mendota Water Authority (SLDMWA) – We do not believe that a formal agreement for operations of the Delta-Mendota Canal is needed. To coordinate operations in the Mendota Pool, we have agreed to maintain frequent coordination on Friant Dam releases and flows below the Chowchilla Bifurcation Structure with SLDMWA during the Interim Flows period.
- Central California Irrigation District (CCID) – Technical discussions with CCID began in early 2009. At that time, CCID indicated that no major operational changes would result from the flows that we proposed. We believe that an understanding of frequent coordination, similar to that with SLDMWA, should be adequate and that there is no reason to believe impacts to Mendota Dam would occur. We will continue to work with CCID on this coordination plan and our technical understanding of coordination needs.
- San Luis Canal Company (SLCC) – Technical discussions with SLCC also began in early 2009. At that time, SLCC indicated that no major operations changes would result from the flows that we proposed, but that an agreement would be needed to address minor operational changes. In mid-August 2009, we re-initiated discussions with SLCC on the scope and content of such an agreement. Like CCID, we believe that an understanding of frequent coordination should be adequate and that there is no reason to believe impacts to Sack Dam would occur. We will continue to work with SLCC on this coordination plan and our technical understanding of coordination needs.

#### Fish Screens in the New Mendota Pool Bypass

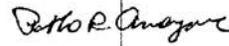
The RMC has requested that Reclamation take the position that we must provide a fish screen or fish diversion facility at the new Mendota Pool Bypass to protect the Exchange Contractors water rights. As we have described in previous letters to the Exchange Contractors, we have initiated preparation of the Mendota Pool Bypass and Reach 2B Channel Improvements Project Environmental Impact Statements/Environmental Impact Report (EIS/R). Based on our current analysis, we feel that it will be important to include a positive fish barrier in the design to reduce or avoid entrainment in the Mendota Pool and will evaluate this in the EIS/R. As described in pre-Settlement materials, the intent of the new Mendota Pool Bypass is to reduce fish entrainment in the Mendota Pool. We will continue to evaluate the need for a fish screen or other fish diversion facility at this location as part of the EIS/R and will commit to include such a facility as part of the project unless other measures can be taken to adequately reduce fish entrainment in the Mendota Pool.

In summary, we are confident that we have complied with Federal law and are in compliance with the Settlement with regard to the WY 2010 Interim Flows project. At this time, it is my understanding that the Settling Parties do not feel that there is a basis to modify the Settlement to limit the downstream extent of the flow to Mendota Pool. As such, we will proceed with the finalization of the WY 2010 Interim Flows EA, continue to pursue the required water right petition for the WY 2010 Interim Flows project, and will continue to plan on initiating Interim Flows

starting on October 1, 2009, routing these flows in a manner consistent with the Settlement, subject to permits, approvals, and agreements in place at that time.

I look forward to continuing to work with you as we move forward in implementing the restoration program. If you have any questions, please contact Jason Phillips at 916-978-5456 or [jphillips@usbr.gov](mailto:jphillips@usbr.gov).

Sincerely,



Donald R. Glaser  
Regional Director

FOR

Identical Letter Sent To:

Ms. Mari Martin  
Chair, San Joaquin River Resource  
Management Coalition  
P.O. Box 2115  
Los Banos, CA 93635

cc: Honorable Dianne Feinstein  
United States Senate  
Washington, DC 20515

Honorable George Radanovich  
House of Representatives  
Washington, DC 20515

Honorable Jim Costa  
House of Representatives  
Washington, DC 20515

Honorable Barbara Boxer  
United States Senate  
Washington, DC 20515

Honorable Dennis Cardoza  
House of Representatives  
Washington, DC 20515

Continued on next page

## **II.6.2 Responses to Duane Morris LLP (on behalf of the Exchange Contractors)**

### ***Response to Comment O-EC-1***

Your comments and the attachments to your comment letter have been reviewed and considered in preparation of the Final EIS/R.

### ***Response to Comment O-EC-2***

Thank you for your comment. Stakeholder involvement is an important component of the SJRRP and this Project. Reclamation appreciates all of the assistance that the Exchange Contractors have provided throughout the years for this Project and for the overall SJRRP. Specifically, Reclamation has held over 14 landowner meetings, inviting all potentially impacted landowners and stakeholders. For the vast majority of these meetings, the Exchange Contractors have provided assistance in reaching out to landowners, setting meeting dates that work for the majority of the group, distributing information, and providing meeting locations free of charge. Reclamation has also held dozens of one-on-one meetings, and has conducted dozens of tours, site visits, and field data collection efforts as part of this Project. The Exchange Contractors, with special emphasis on Columbia Canal Company and Randy Houk, have been invaluable in all of these efforts. Thank you for your time and efforts in helping Reclamation and CSLC develop a preferred alternative that both meets the Project needs and works for those most impacted by the Project along with our environmental stakeholders.

### ***Response to Comment O-EC-3***

The SJRRP's funding sources and funding outlook are described in detail in the Revised Framework (SJRRP 2015). As described in the Revised Framework, Reclamation has a variety of funding sources available to it for implementation of the SJRRP. These include the San Joaquin River Restoration Fund, Federal appropriations, the Central Valley Project Restoration Fund, and State Funds. The SJRRP is also looking for other opportunistic funding sources, such as grants and costs-shares (see Appendix E of the Revised Framework). However, as identified in the Revised Framework, even with these funding sources, a \$390 million shortfall for the Federal government and an approximately equal shortfall for the State government have been identified for implementation of the SJRRP. It is important to note that the SJRRP is comprised of a series of smaller projects, such as the Mendota Pool Bypass, Reach 2B channel and levee improvements, the Arroyo Canal Fish Screen and Sack Dam Fish Passage actions, seepage projects, levee stability projects, the Reach 4B actions, and Water Management Goal actions. While there is a funding challenge to implement the entire SJRRP, there is sufficient funding available to implement a series of actions.

Recognizing the funding challenges of the SJRRP, the Revised Framework seeks to prioritize individual SJRRP projects in way that adds value and meets Reclamation's obligations in implementing the Settlement and Settlement Act over time. The projects that have the greatest value and work to achieve the greatest benefit to implementing the Settlement and Settlement Act are given a higher priority for funding and are scheduled to be implemented early in the Program, when funding is more secure. The Revised Framework also seeks to prioritize projects that would add value to the San Joaquin River

and the San Joaquin Valley regardless of the overall implementation of the SJRRP. Said another way, the Revised Framework prioritizes projects in a way that there are no stranded assets. If no more funding becomes available to complete the entire SJRRP, the Revised Framework prioritizes projects that add value and work to meet Reclamation's obligations in the Settlement and Settlement Act as best as possible.

Fundamental to Reclamation's obligations in the Settlement and Settlement Act are the release of Restoration Flows from Friant Dam and the conveyance of those flows to the Merced River along with the reintroduction of spring-run and fall-run Chinook salmon. With regard to the Restoration Goal, the Revised Framework prioritizes those projects that are key to conveying as close to Full Restoration flows as soon as possible to the Merced River and reintroducing salmon. To this effect, the Revised Framework prioritizes the following projects to achieve the following goals:

- Mendota Pool Bypass, Sack Dam improvements, and fish passage improvements in the Eastside Bypass, as these actions allow for unimpeded fish passage;
- Reach 2B levee setbacks, along with seepage and levee stability projects to achieve 2,500 cfs capacity from Friant Dam to the Merced River confluence, to provide flows for salmon at a rate that the SJRRP generally believes it can obtain suitable water temperatures for salmon in most years; and
- Arroyo Canal fish screen, to reduce fish entrainment in the Arroyo Canal.

As described in the Construction Funding Appendix (Appendix C) of the Revised Framework, the SJRRP expects to have funds to build all of the projects identified above with funds from the San Joaquin River Restoration Fund, appropriated funds allocated to the SJRRP, and State funds. In this way, Reclamation is working to be thoughtful and careful in incrementally implementing its obligations in the Settlement and Settlement Act while not resulting in stranded assets due to limited funding. See also MCR-5: Project Funding. Also note that the additional \$60 million in funding identified in July 2015 was due to an oddity of federal appropriations accounting, has since been reversed and is no longer available.

***Response to Comment O-EC-4***

Reclamation agrees that the Mendota Bypass and Reach 2B Improvements Project is an essential step towards implementation of the SJRRP. See response to comment O-EC-3 for more information on how Reclamation is prioritizing projects to incrementally implement its obligations in the Settlement and Settlement Act. Factors such as habitat sufficiency, water temperatures, and predation are being considered in Project development, to the extent feasible, based on Reclamation analyses, Technical Advisory Committee reports, and Restoration Administrator recommendations, and Implementing Agency input.

***Response to Comment O-EC-5***

The level of detail provided in the Draft EIS/R and this Final EIS/R is sufficient to analyze the environmental impacts of the entire Project at a project-level of detail under NEPA and CEQA. The EIS/R represents a 15 to 30 percent level of design for the

Project. This is consistent with both CEQA and NEPA, in which the environmental analysis process occurs before completion of final design. Section 1501.2 of the CEQ's regulations implementing NEPA states that "[a]gencies shall integrate the NEPA process with other planning at the earliest possible time to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts" (40 CFR 1501.2). Similarly, State CEQA Guidelines section 15004 indicates that environmental analysis "should be prepared as early as feasible in the planning process to enable environmental considerations to influence project program and design and yet late enough to provide meaningful information for environmental assessment." As provided in State CEQA Guidelines section 15146, the level of detail in the environmental analysis is to "correspond to the degree of specificity involved in the underlying activity which is described in the EIR." This EIS/R is based on the level of engineering and planning currently available and is adequate to identify potential environmental impacts of the alternatives and identify appropriate mitigation measures.

Section 2.2 of this EIS/R describes the Project alternatives, the facilities associated with each of the alternatives, and the general operations of those facilities. For example, the description of each alternative includes a discussion of the structures and channels needed to convey flows and to allow unimpeded fish passage in the river, as well as a discussion of how water would be delivered to Mendota Pool. Section 2.2.4 of this EIS/R provides additional detail on elements common to all alternatives. While the level of design and operational details required for an operations plan are not available at this time, Reclamation would continue to coordinate with and seek input from stakeholders, such as the Exchange Contractors, as it has done in the past, throughout the final design process to ensure continued operations of all water supply and flood control facilities during and after construction. See also MCR-4: Project Design and Operations.

Tracking funds is outside of the scope of the EIS/R. However, as part of the PEIS/R ROD (Reclamation 2012), Reclamation committed to development of an Annual Work Plan that tracks obligations and expenditures of the entire SJRRP. This commitment includes review of the Annual Work Plan by the Exchange Contractors, which Reclamation has completed each year since signing the ROD. In addition, as part of the Revised Framework, the Implementing Agencies have committed to Quarterly Budget and Schedule meetings that include quarterly expenditures and schedule tracking for the entire SJRRP, including this Project. These SJRRP-wide actions, which are completely open to the public, are the appropriate mechanisms to track obligations and expenditures of the entire SJRRP.

See response to comment O-EC-3 and MCR-5: Project Funding for more information on how Reclamation is prioritizing projects to incrementally implement its obligations in the Settlement and Settlement Act and prevent stranded assets.

***Response to Comment O-EC-6***

Reclamation has completed an extensive analysis, based on the best available information, of the potential loss of fish to the Mendota Pool. This information is important, as the whole purpose of the Mendota Pool Bypass is to reduce fish entrainment in the Mendota Pool to better meet the Restoration Goal. Said another way,

the SJRRP does not want to lose so many fish in the Mendota Pool such that it compromises the Program's ability to meet the Restoration Goal.

There are two primary scenarios where water from the San Joaquin River would flow into Mendota Pool after construction of the Mendota Pool Bypass. One is when flood flows are released from Friant Dam, either to improve the storage potential of Millerton Lake to retain floods or when the reservoir is spilling water. Under this condition, water is diverted into Mendota Pool to be used by the Exchange Contractors. The second scenario occurs when water is released from Friant Dam with the express purpose of supplying water to the Exchange Contractors in fulfillment of Exchange Contract. The entrainment analysis includes both flood deliveries and calls on Friant to satisfy the Exchange Contract, and includes a higher frequency of calls on Friant than has historically occurred through 2015.

Reclamation has determined that the number of juvenile fall-run and spring-run Chinook salmon that would be lost to Mendota Pool without a fish screen is not within the range that is acceptable to the SJRRP. The number of juveniles expected to be entrained in Mendota Pool is small (on average approximately 6 to 7 percent of the annual population) when considered over a variety of water year types, but could include multiple years in a row with more than 20 percent of the annual population of juveniles entrained in Mendota Pool. The greatest entrainment is expected to occur during flood releases in February and March. Calls on Friant to satisfy the Exchange Contract in late spring and/or early summer months would have minimal impact to juvenile fall-run and spring-run Chinook salmon because these fish are expected to emigrate out of the area prior to mid-May.

Reclamation and the CSLC analyzed and disclosed the potential impacts of constructing and operating the Mendota Pool Fish Screen in the Draft EIS/R to allow the flexibility to construct and operate the feature, should the agencies determine it is needed as part of the overall Project in support of the Restoration Goal. Based on the detailed technical analysis performed by Reclamation (provided in Part VI – Appendices to the Responses), the SJRRP has determined that it is appropriate to include construction and operation of the Mendota Pool Fish Screen in the preferred alternative. The purpose of this change is to disclose the increased likelihood that the SJRRP could include this feature in the selected alternative for the Project. A final decision on the selected alternative for the Project will be made in the ROD/NOD, following public review of the Final EIS/R. See MCR-1: Mendota Pool Fish Screen.

The commentor identifies that Reclamation “promised” a fish screen in a letter from the Regional Director to the Exchange Contractors dated September 1, 2009. That letter states (emphasis added):

*The RMC has requested that Reclamation take the position that we must provide a fish screen or fish diversion facility at the new Mendota Pool Bypass to protect the Exchange Contractors water rights. As we have described in previous letters to the Exchange Contractors, we have initiated preparation of the Mendota Pool Bypass and Reach 2B*

*Channel Improvements Project Environmental Impact Statements/Environmental Impact Report (EIS/R). Based on our current analysis, we feel that it will be important to include a positive fish barrier in the design to reduce or avoid entrainment in the Mendota Pool and will evaluate this in the EIS/R. As described in pre-Settlement materials, the intent of the new Mendota Pool Bypass is to reduce fish entrainment in the Mendota Pool. We will continue to evaluate the need for a fish screen or other fish diversion facility at this location as part of the EIS/R and will commit to include such a facility as part of the project unless other measures can be taken to adequately reduce fish entrainment in the Mendota Pool.*

Reclamation has upheld the commitments it made in this September 1, 2009, letter to you. Looking at each one of these components individually:

- *Based on our current analysis, we feel that it will be important to include a positive fish barrier in the design to reduce or avoid entrainment in the Mendota Pool and will evaluate this in the EIS/R.* – In this sentence, Reclamation committed to including an evaluation of a fish screen in the design and EIS/R. We have upheld this commitment in that the Draft EIS/R includes a fish screen in Alternatives A, C, and D and includes the Mendota Pool Fish Screen in Alternative B, if determined necessary. (The conditional language used in Alternative B that indicates that the Mendota Pool Fish Screen would be built “if determined necessary” has been deleted in the Final EIS/R to disclose the increased likelihood that the SJRRP could include this feature in the selected alternative for the Project.)
- *As described in pre-Settlement materials, the intent of the new Mendota Pool Bypass is to reduce fish entrainment in the Mendota Pool.* – Much speculation has existed as to how many fish would be lost in the Mendota Pool absent a fish screen. As described in MCR-1: Mendota Pool Fish Screen, Reclamation has completed an extensive analysis, based on the best available information, of the potential loss of fish in the Mendota Pool. This information is important as the whole purpose of the Mendota Pool Bypass is to reduce fish entrainment in the Mendota Pool to better meet the Restoration Goal. Said another way, the SJRRP does not want to lose so many fish in the Mendota Pool such that it compromises the Program’s ability to meet the Restoration Goal. That would be counterproductive. Reclamation has fulfilled this commitment in that we have completed additional analysis to determine the potential loss of fish in Mendota Pool absent the fish screen.
- *We will continue to evaluate the need for a fish screen or other fish diversion facility at this location as part of the EIS/R and will commit to include such a facility as part of the project unless other measures can be taken to adequately reduce fish entrainment in the Mendota Pool.* – As described above, Reclamation has continued to evaluate the need for a fish screen by both including one in the Draft EIS/R for Alternatives A, C, and D and including one in Alternative B, if determined necessary, and by completing the separate analysis described in MCR-

1: Mendota Pool Fish Screen. As described in MCR-1: Mendota Pool Fish Screen, the SJRRP has determined in that the number of fish lost in Mendota Pool is not within an acceptable range and therefore has determined that it is appropriate to include construction and operation of the Mendota Pool Fish Screen in the preferred alternative.

Reclamation's letter never commits to building the fish screen, it merely commits to continuing to evaluate it. A letter from Reclamation, in itself, cannot commit Reclamation to constructing the fish screen. This commitment can only be made after appropriate NEPA review in a ROD. A final decision on the selected alternative for the Project will be made in the ROD/NOD, following public review of the Final EIS/R.

***Response to Comment O-EC-7***

The SJRRP Implementing Agencies agree that subsidence is a major issue and are taking a variety of actions to account for subsidence in implementation of the SJRRP. In 2011, Reclamation established the SJRRP Geodetic Control Network, using static GPS methods, to investigate subsidence within the Restoration Area. Reclamation conducts bi-annual surveys, in July and December, of the established network to monitor the rate of subsidence over time. The network is made up of National Geodetic Survey, Reclamation, USGS, California Department of Transportation, and DWR benchmarks. Each of the 85 control point elevations are updated after each survey and are used by the SJRRP to study subsidence, as well as to provide accurate horizontal and vertical controls for other studies. After each survey, Reclamation prepares exhibit maps that compare the most recent data with the data from the previous survey and with data from prior years. The exhibit maps provide an overall picture of the subsidence within the Restoration Area. Annual subsidence rates have varied with time, but in general, subsidence trends appear to have either remained constant, or in some areas increase in the Restoration Area, since the start of the surveys. Subsidence rates range from about 0.15 foot per year to 0.75 foot per year in the Restoration Area, as calculated from survey data collected between December 2011 and December 2015 (SJRRP 2016a, Reclamation 2016).

Reclamation and DWR have also performed subsidence monitoring along the Flood Control Project levees to help further refine the estimated annual subsidence rates along the levees of the flood bypasses. Beginning in May 2012, Reclamation began monitoring the Arroyo and Temple-Santa Rita Canals to clarify localized subsidence near Sack Dam. To accomplish this, two precise leveling networks were established – Arroyo Canal starting at Sack Dam running approximately 6 miles westerly and the Temple-Santa Rita Canal starting at Check Structure 1 on the Arroyo Canal running approximately 11 miles northerly. These level networks were surveyed monthly for just over a year. In 2012 and later in 2013, DWR collected topographic ground elevations to help further refine the estimated annual rates in the lower 3 miles of Reach 2A, the Chowchilla Bypass (from the Chowchilla Bifurcation Structure to its confluence with the Fresno River), the Upper Eastside Bypass (from its confluence with the Fresno River to the Sand Slough Connector), the Middle Eastside Bypass (from the Sand Slough Connector to the Eastside Bypass Control Structure), and the Mariposa Bypass. In addition to the above surveys, DWR also completed surveys in 2013 and 2014 of the levee and channel in the lower portion of Reach 3, Reach 4A, and the Middle Eastside Bypass (SJRRP 2014b).

Subsidence rates in the Project area range from about 0 to 0.3 foot per year, as calculated from survey data collected between December 2011 and December 2015 (Reclamation 2016). Subsidence rates vary annually, with higher rates occurring during critical dry conditions when the river is dry and when groundwater pumping is likely to increase. For example, average subsidence rates in the Project area were 0.15 to 0.3 foot per year in 2015 during critical dry conditions.

As discussed in Section 2.2.4 of this EIS/R, causes of the observed subsidence, data from previously conducted studies, subsidence locations expected to require special design considerations, anticipated subsidence rates, and methods to mitigate the anticipated ground subsidence would be identified during the design process and incorporated into the design. As described during the November 18, 2015, design briefing for landowners and stakeholders in the Reach 2B area, Reclamation is designing new Reach 2B levees and water control structures, such as the Mendota Pool Control Structure and the Compact Bypass Control Structure, to account for 5 feet of subsidence. This is equivalent to the current rate of subsidence for 25 years. This design criterion is considered conservative, because in 2040 (25 years from now) the Sustainable Groundwater Management Act will have required Groundwater Sustainability Agencies to reach sustainable levels of groundwater withdrawal in critically-overdrafted State groundwater basins. This presumably means that subsidence will have stopped in the Project area by 2040. The Project area is in a critically-overdrafted basin. Methods to account for this anticipated ground subsidence in the Project design include additional freeboard on levees, additional height of control structures and intake facilities, and additional stoplogs or concrete walls to maintain the same low flow elevation after years of subsidence on control structures. See also MCR-3: Subsidence.

As described in this EIS/R, the Project would construct set-back levees and expand the floodplain in Reach 2B. This would increase infiltration from river flows, recharging the shallow groundwater, a beneficial effect with respect to groundwater overdraft and subsidence. Chapter 11, "Geology and Soils," Chapter 13, "Hydrology – Groundwater," and Chapter 14, "Surface Water Resources and Water Quality," of the Draft EIS/R cite a USGS study that was prepared in cooperation with Reclamation and the San Luis and Delta-Mendota Water Authority (Sneed et al. 2013) as a source of information regarding Valley-wide subsidence effects and local effects near Mendota Dam. Additional data compiled by Reclamation for recent subsidence rates in the SJRRP Restoration Area are included in Sections 11.1.7, 13.1.1, and 13.1.2 of the Final EIS/R. These data provide additional information regarding existing conditions in areas downstream of the Project area. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment O-EC-8***

Sections 1.6.2 and 1.6.3 of this EIS/R first introduce Mendota Pool operations, describing the various inflows and outflows from Mendota Pool and the basic flow scenarios involving water deliveries and flood management. Chapter 14 of this EIS/R provides more detail, describing the limited storage capacity of the Pool and the limited operating elevations. The release of Restoration Flows is a Program-related activity analyzed in the

PEIS/R. Overall SJRRP activities are outside of the scope of this Project. Therefore, releasing Restoration Flows is not re-analyzed in this EIS/R as a Project impact.

The Action Alternatives would remove a portion of the San Joaquin River arm of Mendota Pool upstream of the Compact Bypass or Fresno Slough Dam. The transient storage capacity of Mendota Pool is estimated to be between 290 and 1,460 acre-feet, corresponding to the top 0.2 and 1.0 foot of the Pool, respectively. The reduction in transient storage capacity is estimated to be between 33 and 164 acre-feet for the Compact Bypass alternatives and between 46 and 230 acre-feet for the Fresno Slough Dam alternatives. This represents a reduction of approximately 11 to 16 percent of the transient storage capacity of the Pool (DWR 2012b). Fluctuations in transient storage depth are expected to be within historical fluctuations found during wet, normal-wet, and normal-dry water years. The historical overall annual range can vary from greater than 2.0 feet (wet water year), 0.7 foot (normal wet water year), and 0.5 foot (normal dry water year). In addition, six SCADA (supervisory control and data acquisition) gates were recently installed at Mendota Dam. Knowledge of Mendota Pool operations, in combination with the new SCADA system partially funded by the SJRRP, will be used to assure that the Pool is operated in a manner similar to the way it has always been operated. This information is clarified in Section 23.3.3 of the Final EIS/R.

***Response to Comment O-EC-9***

Although the implementing agencies responsible for the SJRRP are Reclamation, USFWS, NMFS, DWR, and DFW, Reclamation has taken the lead role in development and implementation of the Project. Reclamation is currently working on the Project design and is responsible for Project construction. It was originally anticipated that DWR would be a construction partner for the Project, but this could not be realized due to State funding constraints. As described in the Revised Framework (SJRRP 2015; Tables 4-10 and 5-11), all of the costs for the Mendota Pool Bypass in the Five Year Vision and all of the costs for the Reach 2B levee expansion in the Ten Year Vision are Federal costs. DWR is responsible for levee stability projects in reaches other than Reach 2B and 4B – where the Channel Capacity Report identifies existing levees as not able to pass Restoration Flows while meeting Corps criteria. If additional State funds become available, DWR may undertake the fish passage improvements to the San Joaquin River Structure at the Chowchilla Bifurcation Structure. Although DWR would continue to have a lead role in SJRRP implementation, including levee stability in downstream reaches, DWR does not have the principal responsibility for Project implementation in Reach 2B, nor does it have responsibility for permit issuance for the Project.

CSLC is a State land-owning agency with discretionary approval for permit issuance in the Project area in areas of sovereign lands. (CSLC is not a construction partner.) CSLC became the CEQA lead agency because of this Project-specific relationship.

This information was clarified in Section 27.2.2 of the Final EIS/R.

***Response to Comment O-EC-10***

The Implementing Agencies have been open and clear that the original schedule in the Settlement for implementation of Paragraph 11(a) and 11(b) projects can no longer be

achieved. As the schedule has not worked out as originally planned, the Implementing Agencies have worked to determine the obligations in the Settlement and Settlement Act based on the process of statutory interpretation and construction. This process resulted in the Revised Framework.

The release of Restoration Flows, the reintroduction of salmon, and the overall implementation of Paragraph 11(a) and 11(b) projects in areas outside of the Mendota Bypass and Reach 2B improvements area are Program-related activities analyzed in the PEIS/R. Overall SJRRP activities are outside of the scope of this Project and therefore, these activities are not re-analyzed in this EIS/R.

Although the Project and many Program-related activities have been delayed, this delay does not in itself require recirculation of the environmental compliance documentation for this EIS/R or for the PEIS/R. Supplemental environmental compliance documentation would be required if substantial changes were made to alternatives that are relevant to environmental concerns or significant new circumstances or information relevant to environmental concerns arise that have a bearing on the proposed action (40 CFR 1502.9(c); State CEQA Guidelines, § 15162). Delayed implementation does not, in itself, substantially change selected alternatives or provide new information that would warrant supplemental environmental compliance documentation.

This EIS/R describes a range of existing conditions, including those associated with pre-Interim flows (consistent with the timing of the July 2009 Notice of Preparation) and those that reflect the Restoration Flows as they exist now. The EIS/R also analyzes a No-Action Alternative which describes conditions that are predicted to exist in the Project area, if the Project is not implemented. The No-Action Alternative assumes that other components of the SJRRP selected alternative, as described in the SJRRP ROD, and other reasonably foreseeable actions expected to occur in the Project area consistent with current management direction, would be implemented. Therefore, the No-Action Alternative generally assumes that flows and fish are present in the system, but no channel or structural improvements would be made in Reach 2B. Restoration Flows would also be reduced to the then-existing channel capacity in the river system.

***Response to Comment O-EC-11***

This comment refers to the September 1, 2009 letter from the Reclamation Regional Director to the Exchange Contractor and raises issues that are substantially similar to comment O-EC-6. Refer to response to comment O-EC-6 for a response to these issues.

This comment also identifies that at the time of preparation of the PEIS/R and the drafting of the September 1, 2009 letter, it was anticipated that flows to the Mendota Pool would only occur during flood years. This is not entirely correct. At the time of preparation of the PEIS/R, Reclamation was well aware that flows into the Mendota Pool could result from both flood flows as well as a delivery of water under the Exchange Contract via the San Joaquin River. This was reflected in the Settlement itself, which calls for “a structure capable of directing flow down the bypass and allowing the Secretary of the Interior to make deliveries of San Joaquin River water into the Mendota Pool when necessary.” However, at that time, the delivery of water under the Exchange

Contract via the San Joaquin River had never occurred. While the frequency of occurrence of deliveries under the Exchange Contract via the San Joaquin River is speculative at this time, Reclamation has attempted to account for this potential in the analysis in MCR-1: Mendota Pool Fish Screen by simulating deliveries to Mendota Pool beginning May 15 and July 15 for Critical–Low and Critical–High water years, respectively. In general and as described in MCR-1: Mendota Pool Fish Screen, juvenile salmon are expected to emigrate out of the area prior to mid-May and therefore the entrainment of juvenile fall-run and spring-run Chinook salmon due to May and June flows for the Exchange Contractors is very small. In one out of every 20 years, less than 2 percent of the annual population would be entrained by these deliveries (Part VI – Appendices to the Responses).

The commenter identifies that there may be the loss of 20 to 40 percent of the reintroduced spring-run Chinook salmon in the Mendota Pool. However, this information is not supported by evidence or facts and it is unclear how these estimates were developed.

As discussed in response to comment O-EC-6, Reclamation has determined that the number of juvenile fall-run and spring-run Chinook salmon that would be lost to Mendota Pool without a fish screen is not within the range that is acceptable to the SJRRP. The number of juveniles expected to be entrained in Mendota Pool is small (on average approximately 6 to 7 percent of the annual population) when considered over a variety of water year types, but could include multiple years in a row with more than 20 percent of the annual population of juveniles entrained in Mendota Pool. The greatest entrainment is expected to occur during flood releases in February and March.

Reclamation and the CSLC analyzed and disclosed the potential impacts of constructing and operating the Mendota Pool Fish Screen in the Draft EIS/R to allow the flexibility to construct and operate the feature, should the agencies determine it is needed as part of the overall Project in support of the Restoration Goal. Based on the detailed technical analysis performed by Reclamation (provided in Part VI – Appendices to the Responses), the SJRRP has determined that it is appropriate to include construction and operation of the Mendota Pool Fish Screen in the preferred alternative. The purpose of this change is to disclose the increased likelihood that the SJRRP could include this feature in the selected alternative for the Project. A final decision on the selected alternative for the Project will be made in the ROD/NOD, following public review of the Final EIS/R. See MCR-1: Mendota Pool Fish Screen.

#### ***Response to Comment O-EC-12***

Seepage projects and levee stability projects have been identified in the Restoration Area where potential seepage impacts or levee stability would otherwise cause a constraint in Restoration Flows. As described in the PEIS/R (and in Section 2.2.10 of this EIS/R), Restoration Flows would be maintained at or below estimates of the then-existing channel capacity for the reaches that convey the flow. Because the reaches are connected, flows through Reach 2B would be less than 4,500 cfs until downstream seepage and levee stability projects are completed and Reclamation, in compliance with the commitments it made in the PEIS/R ROD (Reclamation 2012) and consistent with the

requirements in its water rights order, has determined that the non-damaging channel capacity is 4,500 cfs. Said another way, flows would not increase in the river reaches until Reclamation, through the seepage management efforts and through the channel capacity report process, determines that such flows would not damage adjacent landowners or impact levee stability. See MCR-6: Flood Management Considerations and O&M Costs for additional detail on the SJRRP's commitment to maintain flows below then-existing channel capacities.

As discussed in the Revised Framework, the Five Year Vision (FY 2015 to 2019) includes completion of seepage and levee stability projects in the river reaches to allow for flow up 1,300 cfs, the Ten Year Vision (FY 2020 to 2024) includes completion of seepage and levee stability projects to 2,500 cfs and increasing channel capacity in all other reaches to 2,500 cfs, and the Fifteen Year Vision (FY 2025 to 2029) includes completion of seepage and levee stability projects to 4,500 cfs and increasing channel capacity in all reaches to 4,500 cfs. Minimizing seepage damage in downstream reaches will be addressed through these seepage projects. (See also MCR-2: Seepage Management.)

Corrections have been made on page ES-11 to indicate that screening would occur, if appropriate. This clarifying correction in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

### ***Response to Comment O-EC-13***

The Revised Framework provides an analysis of budget and schedule for the SJRRP projects, including the Project. As described in that document, and in Section 2.2.4 of the EIS/R, the Project would be phased over the Five Year Vision (FY 2015 to 2019) and Ten Year Vision (FY 2020 to 2024), with the Mendota Pool Bypass portion of the Project being built prior to the Reach 2B channel improvements. This phasing is consistent with the analysis in the EIS/R, where the overall construction schedule was estimated to be 10 to 13 years.

As described in the Construction Funding Appendix (Appendix C) of the Revised Framework, the SJRRP expects to have funds to build the Project with funds from the San Joaquin River Restoration Fund and appropriated funds allocated to the SJRRP. In this way, Reclamation is working to be thoughtful and careful, and working to incrementally implement its obligations in the Settlement and Settlement Act while not resulting in stranded assets due to limited funding. See response to comment O-EC-3 for more information on overall SJRRP funding and prioritization of SJRRP projects. How the construction schedule for the Project would affect other SJRRP projects and the timetable for completion of all of the SJRRP improvements is outside of the scope of this EIS/R and is addressed in the Revised Framework and the PEIS/R.

It is important to clarify that when the EIS/R uses the term phasing, it is specifying that the construction is necessarily being scheduled over time to be realistic and achievable. It would be incredibly challenging to construct a project of this magnitude all at one time both from an environmental impact standpoint and from a logistical standpoint. The amount of activity, workers, equipment, and disturbance to the local communities would

be tremendous to construct the project all at once. In addition, and to minimize disturbances, environmental impacts, and control costs, some activities need to occur prior to others. For example, the excavation of the Mendota Pool Bypass needs to occur early in the Project construction sequencing as the materials excavated are anticipated to be used as levee materials for the Reach 2B levees. The EIS/R uses the word phasing when referring to the sequence in which the actual Project components would be constructed. Construction considerations were included in the description of the Project alternatives (Sections 2.2.5 through 2.2.8 of this EIS/R). Construction impacts to fisheries, water supply, land use, flood management, and other resource areas, including those that could occur for multiple years are discussed in Chapters 4 through 24 of this EIS/R.

As described in Chapter 5 of this EIS/R, there are several impediments to upstream and downstream fish passage under existing conditions. As the Project is built, fish would encounter fewer of these obstacles. For example, once the Mendota Pool Bypass and associated fish ladders are complete, upmigrating fish would be able to pass by Mendota Dam. In-channel construction could also affect fish passage (see Impact AQUA-5), however, construction actions would be designed and implemented in such a way as to allow fish passage to continue in the channel or in the completed portions of structures while other portions are built.

**Response to Comment O-EC-14**

Table 5-2b of the Revised Framework identifies an O&M budget of \$200,000 a year for the Mendota Pool Bypass starting in FY 2020, after construction has completed in FY 2019. Table 5-2b assigns this cost to the Federal government (Reclamation). In addition, Table 6-2b of the Revised Framework identifies an O&M budget of \$200,000 a year for the Reach 2B Improvements starting in FY 2026, after construction has completed in FY 2025. Table 6-2b assigns this cost to the Federal government (Reclamation). These O&M costs are included until FY 2029, which is the end of the planning horizon for the Revised Framework. In addition, the SJRRP has committed to long-term O&M activities to be implemented in the SJRRP Restoration Area that could contribute to actions in the Mendota Pool Bypass and Reach 2B area. These activities including invasive species management (\$300,000 per year) and vegetation management (\$200,000 per year), both funded through FY 2029 in the Revised Framework (again, the end of the planning horizon in the Revised Framework). Although the budget has not been developed beyond FY 2029, funding for Project O&M activities is intended to continue for the life of the Project. For additional information on SJRRP funding, see MCR-5: Project Funding.

**Response to Comment O-EC-15**

It is unclear what levees the commenter is referring to here. The term then-existing channel capacity is a term used by the SJRRP in determining channel capacity in the existing reaches of the river. It is unclear if the commenter is referring to the Project levees or levees upstream and downstream of the Project area. Both are addressed here to be responsive to the comment.

As discussed in Section 2.2.4 of this EIS/R, seepage control measures would be included, as necessary, in the Project area where seepage is likely to affect adjacent land uses (*i.e.*,

where native soils do not provide sufficient control for under-seepage). These measures are included in the levee design in the Action Alternatives. Project levees would be designed to the current levee design standards available from the Corps, the expert on levee design. As described in Sections 2.2.4 and 2.2.11 of the EIS/R, levee design would be based on the Corps' Engineer Manual 1110-2-1913, *Design and Construction of Levees* (Corps 2000a), Engineer Manual 1110-2-1902, *Slope Stability* (Corps 2003), Engineering Technical Letter 1110-2-569, *Design Guidance for Levee Underseepage* (Corps 2005), and Engineer Technical Letter 1110-2-583, *Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams and Appurtenant Structures* (Corps 2014). These design standards require that the levees be designed using a slope stability Factor of Safety and an underseepage Factor of Safety (described below). These design factors would minimize the potential for the Project levees to fail. The Mendota Pool Bypass and Reach 2B levees would be designed to a capacity of 4,500 cfs with 3 feet of freeboard.

The approach to determining then-existing channel capacity in the existing reaches of the river is extensive and is described in detail in the PEIS/R ROD from Page 9 to 15 (Reclamation 2012) and summarized in MCR-6: Flood Management Considerations and O&M Costs in this Final EIS/R. In summary, throughout Settlement implementation, the maximum downstream extent and rate of Restoration Flows to be released would be maintained at or below then-existing channel capacities. Then-existing channel capacities within the Restoration Area correspond to flows that would not significantly increase flood risk from Restoration Flows in the Restoration Area.

The levee design criteria developed by the Corps and presented in *Design and Construction of Levees* (Engineer Manual 1110-2-1913) (Corps 2000a), *Slope Stability* (Engineer Manual 1110-2-1902) (Corps 2003), and *Design Guidance for Levee Underseepage* (Engineering Technical Letter 1110-2-569) (Corps 2005) would be applied throughout the Restoration Area to identify the Restoration Flows that would not cause the levee slope stability Factor of Safety to be reduced below 1.4, or the underseepage Factor of Safety to be reduced below the value corresponding to an exit gradient at the toe of the levee of 0.5. The levee slope stability Factor of Safety is defined as the ratio of available shear strength of the top stratum of the levee slope to the necessary shear strength to keep the slope stable (Corps 2003). The application of the levee slope stability Factor of Safety of 1.4 is required for federally authorized flood control projects. Through-seepage is calculated as part of the slope stability analysis and does not have a separate Factor of Safety. The underseepage Factor of Safety is defined as a ratio of the critical hydraulic gradient to the actual exit gradient of seepage on the levee. Corps design guidance recommends that the allowable underseepage factor of safety for use in evaluations and/or design of seepage control measures should correspond to an exit gradient at the toe of the levee of 0.5 (in general, this would provide a Factor of Safety of 1.6), but states that deviation from recommended design guidance is acceptable when based and documented on sound engineering judgment and experience (Corps 2005).

Until adequate data are available to determine the Factors of Safety, Reclamation would limit the release of Restoration Flows to those which would remain in-channel. In-

channel flows are flows that maintain a water surface elevation at or below the elevation of the landside levee toe (*i.e.*, the base of the levee). When sufficient data are available to determine the Factors of Safety, Reclamation would limit Restoration Flows to levels that would correspond to a levee slope stability Factor of Safety of 1.4 or higher and an underseepage Factor of Safety corresponding to an exit gradient at the toe of the levee of 0.5 or lower at all times. The SJRRP strategy to reduce flood risk is based on a conservative approach of using the Corps' standards and maintaining flows below the toe of the levee until such information can be collected to use the Corps standards.

The commenter also expresses concerns related to O&M costs for the flood system. It is unclear if the commenter is referring to the O&M costs of the Project facilities or the O&M costs for the Flood Control Project. See response to comment O-EC-14 and MCR-5: Project Funding for more information on the Project O&M costs. See MCR-6: Flood Management Considerations and O&M Costs for more information on the responsible party for O&M of the Flood Control Project.

#### **Response to Comment O-EC-16**

Effects from groundwater seepage were analyzed in Section 13.3.3 of this EIS/R (see Impact GRW-3). As discussed in Section 2.2.4 of this EIS/R, seepage control measures would be included, as necessary, in Project areas where seepage is likely to affect adjacent land uses (*i.e.*, where native soils do not provide sufficient control for underseepage). These measures are included in the levee design in the Action Alternatives for the full range of design flows up to 4,500 cfs, including flows greater than 1,200 cfs. As discussed in MCR-2: Seepage Management, the current design for the Compact Bypass includes bentonite slurry cut-off walls in the levees surrounding the Compact Bypass and in the north levee from about RM 206 and 208. The cutoff walls would be about 3 feet wide and would extend 15 to 20 feet below grade and about 8 feet above grade. Inspection trenches would also be included periodically, where needed. A bentonite slurry cut-off wall may be constructed to control groundwater seepage elsewhere on the floodplain, although other seepage control measures may also be used, such as drainage ditches, interceptor lines, or seepage easements. The seepage control measures used in the Reach 2B improvements area would be selected based on site evaluations, suitability of site conditions, feasibility, and landowners and stakeholder input.

As described in the Revised Framework, seepage and levee stability projects in other reaches are anticipated to be completed during FY 2015 to 2029 in a manner that allows for an increase in Restoration Flows while not exceeding the then-existing capacity of the reaches that convey the flow. The highest priority seepage projects in the Restoration Area are those located in areas that would be impacted at the lowest San Joaquin River flows. Key areas of concern include the downstream end of Reach 2A, portions of Reach 3, and the downstream end of Reach 4A. Seepage projects are expected to be complete by 2020 in areas that would otherwise cause flow to be constrained below 1,300 cfs. Subsequent seepage projects are expected to be complete by 2025 in areas that would otherwise be affected by flows up to 2,500 cfs. All seepage projects are expected to be complete by 2030 to allow up to 4,500 cfs of Restoration Flows in the San Joaquin River. See MCR-2: Seepage Management for additional information on the SJRRP's seepage projects in upstream and downstream reaches. See also response to comment O-EC-15

and MCR-6: Flood Management Considerations and O&M Costs for additional information on the SJRRP's approach to determining then-existing channel capacities.

Effects to recreation are discussed in Chapter 20 of this EIS/R. This chapter also describes existing access points to the river in Reach 2B and provides for boat portage facilities around Project structures in Mitigation Measure REC-2, Establish Boat Portage Facilities around Project Facilities.

The only public crossing that could be used for emergency access in the Project area is the San Mateo Avenue crossing. The EIS/R analyzes the temporary and long-term effects of replacing the San Mateo Avenue crossing (Alternatives A and C) or removing this crossing (Alternatives B and D). It also analyzes the temporary and long-term effects to emergency vehicle access at Drive 10 1/2, which crosses the river at Mendota Dam (see Section 22.3.3, Impact TRA-4). The Project does not propose new bridge or low-flow crossings at other locations.

***Response to Comment O-EC-17***

It is important to clarify that when the EIS/R uses the term phasing, it is specifying that the construction is necessarily being scheduled over time to be realistic and achievable. The construction schedule and timing for construction of the Project is introduced in Chapters 1 and 2 of this EIS/R, and analyzed in the resource chapters. As described in Section 2.2.4 of the EIS/R and the Revised Framework, the Mendota Pool Bypass portion of the Project is expected to be constructed prior to levee setbacks in Reach 2B. Although the duration of construction at a given location may be limited, some construction impacts can occur over a multi-year period. See Chapters 4 through 24 of this EIS/R for resource-specific details on construction impacts. See also response to comment O-EC-13 for additional information on Project construction scheduling.

Effects on fisheries from Project construction activities are described in Section 5.3.3 of this EIS/R under Impact AQUA-5. As identified in this section, construction actions would be designed and implemented in such a way as to allow fish passage to continue in the channel or in the completed portions of structures while other portions are built. Avoidance and minimization measures would be implemented during in-channel construction activities including temporary bypass facilities that meet fish passage criteria around construction areas, use of cofferdams to allow construction in dewatered portions of the channel, and/or fish rescue and relocation. These areas would not hold warm, standing water.

***Response to Comment O-EC-18***

It is important to clarify that when the EIS/R uses the term phasing, it is specifying that the construction is necessarily being scheduled over time to be realistic and achievable. The construction schedule and timing for construction of the Project is introduced in Chapters 1 and 2 of this EIS/R, and analyzed in the resource chapters. See Chapters 4 through 24 of this EIS/R for resource-specific details on construction impacts. See also response to comment O-EC-13 for additional information on Project construction scheduling.

As described in Section 2.2.4 of the EIS/R and in the Revised Framework, the Mendota Pool Bypass portion of the Project is expected to be constructed prior to levee setbacks in Reach 2B. Section 2.2.6 of this EIS/R describes construction considerations for the preferred alternative. Construction of the Compact Bypass channel includes excavating the bypass channel, constructing levees and in-channel structures, removing existing levees, and relocating or modifying existing infrastructure. The bypass channel would be excavated in areas protected by existing levees. The construction of the Mendota Pool control structure would require removable cofferdams in three phases to facilitate the construction without blocking flow. If flow is present in the river during the construction period, flow would be diverted around the work area via a temporary diversion pipe or canal and fish passage would be provided. Through standard engineering design methods, backwater effects would be minimal. Once the Compact Bypass and control structures are complete, levee setbacks and other Reach 2B improvements would be constructed. An expanded floodplain would allow riverine inundation in new areas. As discussed in Section 2.2.4 of this EIS/R, seepage control measures would be included in the levee design in the Action Alternatives, as necessary, where seepage is likely to affect adjacent land uses. This construction sequencing would not create new seepage or flood management impacts that are not already described in the EIS/R.

Redirecting San Joaquin River flows through the Compact Bypass is expected to reduce water levels and stresses on Mendota Pool levees because less water would be going over Mendota Dam. Levees located upstream of the Compact Bypass are expected to experience similar or lower water levels because the Compact Bypass would convey flows more efficiently than Mendota Pool due to the elevation and slope of the bypass. Effects to channel erosion are described in Section 14.3.3 of this EIS/R. Construction sequencing would not create additional erosion or sedimentation impacts that are not already analyzed in the EIS/R.

Changes to the Flood Control Manual are speculative at this time and are outside of the scope of this project. Effects due to changes to the Flood Control Manual, if any are made, would require analysis by the flood management agencies and separate environmental documentation, as appropriate. With respect to O&M costs for Flood Control Project, see MCR-6: Flood Management Considerations and O&M Costs.

***Response to Comment O-EC-19***

Effects on agricultural land productivity due to seepage are analyzed in Section 16.3.3 of this EIS/R (see Impact LU-4). As discussed in Section 2.2.4 of this EIS/R, seepage control measures would be included, as necessary, in Project areas where seepage is likely to affect adjacent land uses. These measures are included in the levee design in the Action Alternatives for the full range of design flows up to 4,500 cfs, including flows greater than 1,200 cfs. (See response to comment O-EC-16 and MCR-2: Seepage Management for additional information.) Through implementation of these seepage control measures, seepage effects on agricultural lands in Reach 2B would be less than significant.

See response to comment O-EC-12, MCR-6: Flood Management Considerations and O&M Costs, and MCR-2: Seepage Management regarding conveyance of flows through

Reach 2B, the implementation of downstream seepage and levee stability projects, and SJRRP's commitment to maintain Restoration Flows below then-existing channel capacities. Minimizing seepage damage in downstream reaches will be addressed through these seepage projects.

**Response to Comment O-EC-20**

The term "Third Parties" is a phrase commonly used in SJRRP documents, including the Settlement and the Settlement Act. Typically, the term "Third Party" refers to groups that are not party to a lawsuit or agreement, but are implicated in such lawsuits or agreements. In the context of this response to comment and this Final EIS/R, Third Parties include landowners and agencies that have a vested interest in implementing the SJRRP. These entities include the Exchange Contractors, Central California Irrigation District, Firebaugh Canal Water District, San Luis Canal Company, Columbia Canal Company, Merced Irrigation District, Turlock Irrigation District, Modesto Irrigation District, Oakdale Irrigation District, South San Joaquin Irrigation District, San Joaquin Tributaries Association, the San Joaquin River Resources Management Coalition, Westlands Water District, and San Luis and Delta-Mendota Water Authority. A Memorandum of Understanding (MOU) between Reclamation and the Third Parties regarding planning, designing, and implementing appropriate aspects of the Settlement outlines the manner through which the Third Parties are involved in the SJRRP. As stated in the MOU, Reclamation and the other Implementing Agencies and Settling Parties (Natural Resources Defense Council, Friant Water Authority, and the U.S. Departments of the Interior and Commerce) are primarily responsible for implementing the Settlement. The Third Parties are not party to the Settlement. While the MOU states that the Third Parties agree to cooperate with Reclamation in implementing the Settlement, the Third Parties retained all rights of actions or claims of relief with respect to implementing the Settlement that they have under any applicable law.

This comment asserts that no impacts to Third Parties should occur from the Project. The Settlement and the Settlement Act, however, present requirements separate and distinct from NEPA and CEQA requirements for evaluating environmental impacts. Reclamation is committed to implementing the Project to meet Settlement requirements while meeting Third-Party protections provided in the Settlement Act. Additionally, nothing in the Settlement or the Settlement Act prevents full disclosure of environmental impacts under NEPA and CEQA, whether or not such impacts adversely affect Third Parties. Paragraph 7 of the Settlement states the following:

*The [Settling] Parties believe that this Settlement provides numerous important benefits to the State of California, including third parties located in the San Joaquin River Basin or who use the waters of the San Joaquin River or the Sacramento-San Joaquin Delta. The Parties neither intend nor believe that the implementation of this Settlement will have a material adverse effect on any third parties or other streams or rivers tributary to the San Joaquin River.*

The EIS/R demonstrates that, while adverse impacts would occur to various resources with implementing the Project, benefits to numerous resources such as fisheries,

vegetation, wildlife, wetlands, groundwater quality, groundwater recharge, and recreation would occur, as shown in Table ES-3 of this EIS/R. The Settlement Act subsequently described, in Section 10004, specific provisions for mitigating potential impacts on adjacent and downstream water users and landowners:

*(d) MITIGATION OF IMPACTS. – Prior to the implementation of decisions or agreements to construct, improve, operate, or maintain facilities that the Secretary determines are needed to implement the Settlement, the Secretary shall identify –*

- 1. the impacts associated with such actions; and*
- 2. the measures which shall be implemented to mitigate impacts on adjacent and downstream water users and landowners.*

Completing the EIS/R as part of the NEPA process and identifying mitigation measures to be implemented fulfills Reclamation’s obligations under this section of the Settlement Act. The commenter asserts that “pursuant to section 10004(d) of the Act, the Secretary of the Interior is legally required to mitigate the impacts identified” and asserts that no significant and unavoidable impacts may occur. Section 10004(d) of the Settlement Act does not require mitigation of all impacts identified. It requires the identification of impacts and the measures which shall be implemented to mitigate impacts. It basically requires NEPA be completed, which Reclamation is doing as part of this EIS/R. Section 10004(d) of the Settlement Act has no prohibition on the implementation of an action with a potentially significant and unavoidable impact.

Section 16.3.3 of this EIS/R discusses the mitigation measures required for land use planning and agricultural resources. Specifically, Mitigation Measure LU-1 will be implemented to minimize adverse effects on agricultural lands to the extent practicable. Similarly, Mitigation Measures LU-2 and LU-3 provide mitigation for impacts to Designated Farmland and Williamson Act contracts, respectively.

As discussed in Section 2.2.4 of this EIS/R, seepage control measures would be included, as necessary, in Project areas where seepage is likely to affect adjacent land uses. These measures are included in the levee design in the Action Alternatives for the full range of design flows up to 4,500 cfs. This Project-specific information is considered in evaluating Impact LU-4 (Degradation of Agricultural Land Productivity due to Seepage).

#### ***Response to Comment O-EC-21***

Economic information is included in the EIS/R to meet NEPA requirements for analysis of social and economic impacts as part of the human environment. In the context of CEQA, economic effects are not considered significant effects on the environment (State CEQA Guidelines, § 15131, subd. (a)). The use of term “less than substantial” was used instead of the more common CEQA terminology (“less than significant”) due to this distinction. As discussed in Section 21.3.3 of this EIS/R, with regards to agricultural production, a less than substantial impact on socioeconomic conditions in the Project area would result from a less than substantial decrease in the value of agricultural production

relative to region-wide conditions. At the regional level, the decline in agricultural production values is minor (less than 0.1 percent) when compared to agricultural activity in Fresno and Madera counties.

***Response to Comment O-EC-22***

Section 22.3.3 of this EIS/R evaluates the potential for inadequate emergency access (see Impact TRA-4). Project construction activities would create temporary or permanent roadway closures that may affect emergency access/emergency response times to areas immediately north of the San Mateo Avenue crossing or near Drive 10 ½. For those alternatives that improve the San Mateo Avenue crossing (Alternatives A and C), mitigation measures would require a temporary roadway and crossing to allow for thru-traffic and access across levee, canal, and river crossing construction areas, as applicable. The mitigation measure for Alternative B requires construction sequencing to provide continuous emergency access at Drive 10 ½. In Alternative B, new permanent access would be created across the new Mendota Pool and Compact Bypass control structures for specific agencies, such as emergency agencies and those with local facilities. Alternative D would also remove the San Mateo Avenue crossing, but in this case, construction sequencing may not be able to provide alternative access means during the temporary closures at Mendota Dam affecting Drive 10 ½. In all cases, one crossing would be removed and one would remain in the long-term to allow emergency access across the river. The analysis in Section 22.3.3 of this EIS/R shows that response times immediately north of whichever crossing is closed would increase beyond the County's 20 minutes goal for rural areas, while response times immediately north of the crossing that remains and in areas further from the river would be unchanged. In all cases, local emergency dispatchers will be notified of temporary and permanent road closures.

As identified in comment O-EC-24, the San Mateo Avenue crossing is “essentially a private river crossing because the south portion of the crossing is on private land.” Although it provides emergency access in the event of an emergency, it is not a typical emergency access route as it is both a partially private road and it is inundated at relatively low flows in the river (around 150 cfs).

Section 23.3.3 of this EIS/R discusses the potential for new fire stations or the expansion of existing facilities due to this access limitation (see Impact UTL-1). The expansion of existing facilities and the siting of new firefighting stations occur in response to new growth areas, and the Action Alternatives would not increase population growth in the Project area or vicinity.

***Response to Comment O-EC-23***

Section 10.3.3 of this EIS/R evaluates effects on environmental justice communities, including those effects due to removing land from agricultural production. Mitigation measures implemented for agricultural resources can also reduce adverse effects on environmental justice communities through coordination with landowners and agricultural operators during construction. This EIS/R includes a measure that will be implemented for agricultural resources that requires Reclamation to coordinate with local growers to minimize traffic-related disruption from construction activities (Mitigation Measure LU-1). This EIS/R also includes a measure that requires local emergency

dispatchers to be notified of temporary road closures (Mitigation Measures TRA-4A and TRA-4B.) Also note that under the preferred alternative, agricultural activities would be allowed on the floodplain after construction, which would reduce job impacts to the community. Reclamation has held a meeting discussing this Project with the Spanish-speaking community in the City of Mendota, and anticipates holding several more meetings throughout Project implementation. See also response to comment O-EC-20 for a discussion of the requirements of Section 10004(d) of the Settlement Act.

***Response to Comment O-EC-24***

Section 1.6.2 of this EIS/R provides an introduction to these features and describes existing conditions. Project impacts to access across the river are discussed in the resource chapters, specifically Chapters 20 and 22 of this EIS/R. The EIS/R analyzes the temporary and long-term effects of replacing the San Mateo Avenue crossing (Alternatives A and C) or removing this crossing (Alternatives B and D). It also analyzes the temporary and long-term effects to emergency vehicle access at Drive 10 1/2, which crosses the river at Mendota Dam (see Section 22.3.3, Impact TRA-4). The Project does not propose new bridge or low-flow crossings at other locations. The Project does not propose to change the type of access that is allowed over water control structures (*e.g.*, Mendota Dam or bifurcation structures).

As identified in the comment, the San Mateo Avenue crossing is “essentially a private river crossing because the south portion of the crossing is on private land.” Although in effect it provides public access across the river, it is not a public right-of-way south of the river; it is both a partially private road and it is inundated at relatively low flows in the river (around 150 cfs). Removal of this crossing would not affect public rights-of-way.

Reclamation does anticipate that in Alternative B access across the Mendota Pool and Compact Bypass control structures would be allowed to emergency agencies and those with local facilities despite Reclamation and homeland security-related restrictions.

***Response to Comment O-EC-25***

As identified in Sections 1.1.3 and 1.4 of this EIS/R, the Project implements two requirements in Paragraph 11 of the Settlement. Paragraph 11 of the Settlement states that “the following are the necessary improvements, which shall be developed in accordance with all applicable federal and state laws...” Not implementing the Project would not achieve the requirements in the Settlement and Settlement Act.

The commenter states that the incorrect No-Action Alternative has been used as other components of the Settlement cannot be implemented in the absence of the Paragraph 11 projects or any other mandated improvement project. This is not correct. Reclamation is working diligently to implement the Settlement and Settlement Act in coordination and with input from the Friant Contractors, Natural Resources Defense Council, and the Third Parties, including the Exchange Contractors. However, and fundamentally, Reclamation is contractually bound and obligated to implement the Settlement (see Paragraph 40 and 41 of the Settlement) and the Settlement Act (see Section 10004 of the Settlement Act). In determining those obligations, Reclamation follows the process of statutory

interpretation and construction established by long-standing court cases and the requirements of Paragraph 41 of the Settlement.

Paragraph 13 of the Settlement requires the release of water from Friant Dam to the confluence with the Merced River in accordance with the hydrographs attached in Exhibit B of the Settlement. Paragraph 13(i) goes on to identify that the Secretary of the Interior is to release as much of the Restoration Flows as possible in light of existing channel capacity and without delaying completion of the Phase 1 (Paragraph 11(a) projects). The language of Paragraph 13 is clear – the only reason Reclamation cannot release Restoration Flows is due to existing channel capacity and delays in completion of the Paragraph 11(a) projects. There is nothing in the Settlement Act that further constrains the release of Restoration Flows and the need for those flows to be connected to the Merced River as soon as possible. Stated differently, Reclamation is required to release Restoration Flows, up to channel capacity and without delaying the Paragraph 11(a) projects, as soon as possible. Restoration Flow releases are not tied to or conditioned upon the completion of the Paragraph 11 projects.

Paragraph 14 of the Settlement states that spring-run and fall-run salmon shall be reintroduced by December 31, 2012, consistent with all applicable law. Paragraph 14(a) goes on to identify the steps to further the goal of reintroduction. These include the following: (1) the USFWS is to ensure that spring-run and fall-run are reintroduced at the earliest practical date after commencement of sufficient flows and the issuance of all necessary permits; (2) USFWS shall submit a completed permit application to NMFS for the reintroduction of spring-run salmon and NMFS shall issue a decision on the application. The language of Paragraph 14 is clear. There is nothing in Paragraph 14 or anywhere else in the Settlement that requires the construction of the Paragraph 11 projects occur prior to the reintroduction of salmon. The only requirement for reintroduction is needing to do so “consistent with all applicable law,” “after the commencement of sufficient flows,” and “completion of all necessary permits.” Section 10011 of the Settlement Act requires the reintroduction of spring-run salmon pursuant to ESA Section 10(j) provided that the Secretary of Commerce can issue a permit under ESA Section 10(a)(1)(A). Section 10011(c)(2) goes onto require a rule pursuant to ESA Section 4(d) and specifies certain requirements of the rule. The language of Section 10011 of the Settlement Act is clear. There is nothing in Section 10011 or anywhere else in the Settlement Act that requires the construction of the Paragraph 11 projects occur prior to the reintroduction of salmon. The only requirement for reintroduction in the Settlement Act is needing to complete the necessary ESA Section 10(j), Section 4(d), and Section 10(a)(1)(A) requirements. In summary, the Settlement and Settlement Act identify the conditions under which the SJRRP is to reintroduce spring-run and fall-run salmon. Nowhere in either document has Reclamation been able to find a requirement that the construction of the Paragraph 11 projects occur prior to the reintroduction of salmon. On the contrary, the requirements for fish reintroduction are tied to the completion of ESA permits and rules and sufficient flows in the river. Stated differently, USFWS is required to reintroduce fish regardless of the status of the construction of the Paragraph 11 projects as long as the necessary permits and approvals are obtained and there are sufficient flows in the river.

Of course, and as identified in this EIS/R, without the Project, Reclamation would not achieve all of the requirements in the Settlement and Settlement Act. However, Reclamation would continue to implement the Settlement and Settlement Act to the best of its abilities. Therefore, the No-Action Alternative as described in this EIS/R is appropriate as the implementation of the other components of the Settlement are reasonably foreseeable actions as they are required in the Settlement and by the Settlement Act.

Project impacts are compared against existing conditions per the State CEQA Guidelines and compared against the No-Action Alternative to satisfy NEPA requirements. Similar to the State CEQA Guidelines regarding feasibility of alternatives that implement a project (quoted in the comment), the CEQ requires that the Action Alternatives be feasible and reasonable alternatives. This is applicable to the Action Alternatives (*i.e.*, the alternatives that implement the Project), not the No-Action conditions.

**Response to Comment O-EC-26**

This comment is referring to a paragraph in Section 2.2.4 of the Draft EIS/R that discusses the potential for fish screens at Lone Willow Slough and big and Little Bertha Pumps. Text was revised in this section of the Final EIS/R to include the diversion to Mendota Pool in this list. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R. The Mendota Pool Fish Screen is discussed in Section 2.2.6 of this EIS/R, where the need for similar planning and design is indicated.

As described in response to comment O-EC-6 and MCR-1: Mendota Pool Fish Screen, Reclamation has completed an extensive analysis, based on the best available information, of the potential loss of fish to the Mendota Pool. This entrainment analysis includes both flood deliveries and calls on Friant to satisfy the Exchange Contract, and includes a higher frequency of calls on Friant than has historically occurred through 2015. Reclamation has determined that the number of juvenile fall-run and spring-run Chinook salmon that would be lost to Mendota Pool without a fish screen is not within the range that is acceptable to the SJRRP. The number of juveniles expected to be entrained in Mendota Pool is small (on average approximately 6 to 7 percent of the annual population) when considered over a variety of water year types, but could include multiple years in a row with more than 20 percent of the annual population of juveniles entrained in Mendota Pool. The greatest entrainment is expected to occur during flood releases in February and March. Calls on Friant to satisfy the Exchange Contract in late spring and/or early summer months would have minimal impact to juvenile fall-run and spring-run Chinook salmon because these fish are expected to emigrate out of the area prior to mid-May.

Reclamation and the CSLC analyzed and disclosed the potential impacts of constructing and operating the Mendota Pool Fish Screen in the Draft EIS/R to allow the flexibility to construct and operate the feature, should the agencies determine it is needed as part of the overall Project in support of the Restoration Goal. Based on the detailed technical analysis performed by Reclamation (provided in Part VI – Appendices to the Responses), the SJRRP has determined that it is appropriate to include construction and operation of

the Mendota Pool Fish Screen in the preferred alternative. The purpose of this change is to disclose the increased likelihood that the SJRRP could include this feature in the selected alternative for the Project. A final decision on the selected alternative for the Project will be made in the ROD/NOD, following public review of the Final EIS/R. See MCR-1: Mendota Pool Fish Screen.

**Response to Comment O-EC-27**

As described in response to comment O-EC-15 and in Sections 2.2.4 and 2.2.11 of the EIS/R, levee design would be based on the Corps' Engineer Manual 1110-2-1913, *Design and Construction of Levees* (Corps 2000a), Engineer Manual 1110-2-1902, *Slope Stability* (Corps 2003), Engineering Technical Letter 1110-2-569, *Design Guidance for Levee Underseepage* (Corps 2005), and Engineer Technical Letter 1110-2-583, *Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams and Appurtenant Structures* (Corps 2014).

As described in Section 2.2.4 of this EIS/R, a 300-foot buffer is provided between the existing channel and the proposed levees to allow for potential channel migration. In areas where the channel is constrained (*i.e.*, a 300-foot buffer cannot be maintained), then erosion protection for the levee in the form of revetment would be included. A 300-foot buffer was chosen based on an assessment of the sediment transport conditions within the Project area by the design engineers (Reclamation 2015a, Appendix C).

**Response to Comment O-EC-28**

The seepage management measures that would be implemented in Reach 2B area are part of this Project and are included in the Action Alternatives, accounted for in the impact analysis, and incorporated into the levee design, as described in Section 2.2.4 of the EIS/R. The EIS/R impact analysis accounts for the area adjacent to the levees where a variety of the seepage management measures would be implemented (*e.g.*, cutoff walls, inceptor drains or ditches, seepage wells, seepage berms, etc.) Construction effects are described for the Project and the anticipated construction durations are accounted for in the construction schedule. See Chapters 4 through 24 of this EIS/R for resource-specific details on construction impacts. Long-term effects from the seepage management measures are also described in Sections 13.3.3 and 16.3.3 of the EIS/R. The environmental analysis of the seepage management measures have not been segmented from other aspects of the Project.

**Response to Comment O-EC-29**

As described in Section 2.2.4 of this EIS/R, a fish screen would include an automated cleaner system and maintenance activities could include removing the screens for cleaning, replacing screens when needed, periodic repair or replacement of brush cleaning system components, periodic repair or replacement of trash rack components, inspection for operation, greasing and inspecting motors, and in-channel sediment removal in the structure vicinity.

**Response to Comment O-EC-30**

The comment is describing the text provided in Section 2.2.4 of this EIS/R. There are no questions or additional issues raised regarding the Project or the EIS/R in the comment.

**Response to Comment O-EC-31**

As described in Section 2.2.4 of this EIS/R, floodplain maintenance includes periodic floodplain and channel shaping to retain capacity and prevent fish stranding, and other floodplain maintenance activities such as debris removal and repair of channel banks and bank protection measures.

**Response to Comment O-EC-32**

See response to comment O-EC-14 and MCR-5: Project Funding for a discussion of Project O&M costs and funding sources. Reclamation is planning for \$200,000 annually for O&M of the Compact Bypass, which would include costs for maintenance of fish facilities, and another \$200,000 annually for O&M of the Reach 2B setback levees and floodplain.

**Response to Comment O-EC-33**

This comment refers to comment O-EC-13 and the previously stated concerns about phased implementation. Refer to response to comment O-EC-13 for a response to these issues. See also response to comments O-EC-17 and O-EC-18 for further details.

**Response to Comment O-EC-34**

See response to comments O-EC-13, O-EC-17, and O-EC-18. Section 2.2.6 of the EIS/R, Construction Considerations, describes how cofferdams would be used to construct in-channel control structures. It also indicates that flow in the San Joaquin River, operations at the existing Mendota Dam, operations at the Chowchilla Bifurcation Structure, and operation of the existing Columbia Canal would be maintained during construction. Reclamation intends to construct the project in a way that allows for the continued operation of all water supply and flood control facilities during and after construction. Additionally, while the exact construction details are not available at this time, Reclamation would continue to coordinate with and seek input from the Exchange Contractors, the LSJLD, and the potentially impacted landowners, as it has done in the past, throughout the final design process to ensure continued operations of all water supply and flood control facilities during and after construction.

**Response to Comment O-EC-35**

As described in response to comment O-EC-6 and MCR-1: Mendota Pool Fish Screen, Reclamation has completed an extensive analysis, based on the best available information, of the potential loss of fish to the Mendota Pool. This entrainment analysis includes both flood deliveries and calls on Friant to satisfy the Exchange Contract, and includes a higher frequency of calls on Friant than has historically occurred through 2015. Reclamation has determined that the number of juvenile fall-run and spring-run Chinook salmon that would be lost to Mendota Pool without a fish screen is not within the range that is acceptable to the SJRRP. The number of juveniles expected to be entrained in Mendota Pool is small (on average approximately 6 to 7 percent of the annual population) when considered over a variety of water year types, but could include multiple years in a row with more than 20 percent of the annual population of juveniles entrained in Mendota Pool. The greatest entrainment is expected to occur during flood releases in February and March. Calls on Friant to satisfy the Exchange Contract in late spring and/or early summer months would have minimal impact to juvenile fall-run and

spring-run Chinook salmon because these fish are expected to emigrate out of the area prior to mid-May.

Reclamation and the CSLC analyzed and disclosed the potential impacts of constructing and operating the Mendota Pool Fish Screen in the Draft EIS/R to allow the flexibility to construct and operate the feature, should the agencies determine it is needed as part of the overall Project in support of the Restoration Goal. Based on the detailed technical analysis performed by Reclamation (provided in Part VI – Appendices to the Responses), the SJRRP has determined that it is appropriate to include construction and operation of the Mendota Pool Fish Screen in the preferred alternative. The purpose of this change is to disclose the increased likelihood that the SJRRP could include this feature in the selected alternative for the Project. A final decision on the selected alternative for the Project will be made in the ROD/NOD, following public review of the Final EIS/R.

***Response to Comment O-EC-36***

The design of the Compact Bypass channel includes consideration of stability, slope, scour, erosion, and channel migration. Grade control would occur at the top of the channel due to the sill elevation of the Compact Bypass Control Structure. There would also be two grade control structures. The most upstream one would be located immediately downstream of the Compact Bypass Control Structure. The second grade control structure would be located near the Columbia Canal siphon crossing. The section of the channel between the two grade control structures would be reinforced with rip-rap or other engineered materials. Although there would be no hardened structures in the main channel below the second grade control structure, vegetation would be planted in a manner that increases channel stability.

Sediment aggradation and degradation, bed erosion, and potential for channel instability are analyzed as part of the Project design (Reclamation 2015a, Appendix C) and the environmental effects of these processes are discussed in Section 14.3.3 of the Draft EIS/R. Additional clarifying detail regarding the design of the Compact Bypass channel and grade control structures is included in Section 2.2.6 of the Final EIS/R. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment O-EC-37***

A fish ladder, or fish passage facility, would not change the flood control function of the associated water control structure, nor would it reduce channel capacity below the channel's design criteria. Therefore it would not compromise the ability of the water control structure to convey flood flows. Additional clarifying detail regarding the design of fish passage facilities is included in Sections 2.2.5, 2.2.6, 2.2.7, and 2.2.8 of the Final EIS/R. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment O-EC-38***

This comment reiterates concerns about fish passage facilities compromising the ability to pass flood flows or restricting flood operations previously raised in comment O-EC-37. Refer to response to comment O-EC-37 for a response to this issue. As described in

1.6.3 of this EIS/R, flood management agencies have ultimate discretion in directing flood flows. Fish passage improvements would not affect flood routing operations.

***Response to Comment O-EC-39***

The Mendota Pool Control Structure and wing-wall levees are designed to retain the Pool. The differential in water surface elevations in the river and Pool are anticipated in the design. The Compact Bypass Control Structure is also designed to accommodate a differential in water surface elevations. Water deliveries to the Pool are part of the design. Reclamation will continue to work with landowners and stakeholders in the Reach 2B area during the design process. Reclamation held a design briefing for updates in the design of the Compact Bypass on November 18, 2015, inviting landowners and stakeholders in the Reach 2B area to provide feedback. Similar design briefings are anticipated as the design progresses.

***Response to Comment O-EC-40***

This comment reiterates concerns about the Mendota Pool Fish Screen previously raised in comments O-EC-6, O-EC-11, and O-EC-26. Refer to the response to comments O-EC-6, O-EC-11 and O-EC-26 for a response to this issue.

Reclamation and the CSLC analyzed and disclosed the potential impacts of constructing and operating the Mendota Pool Fish Screen in the Draft EIS/R to allow the flexibility to construct and operate the feature, should the agencies determine it is needed as part of the overall Project in support of the Restoration Goal. Based on the detailed technical analysis performed by Reclamation (provided in Part VI – Appendices to the Responses), the SJRRP has determined that it is appropriate to include construction and operation of the Mendota Pool Fish Screen in the preferred alternative. The purpose of this change is to disclose the increased likelihood that the SJRRP could include this feature in the selected alternative for the Project. A final decision on the selected alternative for the Project will be made in the ROD/NOD, following public review of the Final EIS/R. See also MCR-1: Mendota Pool Fish Screen.

***Response to Comment O-EC-41***

See MCR-1: Mendota Pool Fish Screen and the responses to comments O-EC-6, O-EC-11, O-EC-26, and O-EC-35. The fish screen analysis includes both flood deliveries and calls on Friant, and includes a higher frequency of calls on Friant than has historically occurred through 2015.

Reclamation and the CSLC analyzed and disclosed the potential impacts of constructing and operating the Mendota Pool Fish Screen in the Draft EIS/R to allow the flexibility to construct and operate the feature, should the agencies determine it is needed as part of the overall Project in support of the Restoration Goal. Based on the detailed technical analysis performed by Reclamation (provided in Part VI – Appendices to the Responses), the SJRRP has determined that it is appropriate to include construction and operation of the Mendota Pool Fish Screen in the preferred alternative. The purpose of this change is to disclose the increased likelihood that the SJRRP could include this feature in the selected alternative for the Project. A final decision on the selected alternative for the Project will be made in the ROD/NOD, following public review of the Final EIS/R.

***Response to Comment O-EC-42***

A discussion of impacts to Mendota Pool operations is not applicable in the section introducing the Mendota Pool Fish Screen, as requested by the commenter.

As described in response to comment O-EC-8, the Project would remove a portion of the San Joaquin River arm of Mendota Pool upstream of the Compact Bypass or Fresno Slough Dam. The transient storage capacity of Mendota Pool is estimated to be between 290 and 1,460 acre-feet, corresponding to the top 0.2 and 1.0 foot of the Pool, respectively. The reduction in transient storage capacity is estimated to be between 33 and 164 acre-feet for the Compact Bypass alternatives and between 46 and 230 acre-feet for the Fresno Slough Dam alternatives. This represents a reduction of approximately 11 to 16 percent of the transient storage capacity of the Pool (DWR 2012b). Fluctuations in transient storage depth are expected to be within historical fluctuations found during wet, normal-wet, and normal-dry water years. The historical overall annual range can vary from greater than 2.0 feet (wet water year), 0.7 foot (normal wet water year), and 0.5 foot (normal dry water year).

Seepage and pump cavitation problems in Fresno Slough would only occur if fluctuating water surface elevations created much higher or lower water surface elevations than the typical operating range. The Project would not change the operating range of water surface elevation in Mendota Pool, and therefore does not cause impacts to seepage or levees in the Fresno Slough.

In addition, six SCADA (supervisory control and data acquisition) gates were recently installed at Mendota Dam. Knowledge of Mendota Pool operations, in combination with the new SCADA system partially funded by the SJRRP, would be used to assure that the Pool is operated in a manner similar to the way it has always been operated. This information is clarified in Section 23.3.3 of the Final EIS/R.

***Response to Comment O-EC-43***

The water quality (salinity) of Mendota Pool is influenced by its major inputs: the Delta Mendota Canal, flood flows from the San Joaquin River, flood flows from Fresno Slough, and, more recently, Restoration Flows. All of the major inputs are of sufficient quality for agricultural purposes.

Prior to Interim and Restoration Flows, the majority of the water was from a single source – the Delta Mendota Canal – with only occasional inputs from flood flows. Restoration Flows now provide a new source of relatively clean, high quality water to the Pool (Friant Dam releases) which has provided a temporary benefit to the Exchange Contractors. Implementation of the Project would bypass Restoration Flows around Mendota Pool. While smaller, the Pool operations would in essence be similar to those that would have occurred prior to the SJRRP, as the San Joaquin River would contribute water to the Pool primarily under flood flow conditions. Bypassing Restoration Flows around Mendota Pool would also keep Delta Mendota Canal inflows higher and reduce water quality issues that have arisen in the past due to groundwater pump-ins to the Delta Mendota Canal at low Delta Mendota Canal flows.

**Response to Comment O-EC-44**

As described in response to comment O-EC-6 and MCR-1: Mendota Pool Fish Screen, Reclamation has completed an extensive analysis, based on the best available information, of the potential loss of fish to the Mendota Pool. This entrainment analysis includes both flood deliveries and calls on Friant to satisfy the Exchange Contract, and includes a higher frequency of calls on Friant than has historically occurred through 2015. Reclamation has determined that the number of juvenile fall-run and spring-run Chinook salmon that would be lost to Mendota Pool without a fish screen is not within the range that is acceptable to the SJRRP. The number of juveniles expected to be entrained in Mendota Pool is small (on average approximately 6 to 7 percent of the annual population) when considered over a variety of water year types, but could include multiple years in a row with more than 20 percent of the annual population of juveniles entrained in Mendota Pool. The greatest entrainment is expected to occur during flood releases in February and March. Calls on Friant to satisfy the Exchange Contract in late spring and/or early summer months would have minimal impact to juvenile fall-run and spring-run Chinook salmon because these fish are expected to emigrate out of the area prior to mid-May.

Reclamation and the CSLC analyzed and disclosed the potential impacts of constructing and operating the Mendota Pool Fish Screen in the Draft EIS/R to allow the flexibility to construct and operate the feature, should the agencies determine it is needed as part of the overall Project in support of the Restoration Goal. Based on the detailed technical analysis performed by Reclamation (provided in Part VI – Appendices to the Responses), the SJRRP has determined that it is appropriate to include construction and operation of the Mendota Pool Fish Screen in the preferred alternative. The purpose of this change is to disclose the increased likelihood that the SJRRP could include this feature in the selected alternative for the Project. A final decision on the selected alternative for the Project will be made in the ROD/NOD, following public review of the Final EIS/R. See MCR-1: Mendota Pool Fish Screen.

**Response to Comment O-EC-45**

As discussed in response to comment O-EC-36, two grade control structures are included on the downstream side of the Compact Bypass Control Structure in Alternative B. If additional grade control structures are included in the Compact Bypass, these structures would be designed such that sediment would fill areas on the upstream side of the structure and that a plunge pool would develop on the downstream side of the structure. Continual maintenance would not be needed to remove the sediment that builds up behind the structure. Regardless, as discussed in the Revised Framework (SJRRP 2015), Reclamation is planning for \$200,000 of O&M funding annually for the Compact Bypass.

**Response to Comment O-EC-46**

Effects from a false migration pathway are analyzed in Section 5.3.3 of this EIS/R. If water deliveries to Arroyo Canal were rerouted into or immediately downstream of the Compact Bypass channel, the effects of the false migration pathway would be reduced. The EIS/R analyzes conditions with the fish barrier (Alternative A) and without the fish barrier (Alternative B), the worst-case scenario with respect to the false migration

pathway for fisheries. In Alternative B, a false migration pathway up to the base of Mendota Dam – of approximately 2,000 feet – would be available to fish in all years, and a false migration pathway into Mendota Pool and Fresno Slough (potentially into the King River system) would occur about once in 5 years when the boards are taken out of Mendota Dam to pass Pine Flat flood releases into Reach 3. However, this false migration pathway to Mendota Dam would also occur under the No-Action Alternative. Because the Compact Bypass would provide upstream passage under Alternative B, the false migration pathway would affect less fish than under the No-Action Alternative. Therefore passage is improved and the effect is beneficial.

***Response to Comment O-EC-47***

Sediment aggradation and degradation and bed erosion is analyzed Section 14.3.3 of this EIS/R. The Compact Bypass would be heavily and actively revegetated to stabilize the channel prior to adding flows. Also, a pilot channel is expected to be dredged upstream of the Compact Bypass to reduce sediment erosion from upstream of the Compact Bypass.

As described in Section 2.2.6 of this EIS/R, some areas may be passively revegetated by creating riparian establishment areas that provide a riparian seed bank of native species. The passive restoration areas are expected to colonize from this riparian seed bank. Natural riparian recruitment (passive restoration) would also promote continual habitat succession, particularly in areas where sediment is deposited or vegetation is removed by natural processes.

***Response to Comment O-EC-48***

A description of water delivery operations is provided in Section 2.2.6 of this EIS/R. Detailed hydraulic analyses and plans will be completed in the later stages of design. As described in response to comment O-EC-5 and MCR-4: Project Design and Operations, the EIS/R is based on the level of engineering and planning currently available and is adequate to identify potential environmental impacts of the alternatives and identify appropriate mitigation measures. It is not intended to convey the same type of details as an operations plan. While final design and operations details are not available at this time, Reclamation would continue to coordinate with and seek input from the Exchange Contractors and the LSJLD, as it has done in the past, throughout the final design process to ensure continued operations of all water supply and flood control facilities during and after construction.

***Response to Comment O-EC-49***

Section 2.2.6 of the Draft EIS/R includes a brief description of the Columbia Canal siphon as one of the in-channel structures associated with the bypass channel. The “Water Deliveries” subsection is used to focus on operations of the Mendota Pool and Compact Bypass control structures needed for deliveries to the Pool. Additional clarifying detail regarding Columbia Canal facilities, based on the 30 percent design, are included in Section 2.2.6 of the Final EIS/R. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

Reclamation is considering sedimentation and floating vegetation concerns in the design of the Columbia Canal siphon and intake structure and shared the current design with the

public, including the Exchange Contractors, at a meeting on November 18, 2015. While final design and operations details are not available at this time, Reclamation would continue to coordinate with and seek input from the Exchange Contractors, including Columbia Canal Company, as it has done in the past, throughout the final design process to ensure continued operations of all water supply and flood control facilities during and after construction.

***Response to Comment O-EC-50***

Section 2.2.6, Construction Considerations, describes how cofferdams would be used to construct in-channel control structures. It also indicates that flow in the San Joaquin River, operations at the existing Mendota Dam, operations at the Chowchilla Bifurcation Structure, and operation of the existing Columbia Canal would be maintained during construction. The Mendota Pool Bypass portion of the Project would be constructed prior to levee setbacks in Reach 2B. This construction sequencing would not cause additional water supply or flood control impacts during construction. Reclamation intends to construct the Project in a way that allows for the continued operation of all water supply and flood control facilities during and after construction. Additionally, while the exact construction details are not available at this time, Reclamation would continue to coordinate with and seek input from the Exchange Contractors, the LSJLD, and the potentially impacted landowners, as it has done in the past, throughout the final design process to ensure continued operations of all water supply and flood control facilities during and after construction.

***Response to Comment O-EC-51***

This comment refers to increased O&M costs for the Flood Control Project that are a result of the SJRRP's Restoration Flows. As described previously, this EIS/R addresses Project actions. The environmental impacts, environmental commitments, and mitigation measures related to the release of SJRRP Restoration Flows were addressed in the PEIS/R and subsequent ROD and are outside of the scope of this document. However, for the ease of the reader, information on changes to the O&M costs for the Flood Control Project that results from the SJRRP Restoration Flows is provided in MCR-6: Flood Management Considerations and O&M Costs.

***Response to Comment O-EC-52***

As described in 1.6.3 of this EIS/R, flood management agencies have ultimate discretion in directing flood flows. See also response to comment O-EC-38.

***Response to Comment O-EC-53***

This comment refers to increased O&M costs for the Flood Control Project that are a result of the SJRRP's Restoration Flows and raises issues that are substantially similar to comment O-EC-51. Refer to response to comment O-EC-51 and MCR-6: Flood Management Considerations and O&M Costs for a response to this issue. In addition, Reclamation is open to considering one-time payments to allow the LSJLD to purchase additional equipment to allow them to perform O&M in the wetted channel.

**Response to Comment O-EC-54**

As described in the introduction of Chapter 3 of this EIS/R, the geographic range of the study area varies by resource and includes upstream and downstream river reaches. Detailed descriptions are provided for areas where direct effects may occur. See response to comment O-EC-12 regarding the seepage and levee stability projects that are anticipated to be constructed by the Implementing Agencies in downstream reaches prior to releasing 4,500 cfs flows for conveyance through Reach 2B. The release of Restoration Flows is a SJRRP-related activity analyzed in the PEIS/R and not reanalyzed in this EIS/R. The anticipated schedule and prioritization for the seepage and levee stability projects is also described in response to comment O-EC-12.

It is important to clarify that when the EIS/R uses the term phasing, it is specifying that the construction is necessarily being scheduled over time to be realistic and achievable. The construction schedule and timing for construction of the Project is introduced in Chapters 1 and 2 of the EIS/R, and analyzed in the resource chapters. See Chapters 4 through 24 of the EIS/R for resource-specific details on construction impacts.

**Response to Comment O-EC-55**

As described in Section 28.1.4 of this Final EIS/R, air quality impacts were reanalyzed to provide a more realistic estimate of the effects from off-site haul trucks and on-site construction emissions on sensitive receptors. Mendota Elementary School is included in the list of sensitive receptors. In addition, Figure 4-2 was revised for the Final EIS/R to identify the location of this sensitive receptor. Sensitive receptors were found to have a significant increase in cancer risk for a resident child exposure scenario, but not for the school child exposure scenario. Project mitigation measures, as described in Section 4.3.3 of the EIS/R, will reduce potential effects below SJVAPCD significance thresholds. Impacts to sensitive receptors would be less than significant after mitigation.

**Response to Comment O-EC-56**

Chapter 3 of this EIS/R describes the level of detail for direct and indirect effects. The Project would increase the conveyance capacity of Reach 2B, which would allow more water to be conveyed past Reach 2B when the Project is complete. However, the release of larger Restoration Flows that could fill this capacity, and the timing and effects of those flows, have already been analyzed in the PEIS/R. Overall SJRRP activities are outside of the scope of this Project. Effects from the Restoration Flows, in-and-of themselves, are not re-analyzed in the EIS/R as Project impacts or benefits. Therefore, the environmental setting of the EIS/R generally focuses on Reach 2B and the immediate upstream and downstream reaches. Some discussions include consideration of additional reaches, such as the discussion of food web processes, where insect drift is expected from Reach 1 and would continue to downstream reaches, and the discussion of invasive fish species, which can be imported in Mendota Pool from the Delta Mendota Canal, described in Section 5.1 of this EIS/R.

**Response to Comment O-EC-57**

As described in Section 5.1 of this EIS/R, a range of conditions were used to describe existing conditions for fisheries including pre-Interim Flows conditions (*e.g.*, July 2009)

and more recent conditions documented by fish surveys and aquatic habitat surveys conducted by the SJRRP since the start of Interim Flows.

With respect to subsidence, refer to response to comment O-EC-7 and MCR-3: Subsidence for a summary of recent actions conducted by Reclamation and DWR to evaluate and monitor subsidence in the Restoration Area. Also note that Chapters 2, 11, 13, 14, and 25 of this EIS/R provide descriptions of land subsidence. A more recent USGS study that was prepared in cooperation with Reclamation and the San Luis and Delta-Mendota Water Authority (Sneed et al. 2013) was cited in the Draft EIS/R as a source of information regarding Valley-wide subsidence effects and local effects near Mendota Dam. Additional data compiled by Reclamation for recent (December 2011 to December 2015) subsidence rates in the Project area are included in Sections 11.1.7 and 13.1 of the Final EIS/R. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

Flood management is described in Chapter 12. Additional information from the SJRRP Channel Capacity Report, 2016 Restoration Year (SJRRP 2016a) is included in the environmental setting for downstream reaches in the Final EIS/R, including the updated in-channel capacities for Reach 3, Reach 4A, and the Eastside Bypass which considers subsidence. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

See response to comment O-EC-12, MCR-6: Flood Management Considerations and O&M Costs, and MCR-2: Seepage Management regarding conveyance of flows through Reach 2B, implementation of downstream seepage and levee stability projects, and SJRRP's commitment to maintain Restoration Flows below then-existing channel capacities. The sequencing of the Project and other SJRRP projects allows restoration to move forward as these issues are addressed.

***Response to Comment O-EC-58***

This comment is substantially the same as O-EC-25. See the response to comment O-EC-25.

***Response to Comment O-EC-59***

As described in Section 5.1.1 of this EIS/R, since the start of Interim Flows there have been beneficial changes to the aquatic habitat of Reach 2B, mostly between the Chowchilla Bifurcation Structure and San Mateo Avenue, as a result of more regular inundation and the establishment of hydrophilic vegetation. The aquatic habitat now includes a series of low gradient riffles, flatwater glides, and mid-channel pools (DFW 2010). Although these effects are improvements over existing conditions, the benefits are minor compared to what is expected to be achieved with Project implementation. Because of this, the impact statements in this EIS/R were qualified, stating in-text that effects “would not fully meet the Project purpose and need or achieve the Settlement goals.” This statement was not changed in the Final EIS/R.

***Response to Comment O-EC-60***

If other SJRRP projects were implemented, downstream barriers would be removed. If a trap and haul program was not conducted around Reach 2B, adult salmon would then be blocked on their upstream migration at Mendota Dam in all years except wet year types. Potential benefits would be marginal, as salmon would reach spawning grounds only in wet years without a trap and haul program. Text was revised in Section 5.3.3 of the Final EIS/R to include this clarifying information. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment O-EC-61***

This comment reiterates concerns about the Mendota Pool Fish Screen previously raised in comments O-EC-6, O-EC-11, and O-EC-26. Refer to the response to comments O-EC-6, O-EC-11 and O-EC-26 for a response to this issue.

Reclamation and the CSLC analyzed and disclosed the potential impacts of constructing and operating the Mendota Pool Fish Screen in the Draft EIS/R to allow the flexibility to construct and operate the feature, should the agencies determine it is needed as part of the overall Project in support of the Restoration Goal. Based on the detailed technical analysis performed by Reclamation (provided in Part VI – Appendices to the Responses), the SJRRP has determined that it is appropriate to include construction and operation of the Mendota Pool Fish Screen in the preferred alternative. The purpose of this change is to disclose the increased likelihood that the SJRRP could include this feature in the selected alternative for the Project. A final decision on the selected alternative for the Project will be made in the ROD/NOD, following public review of the Final EIS/R. See also MCR-1: Mendota Pool Fish Screen.

***Response to Comment O-EC-62***

This comment is substantially the same as O-EC-46. See response to comment O-EC-46.

***Response to Comment O-EC-63***

This comment reiterates concerns about the Mendota Pool Fish Screen previously raised in comments O-EC-6, O-EC-11, and O-EC-26. Refer to the response to comments O-EC-6, O-EC-11 and O-EC-26 for a response to this issue.

Reclamation and the CSLC analyzed and disclosed the potential impacts of constructing and operating the Mendota Pool Fish Screen in the Draft EIS/R to allow the flexibility to construct and operate the feature, should the agencies determine it is needed as part of the overall Project in support of the Restoration Goal. Based on the detailed technical analysis performed by Reclamation (provided in Part VI – Appendices to the Responses), the SJRRP has determined that it is appropriate to include construction and operation of the Mendota Pool Fish Screen in the preferred alternative. The purpose of this change is to disclose the increased likelihood that the SJRRP could include this feature in the selected alternative for the Project. A final decision on the selected alternative for the Project will be made in the ROD/NOD, following public review of the Final EIS/R. See also MCR-1: Mendota Pool Fish Screen.

**Response to Comment O-EC-64**

As described in Section 2.2.4 of this EIS/R, the SJRRP would monitor channel capacity per the Program's Physical Monitoring and Management Plan and sediment mobilization per the Program's Sediment Management Plan in the Restoration Area (inclusive of Reach 2B). However, as described in Section 14.3.3 of this EIS/R and in the design report for the Compact Bypass (Reclamation 2015a), channel bed erosion is expected in Reach 2B after construction of the Compact Bypass to remove sediment that has been deposited in the San Joaquin River arm of Mendota Pool. This would result in sediment deposition in the Reach 3 channel. The Reach 3 deposition is anticipated to be up to 7 feet thick near the downstream end of the bypass and gradually decrease to zero deposition approximately 1 mile downstream (RM 203). These changes in the bed profile are expected to occur over the first 6 to 15 years post-construction depending on flows. These effects would be minimized by dredging a pilot channel in Reach 2B and actively revegetating the Compact Bypass channel prior to putting flows through the Compact Bypass. Effects are not anticipated at the Eastside Bypass, as it is located approximately 23 miles downstream. As described in Section 12.3.3 of this EIS/R, the maximum estimated water surface increase resulting from this sedimentation is approximately 0.25 foot. Levee improvements would be extended in the upper portion of Reach 3 to approximately RM 203 to offset this water surface increase if needed to maintain 3 feet of freeboard. The hydrologic, hydraulic, and sediment transport modeling performed for this analysis is described in more detail in Appendix C of the design report (Reclamation 2015a).

**Response to Comment O-EC-65**

As described in Section 2.2.4 of this EIS/R, levee and structure protection maintenance for the Project includes repair and restoration of protection measures due to erosion or degradation. This long-term monitoring and maintenance is included in the Action Alternatives.

**Response to Comment O-EC-66**

This sentence was deleted in the Final EIS/R. Deletion of this sentence in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

**Response to Comment O-EC-67**

The recommended capacity for conveyance of Restoration Flows at Reach 2B is 1,120 cfs, based on the ground elevations near the landside levee toe (SJRRP 2016a). Text was revised in Section 12.1.3 of the Final EIS/R to include this clarifying information. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

**Response to Comment O-EC-68**

This sentence was revised in the Final EIS/R to indicate that the increase in conveyance capacity in Reach 2B may have an indirect effect of providing flood management agencies additional flexibility in how flood flows are managed in the lower San Joaquin River system, if deemed appropriate. This sentence is caveated with a footnote that indicates the following: (1) flood management agencies have ultimate discretion in directing flood flows, (2) the Flood Control Project is operated to minimize flood impacts

throughout the flood protection area, and (3) prior to use of the additional capacity in Reach 2B, the flood management agency would evaluate flood operations from a system-wide perspective. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

Also note that seepage and levee stability projects are anticipated to be implemented in the Restoration Area between FY 2015 and FY2029, as discussed in response to comment O-EC-12, MCR-6: Flood Management Considerations and O&M Costs, and MCR-2: Seepage Management. The seepage and levee stability projects are anticipated to have a direct effect by strengthening levees in lower river reaches and by reducing seepage effects for flows up to 4,500 cfs, which would indirectly benefit the City of Firebaugh and landowners along Reach 3 when the same reaches are conveying higher-level flood flows.

***Response to Comment O-EC-69***

Several paragraphs were deleted and text was revised in Section 12.3.3 of the Final EIS/R to indicate that current flood management operational strategies are to maximize the amount of flood flows conveyed through the Chowchilla Bypass to minimize potential flood impacts to the City of Firebaugh and to landowners along Reach 3. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

***Response to Comment O-EC-70***

This comment is substantially the same as comment O-EC-69. See response to comment O-EC-69.

***Response to Comment O-EC-71***

This comment is substantially the same as comments O-EC-68 and O-EC-69. See responses to comments O-EC-68 and O-EC-69.

Additionally, Section 1.6.3 of this EIS/R describes flow scenarios where flood flows and Restoration Flows would be conveyed through Reach 2B. This section indicates that the flood management agencies will have ultimate discretion in directing flood flows, and when both are anticipated in the river, some portion of the San Joaquin River flood flows would perform as Restoration Flows in Reach 2B. Reclamation will not release Restoration Flows on top of flood control releases when flood control releases already meet the Restoration Administrator's flow targets.

***Response to Comment O-EC-72***

The commenter has expressed concerns related to O&M costs for the flood system. It is unclear if the commenter is referring to the O&M costs of the Project facilities or the O&M costs for the Flood Control Project. See response to comment O-EC-14 and MCR-5: Project Funding for more information on the Project O&M costs. See MCR-6: Flood Management Considerations and O&M Costs for more information on the responsible party for O&M of the Flood Control Project.

Also note that Program monitoring and maintenance efforts are included in the budget described in the Revised Framework. Costs to implement the SJRRP's Physical Monitoring and Management Plan and Channel Capacity Advisory Group, which includes actions to ensure that the SJRRP is not impacting flood conveyance in Reach 3, are included in the "Channel Capacity Advisory Group" line item.

***Response to Comment O-EC-73***

The San Joaquin River Restoration Daily Flow Model was developed in RiverWare based on best available information. The Daily Flow Model models the restoration reaches of the San Joaquin River system from Millerton Lake and Friant Dam near Friant, California to just below the confluence with the Merced River near Newman, California. The Daily Flow Model used as its basis of climatology the actual record of precipitation in the basin, from water years 1922 to 2003, and synthesized a future condition under which Restoration Flows were fully operational and unconstrained by channel conveyance. The model accounts for Millerton inflows, Millerton flood operations for rain events and for snowmelt events, outflow ramping at Millerton, Madera and Friant-Kern canals diversions, the Restoration Flow schedule, inflows along the San Joaquin River and flood bypasses, diversion requests, channel flow losses, and flow routing. The Daily Flow Model includes the SJRRP-specific information needed to predict future flows under restoration conditions.

Reclamation has developed climate change projections for four climate change scenarios that are representative of more than 100 discrete climate model simulations and for a fifth "consensus scenario" that is an ensemble of the central tendency of temperature and precipitation. Key conclusions include (Reclamation 2015b):

- The consensus scenario predicts air temperatures in the basin to rise by 3.6° F (2.0° C), with the suite of four scenarios predicting a range from 1.8° to 4.7° F (1.0° to 2.6° C).
- The consensus scenario predicts runoff in the basin to decline by 6 percent, with a suite of four scenarios predicting a range from +25 percent to -31 percent.
- The consensus scenario predicts that reduction in runoff will be primarily from reduced number of "Normal-wet" years in favor of "Normal-dry" years. The proportion of "Dry," "Critical-high," and "Critical-low" water year types are predicted to remain relatively stable under this scenario.
- All scenarios predict the timing of peak runoff to advance, occurring slightly earlier in the year. Earlier runoff as predicted by all climate models may benefit restoration efforts as it more closely coincides the timing of natural runoff with anticipated Restoration Flow releases.

Reclamation's climate change results shows that climate change is both uncertain and variable. The climate change results indicate that runoff to the basin would, on average, decrease by 6 percent, however the variability in this climate change prediction indicates that runoff to the basin could be up to 23 percent higher or 31 percent lower. If the Daily Flow Model was reanalyzed to account for climate change, the uncertainty that would be introduced into the analysis (as seen by climate change predictions for basin runoff that

range +25 percent to -31 percent) would be much greater than the expected change in the results (in this case, a 6 percent decrease in runoff.)

**Response to Comment O-EC-74**

This analysis shows that the frequency increases for 4,500 cfs flows. However, as described in the PEIS/R (and Section 2.2.10), Restoration Flows would be maintained at or below estimates of the then-existing channel capacity in the reaches that convey the flow. Erosion would be monitored and maintenance would occur, or Restoration Flows would be reduced, as necessary, to avoid erosion-related impacts. These avoidance and minimization measures implemented by the Program will reduce the risk of levee failure for flows up to 4,500 cfs. With respect to seepage damage in Reach 3 and the City of Firebaugh, see response to comment O-EC-68.

**Response to Comment O-EC-75**

The flow frequency analysis provided in Section 12.3.3 of this EIS/R describes how often flows of a certain size would occur and shows that flows below the 2 percent annual exceedance would occur more frequently under restoration conditions; it does not predict that there would be a 2,000 cfs increase in flows.

Section 12.3.3 of the Final EIS/R provides additional information on whether a given event would be larger with implementation of the Action Alternatives and result in more damages. SJRRP conducted a flood risk assessment on the translation of flood risk from Reach 2B to reaches downstream, *i.e.*, to Reach 3 and Reach 4A. The objective of the analysis was to determine if damages would change based on changes in the flood hydrographs and if the likely failure points for levees used in the PEIS/R evaluation were reasonable. The analysis included a comparison of flood hydrographs at four index points in Reaches 3 and 4A, an evaluation of flood damages at these locations, and an evaluation of the updated levee data in Reach 3 and Reach 4A. The study concluded that, based on a comparison of changes to flood hydrographs, there would be little to no increase in damages – the one area that showed a slight increase in damages was likely due to perturbation effects in the model – and therefore redirected flood impacts would be minor. Furthermore, the risk analysis also evaluated information from recently completed levee evaluations including the drilling information and seepage and stability analysis in Reaches 2A, 3, and 4A. A review of the levee evaluations concluded that the likely failure points for these levees that were used in the PEIS/R were reasonable and conservative. See MCR-6: Flood Management Considerations and O&M Costs for additional details.

As described in the PEIS/R (and Section 2.2.10), Restoration Flows would be maintained at or below estimates of the then-existing channel capacity within the reaches that convey the flow. In addition, seepage projects and levee stability projects have been identified in the Restoration Area where potential seepage impacts or levee stability would otherwise cause a constraint in Restoration Flows, including areas near the City of Firebaugh. Restoration Flows would not increase in the river reaches until Reclamation, through the seepage management efforts and through the channel capacity report process, determines that such flows would not damage adjacent landowners or impact levee stability. Erosion would also be monitored and maintenance would occur, or Restoration Flows would be

reduced, as necessary, to avoid erosion-related impacts. (See MCR-6: Flood Management Considerations and O&M Costs and MCR-2: Seepage Management.)

This information is included in Section 12.3.3 of the Final EIS/R. The inclusion of this additional information in the Final EIS/R does not change the conclusions of the Draft EIS/R.

***Response to Comment O-EC-76***

This paragraph was deleted and text was revised in Section 12.3.3 of the Final EIS/R to describe the avoidance and minimization measure that would be implemented by the Program (see response to comment O-EC-75). This revision in the Final EIS/R does not change the conclusions of the Draft EIS/R. Current flood management strategies are also clarified, as discussed in response to comment O-EC-69.

***Response to Comment O-EC-77***

The commenter expresses concerns related to O&M costs for the flood system. It is unclear if the commenter is referring to the O&M costs of the Project facilities or the O&M costs for the Flood Control Project. See response to comment O-EC-14 and MCR-5: Project Funding for more information on the Project O&M costs. See MCR-6: Flood Management Considerations and O&M Costs for more information on the responsible party for O&M of the Flood Control Project.

***Response to Comment O-EC-78***

This comment is referring to comments O-EC-68 through O-EC-77. See response to comments O-EC-68 to O-EC-77.

***Response to Comment O-EC-79***

A public draft document is not yet available for the 20-Year Extension of the 2005 Mendota Pool Exchange Agreements. The groundwater studies and modeling expected to be included in the 20-Year Extension document are not referenced in Section 13.1 of this EIS/R because the information is not publicly available.

***Response to Comment O-EC-80***

With respect to subsidence, refer to response to comment O-EC-7 and MCR-3: Subsidence for a summary of recent actions conducted by Reclamation and DWR to evaluate and monitor subsidence in the Restoration Area. Also note that subsidence and its relationship to groundwater is discussed in Sections 13.1.1 and 13.1.2 of the Draft EIS/R. Additional data compiled by Reclamation for recent (December 2011 to December 2015) subsidence rates in the Project area are included in the Final EIS/R. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

With respect to reduction in downstream channel capacity, as described in the PEIS/R and in Section 2.2.10 of this EIS/R, Restoration Flows would be maintained at or below estimates of the then-existing channel capacity in the reaches that convey the flow. Refer to MCR-6: Flood Management Considerations and O&M Costs for additional information on how Reclamation determines then-existing channel capacity. Because the

reaches are connected, flows through Reach 2B would be less than 4,500 cfs until downstream river seepage and levee stability projects are completed and Reclamation, in compliance with the commitments it made in the PEIS/R ROD (Reclamation 2012) and consistent with the requirements in its water rights order, has determined that the non-damaging channel capacity is 4,500 cfs. This is not considered inconsistent with successful restoration efforts. Additionally, subsidence near the Red Top area in Reach 3 actually slightly decreases the water surface elevations in Reach 2B due to increasing the gradient of the river.

**Response to Comment O-EC-81**

See response to comment O-EC-7 and MCR-3: Subsidence for a summary of recent actions conducted by Reclamation and DWR to evaluate and monitor subsidence in the Restoration Area and for a discussion of how subsidence has been accounted for in the Project design. Conducting a detailed Valley-wide subsidence analysis based on projections of Delta exports is beyond the scope of this EIS/R. The EIS/R is based on the level of engineering and planning detail currently available and is adequate to identify potential environmental impacts of the alternatives and identify appropriate mitigation measures. The Project would construct set-back levees and expand the floodplain in Reach 2B, increasing local infiltration from river flows and recharging the shallow groundwater. With respect to subsidence, Project actions would result in minor, localized beneficial effects.

Factors such as water temperature are being considered in Project development, to the extent feasible, based on Reclamation analyses, Technical Advisory Committee reports, and Restoration Administrator recommendations, and Implementing Agency input. Strategies being used during design include, but are not limited to, the following.

- Enhanced riparian vegetation can substantially lower water temperatures by several degrees, particularly if shading is increased over several miles of riverway. The SJRRP has evaluated shading scenarios in a calibrated and verified water temperature model for the San Joaquin River, finding that dense riparian vegetation shading can reduce summer temperatures by approximately 3° F.
- Altering the river geomorphology, principally by narrowing the low-water channel, can also have a beneficial impact upon water temperature. SJRRP modeling demonstrates that reducing channel width and increasing channel depth may reduce summer temperatures by 3° to 9° F.
- Water temperature models available for the San Joaquin River do not adequately characterize the thermal structure of deep pools in the river, which provide a refuge for fish during periods of warmer water temperatures. These thermal refugia already exist in the San Joaquin River and bypasses and will improve fish survival during warmer periods.
- Fish temperature thresholds are generally protective of the full range of fish temperature tolerances, and thus a self-sustaining naturally reproducing population may be possible without meeting temperature thresholds during all migration windows. Fish temperature thresholds represent key aspects of their

tolerances, and operate over a gradient – not an absolute number; critical temperatures do not mean all fish die, but that on average their survival decreases.

**Response to Comment O-EC-82**

The commenters concern about the extent of the Project area is similar to comment O-EC-56. See response to comment O-EC-56 regarding the extent of the Project area. See also response to comment O-EC-12, MCR-6: Flood Management Considerations and O&M Costs, and MCR-2: Seepage Management regarding conveyance of flows through Reach 2B, implementation of downstream seepage and levee stability projects, and SJRRP's commitment to maintain Restoration Flows below then-existing channel capacities.

**Response to Comment O-EC-83**

Refer to response to comment O-EC-7 and MCR-3: Subsidence for a summary of recent actions conducted by Reclamation and DWR to evaluate and monitor subsidence in the Restoration Area. Additional data compiled by Reclamation for recent (December 2011 to December 2015) subsidence rates in the Restoration Area and the Project area are included in Sections 13.1.1 and 13.1.2 of the Final EIS/R. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

**Response to Comment O-EC-84**

Refer to response to comment O-EC-7 and MCR-3: Subsidence for a summary of recent actions conducted by Reclamation and DWR to evaluate and monitor subsidence in the Restoration Area (inclusive of both the river channels and the Flood Control Project), how recent subsidence data have been used to support the Project design and the design of other SJRRP projects, and for a summary of the upcoming subsidence-related studies that will be conducted by Reclamation and DWR.

Additional data compiled by Reclamation for recent (December 2011 to December 2015) subsidence rates in the Restoration Area and the Project area are included in Sections 13.1.1 and 13.1.2 of the Final EIS/R. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

**Response to Comment O-EC-85**

Although Traum et al. (2014) provided updated information regarding the USGS Central Valley Hydrologic Model (CVHM) model and the San Joaquin River Restoration Program Groundwater Model (SJRRPGW), as described in the section on "Future Work" for that report, the existing conditions baseline and the future conditions baseline is not fully developed. Additional Project-specific modeling using the levee alignments in the Action Alternatives was needed to evaluate effects.

**Response to Comment O-EC-86**

As discussed in response to comment O-EC-16 and MCR-2: Seepage Management, seepage control measures in the Project area are included as part of the Project design for the Action Alternatives. Seepage control measures would be included, as necessary, in Project areas where seepage is likely to affect adjacent land uses (*i.e.*, where native soils

do not provide sufficient control for under-seepage). The EIS/R identifies potential impacts to areas adjacent to the levees where a variety of the seepage management measures could be implemented in the Project area. These impacts are described in Chapters 4 through 24 of the EIS/R. See also response to comment O-EC-5 and MCR-4: Project Design and Operations regarding the level of design needed for the environmental review.

The current design for the Compact Bypass includes bentonite slurry cut-off walls in the levees surrounding the Compact Bypass and in the north levee from about river mile (RM) 206 and 208. The cutoff walls would be about 3 feet wide and would extend 15 to 20 feet below grade and about 8 feet above grade. Inspection trenches would also be included periodically, where needed. A bentonite slurry cut-off wall may be constructed to control groundwater seepage elsewhere on the floodplain, although other seepage control measures may also be used, such as drainage ditches, interceptor lines, or seepage easements. The seepage control measures used in the Reach 2B improvements area would be finalized based on site evaluations, suitability of site conditions, feasibility, and landowners and stakeholder input. Reclamation will continue to work with landowners and stakeholders in the Reach 2B area during the design process. Reclamation held a design briefing for updates in the design of the Compact Bypass on November 18, 2015, inviting landowners and stakeholders in the Reach 2B area to provide feedback. Similar design briefings are anticipated for the Reach 2B improvements area as the design progresses.

***Response to Comment O-EC-87***

This comment discusses seepage management measures in the Project area and raises issues that are similar to comment O-EC-86. Refer to response to comment O-EC-86 for a response to these issues. Also note that fee title land acquisition for seepage management was removed from the potential measures analyzed in the Final EIS/R. The removal of this potential management measure in the Final EIS/R does not change the conclusions of the Draft EIS/R.

***Response to Comment O-EC-88***

See response to comment O-EC-12, MCR-2: Seepage Management, and MCR-6: Flood Management Considerations and O&M Costs, regarding conveyance of flows through Reach 2B, implementation of downstream seepage and levee stability projects, and SJRRP's commitment to maintain Restoration Flows below then-existing channel capacities.

The Project would increase the conveyance capacity of Reach 2B, which would allow more water to be conveyed past Reach 2B when the Project is complete. However, the release of larger Restoration Flows that could fill this capacity (*i.e.*, flows up to 4,500 cfs), and the timing and effects of those flows, have already been analyzed in the PEIS/R. In addition, Mendota Pool and Reach 2B Improvements (Paragraph 11(a) projects in the Settlement) were analyzed at a programmatic level in the PEIS/R, which included consideration of the increased capacity when evaluating Restoration Flows. Overall SJRRP activities are outside of the scope of this Project. Effects from the Restoration

Flows, in-and-of themselves, are not re-analyzed in this EIS/R as Project impacts or benefits.

**Response to Comment O-EC-89**

See response to comment O-EC-13 for a discussion of Project construction phasing. It is important to clarify that when the EIS/R uses the term phasing, it is specifying that the construction is necessarily being scheduled over time to be realistic and achievable. The construction schedule and timing for construction of the Project is introduced in Chapters 1 and 2 of this EIS/R, and analyzed in the resource chapters.

See MCR-5: Project Funding for a discussion of Project construction funding and funding sources. Reclamation would be funding Project construction. The SJRRP would have funds to build the Project with funds from the San Joaquin River Restoration Fund and appropriated funds allocated to the SJRRP. Seepage projects in Reach 2B would be constructed concurrently with the rest of the Project.

See response to comment O-EC-14 and MCR-5: Project Funding for a discussion of Project O&M costs and funding sources. Reclamation is planning for \$200,000 annually for O&M of the Compact Bypass, which would include costs for maintenance of fish facilities, and another \$200,000 annually for O&M of the Reach 2B setback levees and floodplain.

**Response to Comment O-EC-90**

Section 14.1.2 of this EIS/R provides a general description of Mendota Pool. The importance of water deliveries for the Project is first introduced in Section 1.1 of this EIS/R and is expanded in Section 1.4 where Paragraph 11(a)(1) of the Settlement is used to define the purpose and objectives of the Project. Water deliveries to the Exchange Contractors is further discussed in the Action Alternatives (Section 2.2)

Text was revised in Section 14.1.2 of the Final EIS/R to indicate that flows for Arroyo Canal are up to 700 cfs. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R.

**Response to Comment O-EC-91**

This comment refers to the reduced volume of the Mendota Pool that would be caused by the Project and raises issues that are similar to comment O-EC-42. See response to comment O-EC-42. Also note that the environmental setting is used to describe the existing conditions, not potential Project impacts.

**Response to Comment O-EC-92**

This comment refers to the reduced volume of the Mendota Pool that would be caused by the Project and raises issues that are similar to comment O-EC-43. See response to comment O-EC-43.

**Response to Comment O-EC-93**

Documents referenced in the EIS/R include published studies conducted for the SJRRP Restoration Area and for Reach 2B. These documents are not attached as EIS/R appendices because they were published elsewhere (*e.g.*, on Reclamation's or the

SJRRP's website). Section 14.3.3 of this EIS/R includes a description of the results of the sediment transport analyses by Tetra Tech (2011) and sediment-transport modeling by Reclamation (2011b) where the results are used as part of the impact analyses. The detailed input data, methods, calibration, and quantitative analysis results can be found in those modeling studies. These studies can be accessed at <http://www.restoresjr.net/restoration-goal/2b-and-mendota-reach-bypass/>.

***Response to Comment O-EC-94***

As described in responses to comments O-EC-5, O-EC-48, and MCR-4: Project Design and Operations, the EIS/R is based on the level of engineering and planning currently available and is adequate to identify potential environmental impacts of the alternatives and identify appropriate mitigation measures. Detailed hydraulic analyses and plans will be completed in the later stages of design. While final design and operations details are not available at this time, Reclamation would continue to coordinate with and seek input from the Exchange Contractors and the LSJLD, as it has done in the past, throughout the final design process to ensure continued operations of all water supply and flood control facilities during and after construction.

***Response to Comment O-EC-95***

The commenter expresses concerns related to O&M costs for the flood system. It is unclear if the commenter is referring to the O&M costs of the Project facilities or the O&M costs for the Flood Control Project. See response to comment O-EC-14 and MCR-5: Project Funding for more information on the Project O&M costs. See MCR-6: Flood Management Considerations and O&M Costs for more information on the responsible party for O&M of the Flood Control Project.

As described in the PEIS/R (and in Section 2.2.10 of this EIS/R), the SJRRP would closely monitor erosion in the river and perform maintenance and/or reduce restoration flows as necessary to avoid erosion-related impacts. Sediments from Reach 2B are not anticipated to reach the Eastside Bypass, as the bypass is located approximately 23 miles downstream. Costs to implement the SJRRP's Physical Monitoring and Management Plan and Channel Capacity Advisory Group, which includes actions to ensure that the SJRRP is not impacting flood conveyance in Reach 3, are included in the "Channel Capacity Advisory Group" line item in the Revised Framework.

***Response to Comment O-EC-96***

The design of the Compact Bypass channel and the Compact Bypass structures are inter-related and based on the same hydraulics. As described in Section 14.3.3 of this EIS/R, channel bed erosion is expected in Reach 2B after construction of the Compact Bypass to remove sediment that has been deposited in the San Joaquin River arm of Mendota Pool. This would result in sediment deposition in the Reach 3 channel. The Reach 3 deposition is anticipated to be up to 7 feet thick near the downstream end of the Compact Bypass and gradually decrease to zero deposition approximately 1 mile downstream (RM 203). These changes in the bed profile are expected to occur over the first 6 to 15 years post-construction depending on flows. These effects would be minimized by dredging a pilot channel in Reach 2B and actively revegetating the Compact Bypass channel prior to putting flows through the Compact Bypass. Effects are not anticipated at the Eastside

Bypass, as it is located approximately 23 miles downstream. As described in Section 12.3.3 of this EIS/R, the maximum estimated water surface increase resulting from this sedimentation is approximately 0.25 foot. Levee improvements would be extended in the upper portion of Reach 3 to approximately RM 203 to offset this water surface increase if needed to maintain 3 feet of freeboard.

The hydrologic, hydraulic, and sediment transport modeling performed for this analysis is described in more detail in Appendix C of the design report (Reclamation 2015a; available at <http://www.restoresjr.net/restoration-goal/2b-and-mendota-reach-bypass/>). This analysis is appropriate and is based on the best available information to characterize the sediment loads, bed material, and sediment transport conditions.

***Response to Comment O-EC-97***

This comment is referring to the sediment transport modeling performed for the Project design and raises issues that are similar to comment O-EC-96. See the responses to comments O-EC-93 and O-EC-96.

***Response to Comment O-EC-98***

The maximum potential extent of Reach 2B seepage impacts outside of the setback levees would be less than 0.5 mile (see Figures 13-8, 13-9, and 13-10; Note: these figures show estimated groundwater depth if seepage control measures are not implemented.) However, seepage control measures would be included, as necessary, in Project areas where seepage is likely to affect adjacent land uses. These measures are included in the levee design in the Action Alternatives for the full range of design flows of up to 4,500 cfs. This Project-specific information is considered in evaluating Impact LU-4 (Degradation of Agricultural Land Productivity due to Seepage).

See response to comment O-EC-12, MCR-2: Seepage Management, and MCR-6: Flood Management Considerations and O&M Costs, regarding conveyance of flows through Reach 2B, implementation of downstream seepage and levee stability projects, and SJRRP's commitment to maintain Restoration Flows below then-existing channel capacities.

The Project would increase the conveyance capacity of Reach 2B, which would allow more water to be conveyed past Reach 2B when the Project is complete. However, the release of larger Restoration Flows that could fill this capacity (*i.e.*, flows up to 4,500 cfs), and the timing and effects of those flows, have already been analyzed in the PEIS/R. Overall SJRRP activities are outside of the scope of this Project.

***Response to Comment O-EC-99***

This comment raises issues that are substantially similar to comment O-EC-25. Refer to response to comment O-EC-25 for a response to these issues.

***Response to Comment O-EC-100***

This comment raises issues that are substantially similar to comment O-EC-20. Refer to response to comment O-EC-20 for a response to these issues.

***Response to Comment O-EC-101***

This comment raises issues that are substantially similar to comment O-EC-20. Refer to response to comment O-EC-20 for a response to these issues.

***Response to Comment O-EC-102***

This comment raises issues that are substantially similar to comment O-EC-20. Refer to response to comment O-EC-20 for a response to these issues.

***Response to Comment O-EC-103***

This comment raises issues that are substantially similar to comment O-EC-28 and O-EC-86. Refer to response to comments O-EC-28 and O-EC-86 and MCR-2: Seepage Management for a response to these issues. Also note that fee title land acquisition for seepage management was removed from the potential measures analyzed in the Final EIS/R. The removal of this potential management measure in the Final EIS/R does not change the conclusions of the Draft EIS/R.

***Response to Comment O-EC-104***

As described in Section 21.3.1 of this EIS/R, regional economic impacts from Project spending and changes in agricultural production have been assessed using the Impact Analysis for Planning (IMPLAN) model. The IMPLAN modeling accounts for the economic effects of taking the land out of agricultural production, effects to the local economy (including nearby communities) based on inter-industry linkages between the agricultural sector and other sectors of the economy, and effects to the regional economy. The IMPLAN model performs an input-output analysis, measuring the flow of commodities and services among industries, institutions, and final consumers within an economy. This type of input-output model captures all monetary market transactions for consumption in a given time period accounting for inter-industry linkages and availability of regionally produced goods and services. This is the best available information for determining these types of impacts.

As described in Impact ECON-1, the direct economic effect on agricultural landowners in the Project area would be negligible because privately-owned farmland would be purchased from landowners at fair market value.

See also response to comment O-EC-20 for a discussion of Third Party impacts.

***Response to Comment O-EC-105***

This comment refers to prior comments regarding the formulation of the No-Action Alternative. See response to comment O-EC-25 for a response to this issue.

***Response to Comment O-EC-106***

See response to comment O-EC-98 and MCR-2: Seepage Management for a discussion of seepage impacts in the Project area. See response to comment O-EC-20 for a discussion of Third Party impacts.

***Response to Comment O-EC-107***

This comment raises issues that are substantially similar to comment O-EC-104. See the response to comment O-EC-104 for a response to this issue.

***Response to Comment O-EC-108***

This comment refers to prior comments regarding potential impacts from the Project on economics and socioeconomics. See response to comments O-EC-98, O-EC-104, and O-EC-106 and MCR-2: Seepage Management.

***Response to Comment O-EC-109***

This comment is referring to seepage projects in the Restoration Area and raises issues that are similar to comment O-EC-12 and O-EC-16. See response to comments O-EC-12, O-EC-16, MCR-2: Seepage Management, and MCR-6: Flood Management Considerations and O&M Costs, regarding conveyance of flows through Reach 2B, implementation of downstream seepage and levee stability projects, and SJRRP's commitment to maintain Restoration Flows below then-existing channel capacities.

***Response to Comment O-EC-110***

Stakeholder involvement has been a priority in the development of this Project and as Reclamation has worked to meet its obligations in the Settlement and Settlement Act.

## II.6.3 Mitigation Lands Trust

**1986 Mitigation Lands Trust  
4888 E. Jensen Ave  
Fresno, CA 93725  
559-266-0767**

August 10, 2015

Ms. Becky Victorine, Project Manager  
Bureau of Reclamation  
San Joaquin River Restoration Program Office  
MP-170, 2800 Cottage Way  
Sacramento, CA 95825-1898  
Email: Reach2B\_EISEIR\_Comments@restoresjr.net

Mr. Christopher Huitt, Project Manager  
California State Lands Commission  
100 Howe Avenue, Suite 100-South  
Sacramento, CA 95825-8202  
Email: CEQAcomments@slc.ca.gov

Subject: Comments on San Joaquin River Restoration Program  
Mendota Pool Bypass and Reach 2B Improvements Project  
Draft Environmental Impact Statement / Environmental Impact Report

Dear Ms. Victorine/Mr. Huitt:

**O-  
MLT-1**

Please accept the following comments on the above-referenced San Joaquin River Restoration Program (SJRRP) Mendota Pool Bypass and Reach 2B Improvements Project Draft Environmental Impact Statement/Environmental Impact Report (DEIS/R) on behalf of the 1986 Mitigation Lands Trust (MLT). Please include these comments in the administrative record for the SJRRP Mendota Pool Bypass and Reach 2B Improvements Project DEIS/R.

**O-  
MLT-2**

The two land parcels that the MLT owns in Madera County are in the alignment of the compact bypass channel that is shown in all alternatives presented. As such it is our understanding that the project will be looking to acquire said parcels. While the MLT has numerous concerns regarding the proposed activities, the primary concern at this point in time is that our property will receive fair market value for all water rights and assessed acreage.

Thank you for your consideration of our comments. If you have any questions in regards to these comments, please direct these to:

Steven Haugen, Trustee  
1986 Mitigation Lands Trust  
4888 E. Jensen Ave.  
Fresno, CA 93725  
(559) 266-0767  
shaugen@kingsriverwater.org

A handwritten signature in blue ink that reads "Steven Haugen". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Steven Haugen  
Trustee  
1986 Mitigation Lands Trust

## **II.6.4 Responses to Mitigation Lands Trust**

### ***Response to Comment O-MLT-1***

Your comments have been reviewed and considered in preparation of the Final EIS/R.

### ***Response to Comment O-MLT-2***

The land acquisition process for the Project will be consistent with existing Federal standards and processes. Consistent with Federal law, Reclamation complies with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the Uniform Appraisal Standards for Federal Land Acquisitions, and the Department of Justice Title Standards for land acquisition actions. These standards require assessing fair market value. The Office of Valuation Services reviews appraisals and approves them for government use. Appraisers to date have taken a comparison sales approach to determine the fair market value of properties, based on the highest and best use of a property.

## II.6.5 Wonderful Orchards

Wonderfulorchards.

August 10, 2015

Becky Victorine  
U.S. Bureau of Reclamation  
2800 Cottage Way, MP-170  
Sacramento, CA 95825

Christopher Huitt, Senior Environmental Scientist  
California State Lands Commission  
100 Howe Ave., Suite 100 South  
Sacramento, CA 95825

VIA EMAIL TO [Reach2B\\_EISEIR\\_Comments@restoresjr.net](mailto:Reach2B_EISEIR_Comments@restoresjr.net)

Re: Comments on Draft Mendota Pool Bypass and Reach 2B Channel Improvements Project  
Environmental Impact Statement/Environmental Impact Report

Dear Ms. Victorine:

O-WO-1

Wonderful Orchards (formerly Paramount Farming Company), on behalf of Wonderful Nut Orchards who owns New Columbia Ranch (“Wonderful”), located on the east side of Reach 2B of the San Joaquin River upstream of the Mendota Pool between River Miles 205 and 216 submits the following comments. Wonderful holds and exercises rights to divert the water of the San Joaquin River and its sloughs for use on the New Columbia Ranch. The Mendota Pool Bypass and Reach 2B Channel Improvements Project (“Project”) includes the construction, operation, and maintenance of the Mendota Pool Bypass and improvements in the San Joaquin River channel in Reach 2B. The purpose of the Project is to provide increased channel capacity and floodplain and riparian habitat in Reach 2B in support of achieving the Restoration Goal, including conveyance of at least 4,500 cubic feet per second (“cfs”) from Reach 2B downstream to Reach 3. The Draft Environmental Impact Statement/Environmental Impact Report for the Project (the “DEIS/DEIR”) identifies Alternative B (Compact Bypass with Consensus-Based Floodplain and Bifurcation Structure) as the Preferred Alternative.

Wonderful will be directly affected by each of the Project alternatives in a number of ways and therefore submits the following comments on the DEIS/DEIR for the Project.

O-WO-2

1. Land Use Planning and Agricultural Resources

Impacts LU-1 through LU-3 relate to the loss of agricultural land caused by the Project and are characterized as significant and unavoidable impacts. Each Project Alternative will result in the permanent loss of over 1,000 acres currently devoted to high-value agricultural production. Under Alternative B, the Preferred Alternative, Wonderful anticipates that permanent losses to productive

6801 East Lerdo Highway, Shafter, California 93263 · 661.399.4456 · 651.399.1735

I-15659.2

farmland on the New Columbia Ranch will total approximately 560 gross acres at a minimum and an additional approximately 1,060 gross acres of Wonderful acreage is identified as potential borrow areas, which could substantially increase the impacts to our land uses.

The only mitigation measure evaluated in the Draft is the “minimization” of impacts LU-1 through LU-3. The Final EIS/EIR must identify whether other potential mitigation measures for these impacts were considered and indicate why they were rejected. If no other mitigation measures were considered for these significant impacts, Reclamation should attempt to develop additional mitigation measures, and thoroughly explain why any such measures have been rejected. Specifically, Reclamation must analyze the feasibility of purchasing agricultural conservation easements or donating in-lieu mitigation fees to mitigate for the impacts of the Project on agricultural lands. See *Masonite Corp. v. County of Mendocino* (2013) 218 Cal.App.4th 230, 241-42.

**O-WO-3**

Similarly, Mitigation Measure LU-5 cannot mitigate Impact LU-5 to a less than significant level. Impact LU-5 finds impacts to existing land use plans to be potentially significant because nearly all of the land in the Project area is zoned for agricultural use. As the DEIS/DEIR makes clear, the Project will take a significant amount of agricultural land out of production, conflicting with the predominant zoning designation in the Project area. Without any explanation, Reclamation asserts that “notifying affected planning agencies of conflicts with current land use plans” can reduce Impact LU-5 to a less than significant level. It is unclear how notification alone can effectively mitigate the effects of this impact, and Reclamation must support its determination in the Final EIS/EIR with substantial evidence.

**O-WO-4**

Furthermore, Reclamation’s finding that impacts to agricultural land productivity due to seepage (Impact LU-4) will be less than significant is not sufficiently supported. Reclamation’s finding appears to be premised on the implementation of seepage-related measures discussed in Section 2.2.4 of the DEIS/DEIR. Yet groundwater seepage will only be addressed during levee design and through the SJRRP’s seepage management activities in separate environmental analyses. DEIS/DEIR at ES-30. If Reclamation intends to rely on seepage management measures to reduce the Impact LU-4 to a less than significant level, it must thoroughly analyze those measures in *this* environmental analysis.<sup>1</sup> *Banning Ranch Conservancy v. City of Newport Beach* (2012) 211 Cal.App.4th 1209, 1220-23 (explaining CEQA’s prohibition of piecemealing projects).

**O-WO-5**

Finally, Reclamation’s determination that Impact LU-6 is less than significant ignores both the context of the Project and the intense adverse effects that would result from increased disease in the Project area. As the DEIS/DEIR acknowledges, approximately 4,212 acres of land are currently in agricultural production in the Project area. Most of this acreage is planted to grapes and nut crops. The DEIS/DEIR observes that additional riparian vegetation and floodplain area could transmit diseases to fruit and nut crops, but downplays the seriousness of these diseases by asserting that existing crops may already act as carriers for diseases. Nothing in the DEIS/DEIR demonstrates that fruit and nut crops in the Project area already carry diseases, or that farmers in the Project area engage in management practices that might increase the susceptibility of their crops to disease. Without such evidence, Reclamation’s less than significant finding is inappropriate.

**O-WO-6**

Reclamation also wrongly premises its less than significant finding on the fact that disease is only one of many factors affecting agricultural productivity. It may be true that disease plays a

<sup>1</sup> In addition, Wonderful hereby incorporates by reference its prior comment letters submitted to Reclamation regarding groundwater seepage issues, copies of which are attached hereto as Attachment A.

**O-WO-6  
cont.**

comparatively small role in productivity when such factors are analyzed on a global scale. But when diseases are introduced into a new area, they frequently become the *most* important factor in agricultural productivity. Here, Reclamation intends to introduce over a thousand acres of additional hosts for orchard and vineyard diseases in an area overwhelmingly devoted to agriculture. Reclamation cannot credibly assert that the introduction of new hosts for such diseases is a less than significant impact. Accordingly, Reclamation must reexamine its finding for Impact LU-6.

2. Hydrology – Flood Management

**O-WO-7**

The DEIS/DEIR concludes that the Project will have a less than significant impact with respect to the exposure of people or structures to a significant risk of loss, injury, or death involving flooding. The less-than-significant finding is predicated upon the assumption that an increase in the frequency of smaller, low-risk flood events will be offset or partially offset by a decrease in larger, high-risk flood events. See DEIS/DEIR at 12-18; 12-21. It is not clear from the DEIS/DEIR how Reclamation determined that the decreasing frequency of high-risk events would result in an offset of more frequent low-risk events such that the effect could be characterized as “neutral” and “less than significant.”

As a practical matter, numerous low-risk flood events have the potential to stress physical groundwater seepage projects to the point that they become less effective. Furthermore, it is not clear to Wonderful that the decrease in high-risk flood events associated with the Preferred Alternative will actually offset the increased frequency of low-risk flood events to a less than significant level, nor that sufficient scientific evidence or modeling has been conducted by Reclamation to support the assertion that high-risk flood events will decrease. Wonderful accordingly requests that the Final EIS/EIR include a more thorough explanation of how the determination of a decrease in high-risk flood events was determined and how the increase in low-risk events will be offset by the decrease in high-risk events, including greater discussion of the potential impacts of lower-risk events on landowners like Wonderful. The Final EIS/EIR should also more thoroughly analyze the type and degree of monitoring and maintenance efforts to repair levee erosion from Restoration flows, and provide a clear explanation of how such maintenance will keep levee erosion from having a significant impact on the environment.

**O-WO-8**

The DEIS/DEIR also notes that the Lower San Joaquin Levee District (“LSJLD”) is responsible for state flood control facilities within the Project vicinity, but is not responsible for the operation and maintenance of privately owned levees. DEIS/DEIR at 12-11. The DEIS/DEIR does not sufficiently address how Reclamation and the SJRRP will work with private levee owners to ensure that the Project does not have a significant impact on hydrology and flood management. It is also unclear whether LSJLD will have the responsibility for newly constructed levees contemplated by the Project.

**O-WO-9**

Wonderful continues to be concerned about the intended division of responsibilities for levee construction, operations, and maintenance in Reach 2B. Clarification of which agencies will be responsible for constructing, operating, and maintaining the contemplated setback levees and existing levees and the funding (construction funding and future replacement, repair, operations and maintenance costs) sources for such activities must be clearly stated in the Final EIS/EIR. Wonderful therefore requests that the Final EIS/EIR include a more detailed description of the entities that will be responsible for maintaining new levees associated with the Project. It should also more thoroughly delineate how Reclamation will work with private levee owners to avoid significant impacts to the environment.

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O-WO-10

Reclamation further observes that, with the exception of the No-Action Alternative, each Project Alternative poses a less-than-significant risk of substantially altering existing drainage patterns or substantially increasing the rate or amount of surface runoff in a manner which would result in flooding on or off-site (Impact FLD-3). The DEIS/DEIR asserts that the construction of seepage control measures, along with surface drainage ditches, will reduce potential effects of this impact to “negligible levels.” This conclusion is wholly unsupported. There is no discussion in the DEIS/DEIR of where surface drainage ditches will be located or how many will be needed to reduce the impact of landward side ponding to a less than significant level. Furthermore, it is unclear how seepage control measures, which are designed to prevent increases in groundwater table levels due to the implementation of Restoration Flows, will prevent surface flooding on the landward side of levees. Without more support, Reclamation’s analysis of Impact FLD-3 cannot and will not be sufficient to support certification of a Final EIS/EIR.

O-WO-11

Finally, and relatedly, Reclamation’s decision to not analyze the impacts of contemplated seepage management projects in the DEIS/DEIR appears to be improper piecemealing of the Project. DEIS/DEIR at ES-30; 13-22 – 13-23. The DEIS/DEIR makes it clear that seepage management projects will be constructed concurrently with the setback levees contemplated by each of the Project Alternatives. DEIS/DEIR at 13-22 – 13-23. Accordingly, seepage management projects are effectively part of the same course of action as the Project itself, and should be analyzed in the Final EIS/EIR for the Project. *Banning Ranch Conservancy v. City of Newport Beach* (2012) 211 Cal.App.4th 1209, 1222.

O-WO-12

Significant subsidence has occurred in areas nearby and downstream of Reach 2B which have significantly altered the flood control and in-channel capacities of various stretches of the San Joaquin River and the Chowchilla Bypass, Mariposa Bypass and Eastside Bypass. The impacts of conveying 4,500 cfs in Reach 2B, in light of reduced capacities elsewhere, must be addressed by Reclamation. Wonderful asks Reclamation to conduct updated technical studies and modeling and issue updated channel capacities to properly reflect these significant changed circumstances and ensure landowners within the SJRRP area are not impacted by Program flows due to reduced capacities in other reaches or systems. Reclamation should conduct these updated technical studies as soon as possible. Without such studies, neither Reclamation nor affected parties such as Wonderful can adequately evaluate the impact of existing subsidence on the Project and the potential impacts of the Project.

O-WO-13

3. Hydrology – Groundwater<sup>2</sup>

The Draft finds that impacts to groundwater levels will be less than significant (Impact GRW-3). Reclamation predicates this finding on the construction of seepage control measures (DEIS/DEIR at 13-23), but fails to fully explain such measures or analyze their impacts in this environmental document. *Id.* at ES-30; 13-22—13-23. Given this improper piecemealing of the Project to exclude analysis of seepage control measures, Reclamation’s less than significant finding for Impact GRW-3 is improper. *Nelson v. County of Kern* (2010) 190 Cal.App.4th 252, 272. Accordingly, Reclamation must either thoroughly analyze the effects and impacts of proposed seepage measures in the Final EIS/EIR or revise its finding for Impact GRW-3.

<sup>2</sup> Wonderful incorporates by reference its prior comment letters on the groundwater impacts of the SJRRP into this comment letter, copies of which are attached hereto as Attachment A.

4. Hydrology – Surface Water

O-WO-14

There are numerous ways in which the discussion of impacts on Surface Water could be improved. First, the DEIS/DEIR’s discussion of water rights (see p. 14-28) does not include any discussion of riparian rights or pre-1914 appropriative rights, such as those held by Wonderful. The DEIS/DEIR must include a discussion of these types of water rights, and the Project’s impacts on such rights, in order to be complete. In particular, the expansion of the floodplain area in Reach 2B may interfere with Wonderful’s existing points of diversion along the River at Lone Willow Slough and near River Mile 209 and potentially require construction of additional diversion and conveyance facilities.<sup>3</sup>

O-WO-15

Second, it is unclear how Reclamation determined that the Action Alternatives will result in a less than significant impact to channel instability within Reach 2B (Impact GEM-2). Channel bed erosion “is anticipated to be up to 7 to 8 feet deep near the upstream end of the Compact Bypass,” resulting in sediment deposition up to 7 feet thick near the downstream end of the bypass. DEIS/DEIR at 14-43. The evaluation of this impact conclusory states that this erosion will be controlled by the Compact Bypass bifurcation structure as well as grade control structures in the bypass channel, but does not indicate how such structures will do so or provide any way of evaluating whether the DEIS/DEIR’s finding of a less-than-significant impact is actually supported by substantial evidence.

O-WO-16

Third, Impact GEM-3 appears to be significant because of the potential for bend cutoff immediately downstream from the Chowchilla Bifurcation Structure. *Id.* at 14-44. Although levees will be set back 300 feet from the river, erosion at this bend will have a greater environmental impact than mere levee erosion. Indeed, it is difficult to understand how rapid bend cutoff, left unmitigated, would **not** have a significant effect on the environment. Moreover, if bend cutoff does occur as rapidly as the DEIS/DEIR indicates it might, it is unlikely that erosion protection techniques will be implemented in time to avoid impacts on neighboring lands. Accordingly, Reclamation should reconsider whether the finding of a less-than-significant impact for Impact GEM-3 is truly supportable.

In short, the DEIS/DEIR’s discussion of the Project’s impacts on surface water quality and geomorphology of the river leaves much to be desired. This section of the DEIS/DEIR should be substantially revised—and the impacts more robustly analyzed—before Reclamation certifies a Final EIS/EIR.

5. Public Health and Hazardous Materials

O-WO-17

Each Project alternative could have a potentially significant impact in terms of the exposure of people to increased risk of diseases. *Id.* at 19-30. Wonderful is particularly concerned about the potentially significant impact of exposing people to an increased risk of West Nile Virus (Impact HAZ-5). Reclamation indicates that wetted portions of the San Joaquin River present a risk of mosquito activity, and that the risk will primarily fall on SJRRP construction and maintenance personnel. Wonderful believes that the risk of West Nile Virus-carrying mosquitos will also impact agricultural workers who work on lands adjacent to the River, and that the increased risk of mosquito-borne diseases will increase substantially as the floodplain channel is expanded and full restoration flows begin moving through Reach 2B. Accordingly, the amount of analysis for this impact is deficient in that it only addresses the impact as it relates to construction of the Chowchilla

<sup>3</sup> A map of the existing points of diversion for the New Columbia Ranch is attached hereto as Attachment B.

**O-WO-17  
cont.**

Bifurcation structure rather than the impact of restoring the floodplain channel and expanding the San Joaquin River channel to support restoration flows.

Given this deficiency in analyzing Impact HAZ-5, it does not appear that Mitigation Measures HAZ-5A, HAZ-5B, and HAZ-5C can mitigate the full extent of the increased risk of West Nile Virus to a less than significant level. Workers using mosquito repellent and eliminating standing water in buckets and cans cannot mitigate the impacts from a substantial increase in floodplain habitat and a river channel that will be expanded to nearly three times its current size. Accordingly, Reclamation must reevaluate its analysis of Impact HAZ-5 and either adopt more robust mitigation measures or adopt a statement of overriding considerations in conjunction with the Final EIS/EIR.

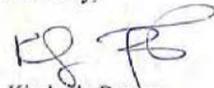
**O-WO-18**

6. Socioeconomics and Economics

The DEIS/DEIR concludes in impact ECON-1 that the Project will have a less than substantial impact with respect to the change in agricultural production values. The less-than-substantial finding is predicated upon the assumption "the direct economic effect on farmers would be negligible because privately-owned farmland would be purchased and property owners compensated at fair market value for their land, which is generally based on revenue potential for agricultural properties." DEIS/DEIR at 21-25. It is not clear from the DEIS/DEIR if only the revenue generating capability of the land will be the single factor of determine value or if Reclamation will use this in combination with comparable sales in determining the fair market value of a property. The Final EIS/EIR should consider both methods of determining value in order to capture the true value of this unique combination of reliable water and good soils.

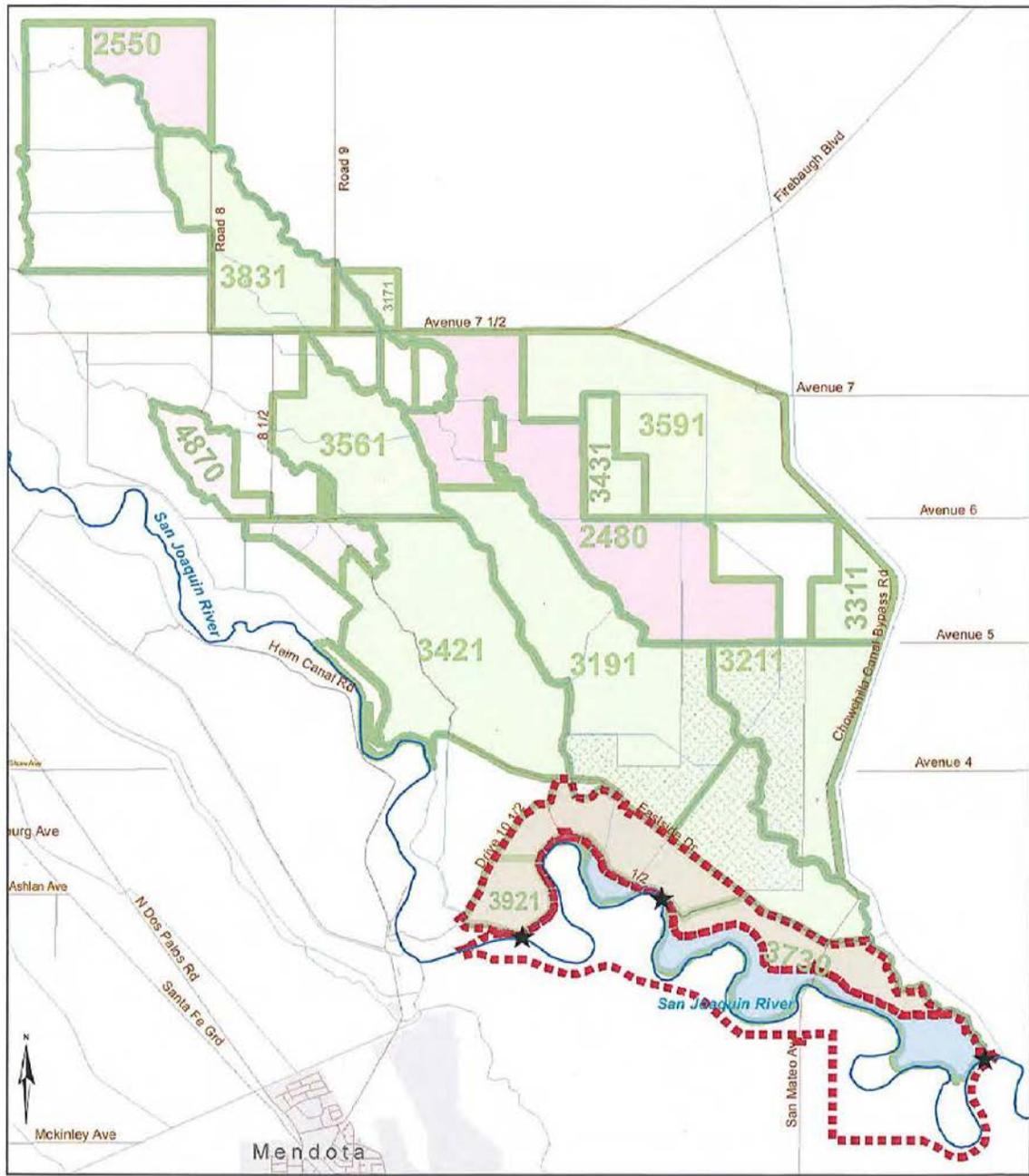
Thank you for considering and responding to the above comments. Wonderful appreciates Reclamation's ongoing cooperation and communication with landowners in the San Joaquin River Restoration Program area. Should you have questions, please do not hesitate to contact me.

Sincerely,



Kimberly Brown  
Senior Director, Water Resources

14156392



- ★ NCR Diversion Points
- San Joaquin River
- Other Conveyances
- ▭ Project Areas
- ▭ Project Features Area
- ▭ Potential Borrow Area
- ▭ Outside the Areas
- ▭ Wonderful Orchards Property

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### Wonderful Orchards New Columbia Ranch Impacts from Alternative B

Wonderfulorchards..

June 15, 2015

Alicia Forsythe  
SJRRP Program Manager, U.S. Bureau of Reclamation  
2800 Cottage Way, MP-170  
Sacramento, CA 95825

VIA EMAIL TO [FrameworkComments@restoresjr.net](mailto:FrameworkComments@restoresjr.net)

June 15, 2015

Re: Comments on SJRRP 2015 Revised Framework for Implementation

Dear Ms. Forsythe:

Wonderful Orchards (formerly Paramount Farming Company) owns New Columbia Ranch, located on the east side of Reach 2B of the San Joaquin River upstream of the Mendota Pool, and also holds rights to the water of the San Joaquin River and its sloughs and exercises those rights to divert flows. Wonderful Orchards will be directly affected by the ongoing implementation of the San Joaquin River Restoration Program ("SJRRP" or "Program") in a number of ways and therefore submits the following comments on the Draft 2015 Revised Framework for Implementation of the San Joaquin River Restoration Program ("Draft Framework"). The Draft Framework is an update and revision to the Third Party Working Draft Framework for Implementation dated June 19, 2012 ("2012 Framework") and is intended to establish a realistic schedule for the Framework's core actions.

First, the Draft Framework's discussion of seepage management projects appears to conflict with previous Program documents that outlined ways to address seepage impacts. Wonderful Orchards has long been concerned about groundwater seepage as a result of increased San Joaquin River flows that could cause crop waterlogging and root zone salinity. In 2014, Reclamation issued a Seepage Management Plan that discussed numerous projects with the potential to reduce or avoid SJRRP-induced seepage impacts along the San Joaquin River. Reclamation specifically mentioned nine different projects that it could implement to reduce seepage impacts on adjacent landowners, including cut-off walls, seepage plugs, interceptor drains and ditches, building up the land surface, and conveyance improvements. The Draft Framework's Five Year Vision, however, analyzes the costs of implementing groundwater seepage projects only in terms of "interceptor lines, fee simple acquisition, and seepage easements." (Draft Framework, at 4-20:4). Wonderful Orchards strongly prefers the construction of seepage management projects that will obviate any need for seepage easements or outright acquisitions of privately owned property adjacent to the River.

6801 East Lerdo Highway, Shafter, California 93263 · 661.399.4456 · 661.399.1735

Wonderful Orchards accordingly requests that the final Framework for Implementation include a commitment to the Seepage Management Plan and incorporate a thorough discussion of the costs of physical seepage projects such as seepage plugs and cut-off walls. In particular, Wonderful Orchards asks that Reclamation confirm that it still intends to construct physical projects such as those identified in the Seepage Management Plan to minimize groundwater seepage caused by restoration flows and maintain, expand and repair as necessary with Program funding.

Second, Wonderful Orchards continues to be concerned about the intended division of responsibilities for levee construction, operations, and maintenance in Reach 2B. The Draft Framework's discussion of the Ten Year Vision with respect to Reach 2B levees indicates that setback levees are necessary to permit flows of up to 4,500 cfs. Unfortunately, the Draft Framework does not indicate which agencies will be responsible for constructing, operating, and maintaining the contemplated setback levees. At a minimum, the final Framework for Implementation should indicate which agencies will be responsible for setback levee construction. It should also discuss which agencies may ultimately become responsible for levee operations and maintenance, including capital funding and ongoing operations and maintenance costs which are critical for a successful Program and to ensure there are no impacts to landowners or other third parties.

Furthermore, the discussion of land acquisition for the Reach 2B setback levees is inadequate. The Draft Framework states that land acquisition costs are currently estimated at \$37.21 million, and that while the bulk of the acquisitions will occur early in the Ten Year Vision, some acquisitions could occur during the Five Year Vision. The final Framework for Implementation should discuss more thoroughly how Reclamation developed this cost estimate for land acquisition. It should also indicate, at least generally, which parcels may need to be acquired to construct setback levees, and delineate whether those parcels will be purchased during the Five Year Vision or the Ten Year Vision. Although Wonderful Orchards understands that definitive statements regarding these issues cannot be made until the environmental review process is complete, some preliminary discussion in the final Framework for implementation would be helpful for planning purposes.

Perhaps most importantly, the Draft Framework fails to grapple with the uncertainties of federal and state appropriations necessary to fund the core actions identified in the Draft Framework and does not adequately address the lack of progress on mandated improvements. Throughout the Draft Framework, Reclamation notes that federal and state appropriations will be necessary to implement the SJRRP. While some appropriations will be available during the Five Year Vision, Reclamation anticipates that these funds will be exhausted by Fiscal Year 2017. Although the Draft Framework claims that reliance on appropriations will be reduced during the Ten Year Vision, it still identifies a need for up to \$55 million in federal appropriations, with uncertain funding levels from the state. Significant federal appropriations are also required for implementation of the Fifteen Year Vision.

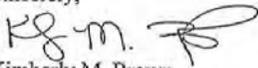
As Reclamation is well aware, legislative appropriations are highly uncertain, and there is no guarantee that Congress or the California legislature will continue to fund the SJRRP. Indeed, the current Speaker of the House has questioned the value of the SJRRP and supported legislation that would have temporarily halted the SJRRP. In light of the uncertainty

## San Joaquin River Restoration Program

surrounding future appropriations of funding for the SJRRP, Wonderful Orchards respectfully requests that the final Framework for Implementation include a more detailed discussion of other potential sources of funds and a commitment to halt Program flows should the funding not be secured or specific Program components not completed. Wonderful Orchards further requests that the final Framework for Implementation attempt to prioritize which SJRRP projects it will construct in the event that anticipated appropriations are not available in future years. In attempting to address these contingencies, Reclamation and the SJRRP must ensure that landowners are not materially and adversely affected by SJRRP activities.

Thank you for considering and responding to the above comments. Should you have questions, please contact me at any time.

Sincerely,

Handwritten signature of Kimberly M. Brown in black ink.

Kimberly M. Brown  
Senior Director, Water Resources



SENT VIA E-MAIL

November 03, 2014

Alexis R. Phillips-Dowell, Senior Engineer  
Department of Water Resources, South Central Region Office  
3374 East Shields Avenue  
Fresno, CA 93726  
[aphillips@water.ca.gov](mailto:aphillips@water.ca.gov)

Re: Comments on the Draft Channel Capacity Report for the 2015 Restoration Year

Dear Ms. Phillips-Dowell:

Paramount Farming Company, as agent for Paramount Land Company LLC and Paramount Pomegranate Orchards LLC (Paramount) submits the following comments on the Draft Technical Memorandum and Channel Capacity Report for the 2015 Restoration Year (2015 Draft Report). The Draft Report is issued as part of the San Joaquin River Restoration Program (SJRRP) to determine and update estimates of then-existing channel capacities along the San Joaquin River.

Paramount owns New Columbia Ranch, located on the east side of Reach 2B of the San Joaquin River, upstream of the Mendota Pool and also holds rights to the water of the San Joaquin River and its sloughs and exercises those rights to divert flows. Paramount will be directly affected by the SJRRP in a number of ways and appreciates the opportunity to submit the following comments.

The Program Environmental Impact Statement/Environmental Impact Report (PEIS/R) for the SJRRP included in-channel flow limits based on estimated in-channel capacities along the San Joaquin River. The PEIS/R in-channel flow limit for Reach 2B was 810cfs. Based on various technical studies and analysis, the Draft Report for the 2014 Restoration Year (2014 Report) increased the recommended then-existing channel capacity in Reach 2B to 1,120cfs. Five studies were conducted, however two studies, the In-channel Capacity Study completed in 2013 and the Middle Eastside Geotechnical Assessment, generated the basis for the 2014 recommendation. The Draft Report utilizes these same two studies and maintains the capacity recommendation of 1,120cfs. *See* Draft Report, Section 8.0. There have been no additional studies completed to refine the 2014 Report recommendations, however significant subsidence issues have become apparent in various reaches of the SJRRP areas since 2013, which could significantly reduce existing channel capacities. Paramount asks Reclamation to conduct updated technical studies and issue updated channel capacities to properly reflect these significant changed circumstances and ensure landowners within the SJRRP area are not impacted.

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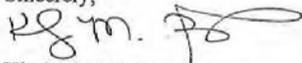
As expressed in our comment letter regarding the 2014 Report, Paramount is specifically concerned about the impacts of the increased then-existing channel capacity in Reach 2B on its adjacent property. In particular, the presence of a flow at 1,120cfs in Reach 2B for an extended period of time and under varying hydrologic conditions may cause adverse impacts to Paramount's property through ponding and groundwater seepage. In order to avoid these impacts, Reclamation must comply with its Physical Monitoring and Management Plan, Seepage Management Plan and the thresholds established by such plans. Reclamation should address comments prior to finalizing any updates to these critical plans or thresholds.

Paramount has concerns over certain current SJRRP monitoring well seepage thresholds near its planted acreage on New Columbia Ranch. The seepage thresholds for several SJRRP monitoring wells located in close proximity to Paramount almond orchards are set at 6 feet. Paramount has engaged SJRRP consultants and staff to request a review of these thresholds as they do not meet the SJRRP established Ag threshold standard for almonds of 10 feet despite the close proximity to almond acreage. Although no seepage thresholds have been reached on the monitoring wells near the New Columbia Ranch, operating at the increased 1,120 cfs capacity could cause triggers of seepage thresholds and seepage thresholds should be corrected to ensure protection of the nearby crops, in Paramount's case, its almond orchards.

We understand the intent of the SJRRP is to not cause adverse impacts to landowners and the 2015 Draft Report acknowledges that the SJRRP will limit flows "to levels that do not result in material adverse impacts due to groundwater seepage, which may be more limiting than levee seepages and stability."

Paramount agrees Reclamation must continue to operate to avoid impacts to property adjacent to the River and to restrict SJRRP releases when Reclamation anticipates that the groundwater level thresholds identified in the Seepage Management Plan will be reached. It also, however, requests a review and revision of certain seepage thresholds near New Columbia Ranch and recommends conducting updated technical studies which incorporate changed circumstances, such as subsidence, to determine existing channel capacity to ensure proper triggers are in place to recognize the potential to impact landowners. Thank you for considering and responding to the above comments. Should you have questions, please contact me at anytime.

Sincerely,



Kimberly M. Brown  
Senior Director, Water Resources

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Cc: Katrina Harrison, [kharrison@usbr.gov](mailto:kharrison@usbr.gov)



November 4, 2013

**VIA CERTIFIED MAIL**

Alexis R. Phillips-Dowell, Senior Engineer  
Department of Water Resources, South Central Region Office  
3374 East Shields Avenue  
Fresno, CA 93726

Re: Comments on the Draft Technical Memorandum and Channel Capacity Report for the 2014 Restoration Year

Dear Ms. Phillips-Dowell:

Paramount Farming Company, as agent for Paramount Land Company LLC and Paramount Pomegranate Orchards LLC (Paramount), submits the following comments on the Draft Technical Memorandum and Channel Capacity Report for the 2014 Restoration Year (Draft Report). The Draft Report is issued as part of the San Joaquin River Restoration Program (SJRRP) to determine and update estimates of then-existing channel capacities along the San Joaquin River.

Paramount owns New Columbia Ranch, located on the east side of Reach 2B of the San Joaquin River, just upstream from the Mendota Pool and downstream from the historic Whitehouse Gauging Station near the head of Lone Willow Slough. Paramount also holds rights to the water of the San Joaquin River and its sloughs and exercises those rights to divert flows. Paramount will be directly affected by the SJRRP in a number of ways and has previously submitted comment letters on documents related to the Program. Paramount recognizes its ongoing relationship with the Bureau of Reclamation and is committed to the continued collaboration and open communication of this relationship. Please accept the following comments on the Draft Report.

The Program Environmental Impact Statement/Environmental Impact Report (PEIS/R) for the SJRRP included in-channel flow limits based on estimated in-channel capacities along the River. The limit for Reach 2B was 810 cfs. *See* Draft Report, p. 24. Based on various technical studies and analysis, the Draft Report increases the recommended then-existing channel capacity in Reach 2B to 1,120 cfs. *See* Draft Report, p. 37. In making this recommendation for Reach 2B, the Draft Report relies on the *San Joaquin River In-Channel Capacity Analysis* completed by Tetra Tech in February 2013. *Id.* at 25-29.

Paramount is concerned about the impacts of the increased then-existing channel capacity in Reach 2B on its adjacent property. In particular, the presence of a flow at 1,120 cfs in Reach 2B for several continuous weeks may cause adverse impacts to Paramount's property through ponding and groundwater seepage. In order to avoid these impacts, Reclamation must comply

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## San Joaquin River Restoration Program

with its Physical Monitoring and Management Plan, Seepage Management Plan and the thresholds established by such plans.

The Draft Report acknowledges that the SJRRP will limit flows “to levels that do not result in material adverse impacts due to groundwater seepage, which may be more limiting than levee seepages and stability.” Draft Plan, pgs. 6, 36. Paramount agrees that Reclamation must continue to operate to avoid impacts to property adjacent to the River and to restrict Program releases when Reclamation anticipates that the groundwater level thresholds identified in the Seepage Management Plan will be reached. In that respect, the thresholds of the Seepage Management Plan supersede the estimated then-existing channel capacities identified in the Draft Report. Reclamation must reduce Program flows to address material seepage impacts identified in the Physical Monitoring and Management Plan and the Seepage Management Plan.

Thank you for considering and responding to the above comments. Should you have questions, please contact myself or Kimberly Brown.

Sincerely,



William D. Phillimore  
Executive Vice President

33141 E. Lerdo Highway  
Bakersfield, CA 93308-9767



Bus: (661) 399-4456  
Fax: (661) 399-1735

September 16, 2011

VIA MAIL AND E-MAIL

Alicia Forsythe  
SJRRP Program Manager  
Bureau of Reclamation  
2800 Cottage Way, MP-170  
Sacramento, CA 95825  
PEISRCComments@restoresjr.net

Re: Comments on the Draft Program Environmental Impact Statement/ Environmental Impact Report for the San Joaquin River Restoration Program

Dear Ms. Forsythe:

Paramount Farming Company, as agent for Paramount Land Company, LLC and Paramount Pomegranate Orchards ("Paramount") submits the following comments on the San Joaquin River Restoration Program ("SJRRP" or "Project") Draft Program Environmental Impact Statement/ Environmental Impact Report ("PEIS/R"). Paramount owns New Columbia Ranch, located on the east side of Reach 2B of the San Joaquin River, just upstream from the Mendota Pool and downstream from the historic Whitehouse Gauging Station near the head of Lone Willow Slough. Paramount will be directly affected by the SJRRP in a number of ways, including potential threats to quantities of water derived under Paramount's SJR rights and flood flow diversions, potential impacts to the rate of delivery and quantity of supplies to Paramount's Columbia Canal Company lands receiving water under the Exchange Contract, potential for groundwater seepage, increased risk of flooding, the possibility of land acquisition for levee and floodplain modifications in Reach 2B, the possibility for trespass on Paramount's private property, an increased risk of additional species habitation at or near Paramount's property by virtue of the restored river flows, and the possibility that a Mendota Pool Bypass may be routed through Paramount's property.

Paramount previously submitted comment letters on the Bureau of Reclamation's ("Reclamation") petitions to the State Water Resources Control Board ("SWRCB") in connection with the SJRRP for temporary water transfers in 2010 through 2012, and has also submitted comment letters on the Environmental Assessments associated with those temporary transfers. Paramount also submitted a comment letter in response to the April 2010 Technical Memorandum on the Reach 2B Improvements Project. Finally, Paramount sent at least one detailed letter regarding its water rights and requesting an agreement with Reclamation that would protect those rights. To Paramount's disappointment Reclamation has remained unresponsive to Paramount's proposal. Please accept the following comments on the PEIS/R.

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1. Comments Regarding Hydrology – Flood Management

Chapter 11 of the PEIS/R addresses potential impacts of the SJRRP on hydrology –flood management. Paramount submits the following comments on the analysis and conclusions contained in Chapter 11:

- The PEIS/R understates the risk of flood damage in Reach 2B from *project*-level activities such as the re-operation of Friant Dam, and does not provide sufficient analysis or mitigation for these potentially significant impacts. Reaches 2B and 4B1 on the San Joaquin River have the least amount of existing channel capacity of all reaches within the study area, and accordingly these reaches will likely be more susceptible to flooding and damage from Interim and Restoration flows. This is illustrated in Table 11-1 on page 11-17 of the PEIS/R, which notes that Reach 2B has an estimated channel capacity of 2,500 cubic feet per second (“cfs”) and Reach 4B1 has a capacity of 1,500 cfs, compared to all other reaches of the river with capacities of 4,500 cfs or more, however the estimated 2B channel capacity should be corrected to reflect the existing channel capacity of 1,300cfs (described more fully in the next paragraph) and not an artificially high channel capacity. The Project is to be operated to avoid or mitigate impacts and should therefore manage flows at all times below 1,300cfs until, and only if, channel modifications are made that improve the channel capacity. The Project description in Chapter 2 of the PEIS/R is careful to point out that under all of the proposed Alternatives except for the No-Action Alternative, Restoration flows will only be released “*without exceeding then-existing channel capacities*” (emphasis added), which is, and should be stated clearly, 1,300 cfs for Reach 2B. (E.g. PEIS/R at p. 2-20, Table 2-5, and p. 11-43 [noting that the project-level risk of flooding will be “less than significant” because “Interim and Restoration flows would be constrained to then-existing channel capacities”]).

It is apparent from Chapter 11 and Appendices H and I of the PEIS/R that Reach 2B should be considered *at least* the same, if not more, at risk of flooding than Reach 4B1. As stated above, although the “design capacity” for Reach 2B is stated as 2,500 cfs in Table 11-1, the PEIS/R notes that “historical operations typically route up to 1,300 cfs to the Reach 2B, with the remaining flow going to the Chowchilla bypass.” (PEIS/R pp. 11-17, 11-18). This is because “*significant seepage has been observed at flows above 1,300 cfs*” (emphasis added), despite the fact that the Friant Dam Flood Control Manual specifies that Reach 2B could accommodate up to 2,500 cfs. (PEIS/R p. 11-8, and App. H, p. 7-11). Thus, as noted on page 3-41 of Appendix I, the “existing capacity of Reach 2B is approximately 1,300 cfs.” In order to avoid significant project-level impacts to Reach 2B, project-level water releases to that reach must remain below 1,300 cfs. (See PEIS/R p. 11-43. App. H pp. 7-7 and 7-8, and App. I p. 3-41).

It is suggested on page 7-11 of Appendix H that the Flood Control Manual specifications of 2,500 cfs and the actual channel capacity of 1,300 cfs were incorporated together into the model that was used for the PEIS/R analysis, “using either a split flow rating curve or by directly entering the split flow hydrograph as

internal boundary conditions.” To the extent that the analysis of potential flooding impacts is based on anything above 1,300 cfs for Reach 2B, the model is flawed, misleading, and must be revised. Moreover, to the extent that the definition of “in-channel flows” on page 11-43 of the PEIS/R (“flows that maintain a water surface elevation at or below the elevation of the landside levee toe”) means that project-level releases to Reach 2B will be above 1,300 cfs, the PEIS/R clearly acknowledges there will be a high potential for significant seepage impacts, and “Impact FLD-6” must be revised to a “significant impact” in order to properly address, analyze, and mitigate the potential impacts. (*See e.g.* Table 13-73 at p. 13-106 [noting that predicted flow levels during spring months will be higher than 1,300 cfs]). Any assumption of flows above 1,300 cfs must be corrected or additional analysis and mitigation measures must be incorporated into the PEIS/R to address the potentially significant impacts.

- The PEIS/R acknowledges that the potential impacts of many program-level actions, including the potential construction of levees and berms in Reach 2B and the provision of a larger floodplain, are uncertain and unknown at this time. (*See e.g.* PEIS/R p. 11-40). Due to this uncertainty, Paramount will submit its comments in response to the 2B project-specific analysis of those potential actions.
- The PEIS/R concludes on page 11-49 that “regular maintenance activities within the Restoration Area maintain levee access for inspection and maintenance,” and therefore the potential *impacts* on such inspection and maintenance caused by project-level actions would be less than significant. This is a circular argument: that no impacts will occur to inspection and maintenance activities because inspection and maintenance activities regularly occur. Additionally, the proposed levee improvements may require additional access, inspection and maintenance than existing levees, which needs to be fully analyzed in the PEIS/R. Some of the proposed actions include levees that cover a larger area, have different functions, and may be subject to different flow rates and water levels when compared to existing levees, and it cannot be assumed that historic and current inspection and maintenance activities are sufficient to meet the needs of these proposed Project levees. Paramount’s property includes a large section of privately-owned and maintained levees along Reach 2B. Particularly because Reach 2B is a vulnerable reach of the river, as discussed above, Paramount requests that Reclamation execute an agreement with Paramount similar to the agreement that it is currently negotiating with LSJLD. (*See* PEIS/R p. 11-49). A financial assistance agreement will ensure that any additional costs associated with Paramount’s levee maintenance activities are provided for, and will keep this impact to a less-than-significant level.

## 2. Comments Regarding Impacts to Hydrology – Groundwater

Chapter 12 of the PEIS/R addresses potential impacts to groundwater supplies. Paramount submits the following comments on the analysis and conclusions contained in Chapter 12:

- The actions identified in Appendix D, “Physical Monitoring and Management Plan,” should be incorporated into the Project as an enforceable mitigation measure, because those actions are specifically designed to reduce or avoid the Project’s potential impacts to groundwater to a less-than-significant level. (See e.g. PEIS/R p.12-120 [discussing Impact GRW-3]).
  - The conclusion on pages 12-118 and 12-119 of the PEIS/R, that higher groundwater levels in Reach 2 would have less-than-significant impacts, should be revised to reflect the potential for “significant seepage” in Reach 2B, based on the historic observations noted elsewhere in the PEIS/R, particularly on pages 11-8 and Appendix H, p. 7-11. (See also p. 12-35 [“Seepage problems were also reported along the Chowchilla Bypass below the bifurcation structure on both sides of the channel in 2006”]).
  - Project activities must occur in a manner that preserves and protects the overlying groundwater rights of landowners adjacent to the San Joaquin River.
3. Comments Regarding Impacts to Hydrology – Surface Water Supplies and Facilities Operations

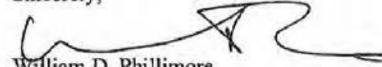
Chapter 13 of the PEIS/R addresses potential impacts of the SJRRP on surface water supplies and facilities operations. Paramount submits the following comments on the analysis and conclusions contained in Chapter 13:

- Pages 13-72 through 13-79 of the PEIS/R describe potentially significant impacts on the diversion capacities of existing pumping facilities. The PEIS/R concludes that these would be program-level impacts caused by future construction activities in specific areas, and proposes a program-level mitigation measure that would provide for “alternative equivalent pumping capacity,” relocations of existing facilities, and “alternate temporary or permanent river access to avoid diversion losses,” as needed. Paramount supports this proposed mitigation measure so long as it carries over into future project-level studies associated with construction activities in Reach 2B.
- Tables 13-73 and 13-74, on pages 13-106 and 13-107 of the PEIS/R, depict the anticipated change in flows at the “head of Reach 2B” of the San Joaquin River. These tables show the “existing conditions” in Reach 2B as having very little flow, particularly in dry years. (See also p. 3-2 [Reach 2B is “dry in most months”]). Footnote 2 of Table 13-73 and footnote 3 of Table 13-74 even state that “this reach is typically dry during all or part of the year in the existing conditions or No-Action Alternative simulations.” This is inaccurate. A portion of the Mendota Pool spans over half the length of Reach 2B, and in the absence of the proposed Project there would be water in the San Joaquin River year-round in that reach. The discussion in the PEIS/R should be revised to indicate that water is always present in the majority of Reach 2B, and the PEIS/R should discuss what percent of change the SJRRP will cause to these historical water levels.
- Page 13-130 describes the significant proposed reductions in flood flows that will be released from Friant Dam and enter the Chowchilla Bypass. These flows would be cut

by more than half in most months. This proposal ignores the fact that landowners along the Chowchilla Bypass are exercising water rights. (*See e.g.* SWRCB Permit No. 19615, and Paramount's Statement of Diversion and Use submitted to the SWRCB on June 29, 2011). Moreover, the PEIS/R in Chapter 11, at page 11-8, indicates that the Chowchilla Bypass "is constructed in highly permeable soils, and much of the initial flood flows infiltrate and recharge groundwater." Neither Chapters 11, 12, nor 13 address the negative impacts on groundwater supplies that will likely be caused by the reduction of flood-flow releases into the Chowchilla Bypass. This project-level impact should be more closely addressed, analyzed, and mitigated.

Thank you for considering and responding to the above comments. Paramount sincerely hopes that the Bureau of Reclamation and the Department of Water Resources will be responsive to and cooperative with Paramount, which faces a host of potential impacts from the proposed Project. Should you have questions, please contact myself or Kimberly Brown using the above contact information.

Sincerely,



William D. Phillimore  
Executive Vice President

33141 E. Lerdo Highway  
Bakersfield, CA 93308-9767



Bus: (661) 399-4456  
Fax: (661) 399-1785

July 7, 2011

**VIA U.S. MAIL AND E-MAIL**

Michelle Banonis  
U.S. Bureau of Reclamation  
San Joaquin River Restoration Program Office, MP-170  
2800 Cottage Way, Room W-1727  
Sacramento, CA 95825-1898  
InterimFlows@restoresjr.net

Re: Comments on San Joaquin River Restoration Program, Supplemental Environmental Assessment for Water Year 2012

Dear Ms. Banonis:

Paramount Land Company, LLC, and Paramount Pomegranate Orchards ("Paramount") own New Columbia Ranch on the San Joaquin River, just upstream from the Mendota Pool and downstream from the historic Whitehouse Gauging Station near the head of Lone Willow Slough, which is within the project area described in the San Joaquin River Restoration Project, Supplemental Environmental Assessment for Water Year 2012 ("Supplemental EA"). Paramount appreciates the opportunity to submit these comments on the Supplemental EA. Please note that Paramount is concurrently preparing comments on the Draft Program Environmental Impact Statement/Report for the San Joaquin River Restoration Program, which will further address the potential for impacts on Paramount's property and water rights.

**1. NEPA Does Not Allow Segmented Review of Projects.**

As an initial matter, Paramount notes that the Supplemental EA addresses the continuation of the Bureau of Reclamation's ("Reclamation") San Joaquin River operations that were in place during Water Year 2010 and 2011. To the extent that Reclamation intends to extend these operations each year until full restoration flows are released in 2014, the National Environmental Policy Act ("NEPA") requires Reclamation to address the effects of these extended operations in a comprehensive environmental document and not on a segmented annual basis. 40 C.F.R. 1508.25(a).

**2. The Proposed Restoration Program Could Impact Paramount's Water Rights.**

Paramount has explained to Reclamation in various communications that it has prior existing water rights at New Columbia Ranch, and that Reclamation is contractually

obligated to supply water for diversion in Reach 2B. Reclamation must protect and uphold these rights and obligations, and the San Joaquin River Restoration Program may not create additional restrictions or costs on Paramount's ability to exercise its rights.

The discussion of water deliveries in the Supplemental EA suggests that Reclamation's proposed project could interfere with these rights. For example, the Supplemental EA suggests that Reclamation has no responsibility to make water available below Gravelly Ford and that, upon implementation of the San Joaquin River Restoration Program, only "restoration flows" would sustain the River in Reach 2. Given that New Columbia Ranch is located downstream of Gravelly Ford, this obviously disturbs Paramount.

Likewise, Reclamation's proposed treatment of flood flow releases could impact Paramount because Paramount has historically diverted flood flows for irrigation use and groundwater recharge at New Columbia Ranch. Under the proposed project, however, Reclamation would not release interim flows in addition to flood flows in periods when flood flows would satisfy all or part of the targets identified in Exhibit B of the Settlement. In essence, Reclamation would recharacterize flood flows as interim flows, which would be outside the reach of downstream water users. The ultimate effect of this recharacterization would be to reduce Paramount's available water supply.

Although the proposed project and Paramount's water rights are in apparent conflict, the Supplemental EA does not even mention the issue. Paramount reminds Reclamation that the State Water Resources Control Board conditioned Reclamation's Interim Flow regime as subject to prior rights. Order WR 2009-0058-DWR, pp. 5, 10 (Oct. 1, 2009); Order WR 2010-0029-DWR, pp. 6, 17. Reclamation may not cut off or improperly limit Paramount's access to water through the proposed project or the final implementation of the San Joaquin River Restoration Program. So far the Interim Flow regime has not interfered with Paramount's rights because Paramount did not divert in 2009 and has successfully diverted in the usual manner in 2010-2011, but Paramount submits this comment to reiterate that the proposed project may not interfere with Paramount's rights.

**3. *The Supplemental EA Does Not Address Groundwater Rights.***

The Supplemental EA discloses that the proposed project could affect groundwater levels in and around the project area, but does not address the rights to such groundwater. Paramount is an overlying landowner, and much of its property lies within the alluvial cone of the San Joaquin River (which was historically replenished by, but not directly connected to, river flows). Paramount asserts that it has the right to any increased groundwater under its property for use at New Columbia Ranch.

**4. *Reclamation Must Protect Property Owners from Seepage and Project Flow Impacts.***

The Supplemental EA acknowledges that the proposed project could result in elevated seepage in the project area and that such seepage has the potential to impact crops, water salinity, and levee stability. Although the Supplemental EA indicates that Reclamation will monitor groundwater levels to reduce seepage impacts, it does not state how

Reclamation will protect property owners or mitigate damages if these impacts do occur. Paramount asserts that Reclamation is responsible for any seepage impacts to its crops, private levees, groundwater wells, or other structures on its property that the proposed project flows may cause. In addition Interim Flows that exceed current channel capacity and result in impacts to crops, private levees, groundwater wells, or other structures must also be mitigated by Reclamation should they occur.

5. *The Proposed Project Would Result in Agricultural Impacts at New Columbia Ranch.*

The Supplemental EA states that the proposed project will not result in agricultural impacts, either on a project level or cumulative level. See, e.g., Supplemental EA at p. 3-2. These statements completely ignore the impacts on Paramount's agricultural operations caused by the take of prime agricultural land and water resources.

Paramount appreciates the opportunity to submit these comments and would be willing to discuss options for Reclamation to pursue the San Joaquin River Restoration Program without interfering with Paramount's rights and interests. By reference, Paramount also hereby joins in the comments submitted by the San Joaquin River Resource Management Coalition (RMC).

Sincerely,



William D. Phillimore  
Executive Vice President

## II.6.6 Responses to Wonderful Orchards

### **Response to Comment O-WO-1**

Your comments and the attachments to your comment letter have been reviewed and considered in preparation of the Final EIS/R.

### **Response to Comment O-WO-2**

As discussed in Section 16.3.3 of this EIS/R, agricultural conservation easements and/or funds have been incorporated in the mitigation measures for impacts to land use planning and agricultural resources. Specifically, Mitigation Measure LU-1 states, in part, Reclamation will “either (1) acquire agricultural conservation easements for designated Farmland/Important Farmland at a 1:1 ratio to be held by land trusts or public agencies who will be responsible for enforcement of the deed restrictions maintaining these lands in agricultural use, or (2) provide funds to a land trust or government program that conserves agricultural land sufficient to obtain easements on comparable land at a 1:1 ratio.” Consistent with the findings in *Masonite Corporation v. County of Mendocino* (215 Cal.App.4th 230), conservation easements and in-lieu fees are considered feasible mitigation measures.

In addition, in response to your concerns, borrow areas on permanent crops have been removed from Alternative B, the preferred alternative. Based on recent geologic investigations, Reclamation anticipates that borrow would be taken primarily from within the setback levees, and minimal if any borrow material would be needed from outside of the setback levees. Any borrow material outside of the setback levees would be taken from fallow or row-crop ground to avoid the more significant effects to permanent crops.

### **Response to Comment O-WO-3**

Section 16.3.3 of this EIS/R discusses potential impacts to agricultural land use planning. Adverse effects would be minimized by Reclamation when notifying Fresno and Madera County planning agencies of any inconsistencies in designations and applicable policies for affected areas. There are a few factors that reduce the potentially significant impact to local land use policies to less-than-significant levels. First, in some alternatives (Alternatives A, B, and D), the Project may include agricultural uses on the floodplain, not necessitating a change in the zoning designation. Second, Reclamation is not subject to local land use planning and zoning designations and therefore, Reclamation would not take action to mitigate this impact beyond notification to the local agency. Lastly and most important, zoning designations are intended to prevent generally incompatible land uses from being located adjacent to each other. Agricultural lands and riverine/riparian habitat are generally compatible land uses and the two are currently located next to each other in the Project area. Therefore, no conflicting land uses would occur, which continues with the underlying purpose of the zoning designations.

Also, General Plans typically have a 5-year review cycle by the counties. Reclamation would coordinate with County planning agencies and provide the appropriate information needed to facilitate land use zoning updates to the Fresno and Madera County General Plans. In addition, see response to O-WO-2 regarding agricultural conservation easements.

**Response to Comment O-WO-4**

The seepage management measures that would be implemented in Reach 2B area are part of this Project and are included in the Action Alternatives and incorporated into the levee design, as described in Section 2.2.4 of the EIS/R. The EIS/R impact analysis assesses seepage effects resulting from the Project, which is the area adjacent to the Reach 2B levees where a variety of the seepage management measures would be implemented (*e.g.*, cutoff walls, inceptor drains or ditches, seepage wells, seepage berms, *etc.*). Construction effects are described for the Project (*e.g.*, clearing and grubbing, earthwork, *etc.*). Long-term effects from the seepage management measures are also described (see Sections 13.3.3 and 16.3.3 of this EIS/R). The environmental analysis of the seepage management measures has not been “piecemealed” or segmented from other aspects of the Project, but instead the impacts are presented contiguously. This Project-specific information is considered in evaluating Impact LU-4 (Degradation of Agricultural Land Productivity due to Seepage). See MCR-2: Seepage Management.

The SJRRP is implementing several programs to address seepage and levee stability concerns in the Restoration Area. Seepage and levee stability issues in Reach 2B are all addressed as part of this Project and this environmental analysis. Seepage and levee stability issues in Reach 4B are anticipated to be addressed as part of the ongoing Reach 4B, Eastside and Mariposa Bypasses Project and its environmental analysis. Seepage projects in all other reaches (Reach 2A, 3, 4A, and 5) are anticipated to be addressed as part of the seepage project program, described in the Seepage Project Handbook appendix (Appendix L) of the Seepage Management Plan (SJRRP 2014a), with separate environmental analysis. Levee stability projects in all other reaches (Reach 2A, 3, 4A, and 5) are anticipated to be addressed as part of the levee stability program described in the Channel Capacity Reports (SJRRP 2016a), with separate environmental analysis. This approach is not piecemealing, as each component project is split by geographic area, is distinct, has independent utility, and was analyzed at a programmatic level in the PEIS/R for the SJRRP as a long-term management actions (Section 2.4.3 of the PEIS/R).

Since seepage projects are being implemented in different locations over time, the Restoration Flows are limited in various reaches of the Restoration Area to account for agricultural seepage limitations and to reduce the risk of levee failure. The Seepage Management Plan (SJRRP 2014a) addresses how seepage is monitored, how thresholds are determined, and contains an operations plan with the intent of reducing or avoiding SJRRP-induced seepage impacts along the San Joaquin River and the Eastside and Mariposa Bypasses from Friant Dam to the confluence with the Merced River. The Channel Capacity Reports (latest report is SJRRP 2016a) address monitoring and analysis of then-existing channel capacities for the purposes of reducing flood risk; these reports also identify further limitations on Restoration Flows based on agricultural seepage. See MCR-6 Flood Management Considerations and O&M Costs for further discussion of then-existing channel capacities.

**Response to Comment O-WO-5**

Section 16.3.3 of this EIS/R discusses the potential for an increased incidence of disease which could diminish agricultural productivity. Impact LU-6 discusses how some

riparian plants can host organisms that cause disease in fruit and nut crops, how increased incidence of disease in orchards can be caused by many issues, and how disease is one of many factors affecting agricultural productivity. As described in the EIS/R, the existing orchards and vineyards within the setback levees for the future floodplain would be removed and riparian and floodplain habitat would be restored by the Project. For example, Alternative B would use both active and passive restoration in the floodplain, including planting and seeding a variety of native plant species in future wetland, riparian, and upland areas (see Section 2.2.6 of the Final EIS/R for a list of potential revegetation species).

Impact LU-6 discusses why riparian vegetation would likely be a less important source of disease-causing organisms and would not substantially reduce agricultural productivity by increasing disease. Many factors affect the incidence of disease in vineyards and orchards, with riparian vegetation being potentially one in a complex life-cycle for individual diseases. The occurrence of vineyard and orchard disease in the San Joaquin Valley is documented in the scientific literature. For example, almond leaf scorch disease (caused by the bacterium *Xylella fastidiosa*) has been present in California's almond growing regions since the 1940s (USDA 2008), and Pierce's disease in grapes (caused by the same organism) was first reported in the 1880's in California (Tumber 2012) and in Fresno and Madera counties by at least 2010 (DFA 2010). For Pierce's disease, USDA (2005) found that host plant species can influence the population of the glassy winged sharp shooter, a concerning vector for this disease, and that orchard species (pomegranate, navel orange, and lemon) had significantly higher numbers of the insects than riparian areas (164, 153, and 142 times, respectively). Therefore, there are many other influences besides the presence of riparian vegetation on loss of agricultural production due to disease.

There is existing riparian vegetation adjacent to the orchards in the Reach 2B area. The increase in riparian vegetation by the Project represents a small risk for increased disease and decreased regional agricultural production values. The level of orchard monitoring, type of cultivars, pruning efforts, irrigation operation, weed management, post-harvest orchard clean-up, and application of fungicides, bactericides, insecticides, and biological controls are significant factors in the incidence and control of disease in orchards.

In addition, the levees built for the Project would be located between the remaining orchards adjacent to the Project Area and future riparian areas. The levees would be built to Corps' standards and would only be vegetated with grasses, as opposed to existing conditions where riparian vegetation occurs on and outside the levees. The levees for the Project are expected to be 100 to 200 feet wide and would have parallel access roads and potentially other levee associated features (e.g., seepage controls) that would increase that width. The levee area represents a buffer between remaining orchards and riparian vegetation that would further reduce the risk of orchard diseases associated with riparian vegetation.

The analysis of Impact LU-6 concludes with a less-than-significant finding as future floodplain conditions, where new vegetation would be introduced and other vegetation

would be removed, are compared to existing conditions and the No-Action Alternative, where riparian vegetation currently exists adjacent to orchards and vineyards.

**Response to Comment O-WO-6**

See response to comment O-WO-5. The impact analysis in Section 16.3.3 of the EIS/R discusses factors associated with incidence of disease (*i.e.*, the risk of contracting the disease), which is a complex issue. Once contracted, disease clearly affects agricultural productivity. While the impact analysis presented in the EIS/R discusses the relative risk of increased crop diseases, it would be speculative to assume that increases in riparian acreage would cause a significant decline in agricultural productivity. The analysis acknowledges that many factors affect disease incidence in orchards and vineyards and that it is a complex process. Because the impact analysis compares future floodplain conditions to existing conditions and No-Action Alternative without assuming that future riparian areas or nearby fruit and nut orchards would be diseased, the discussion cannot be simplified to a comparison of the effects of disease versus an absence of disease on agricultural productivity.

**Response to Comment O-WO-7**

The flow frequency analysis provided in Section 12.3.3 of this EIS/R describes how often flows of a certain size would occur under restoration conditions and finds that, with Restoration Flows, the size of smaller events (less than a 2 percent annual exceedance probability or 50-year event) would increase but for larger, less frequent, flood events the flow would decrease.

As indicated in Section 12.3.3 of this EIS/R, flows from the San Joaquin River Restoration Daily Flow Model developed in RiverWare were used for the flood frequency analysis. The San Joaquin River Restoration Daily Flow Model was developed in RiverWare based on best available information. The Daily Flow Model models the restoration reaches of the San Joaquin River system from Friant Dam to just below the confluence with the Merced River. The Daily Flow Model uses as its basis of climatology the record of precipitation in the basin, from water years 1922 to 2003. Future conditions were developed assuming Restoration Flows were fully operational and unconstrained by channel conveyance. The Daily Flow Model accounts for Millerton inflows, Millerton flood operations for rain events and for snowmelt events, outflow ramping at Millerton, Madera and Friant-Kern canals diversions, the Restoration Flow schedule, inflows along the San Joaquin River and flood bypasses, diversion requests, channel flow losses, and flow routing. This model includes the SJRRP-specific information needed to predict future flows under restoration conditions.

Higher flow events are expected to decrease, in part, because the amount of water that is stored at Millerton Lake throughout the year is reduced by the release of Restoration Flows, and in certain years, Millerton Lake is expected to have more flood storage available than it would otherwise have without the release of Restoration Flows. This would reduce the frequency of larger flood events. Please see Chapter 11 of the PEIS/R for a more detailed analysis regarding changes in flood flows with implementation of the SJRRP.

Section 12.3.3 of the Final EIS/R provides additional information on whether a given flood event would be larger with implementation of the Action Alternatives and result in more damages. SJRRP conducted a flood risk assessment on the translation of flood risk from Reach 2B to reaches downstream, *i.e.*, to Reach 3 and Reach 4A. The objective of the analysis was to determine if damages would change based on changes in the flood hydrographs and if the likely failure points for levees used in the PEIS/R evaluation were reasonable. The analysis included a comparison of flood hydrographs at four index points in Reaches 3 and 4A, an evaluation of flood damages at these locations, and an evaluation of the updated levee data in Reach 3 and Reach 4A. The study concluded that, based on a comparison of changes to flood hydrographs, there would be little to no increase in damages – the one area that showed a slight increase in damages was likely due to perturbation effects in the model – and therefore redirected flood impacts would be minor. Furthermore, the risk analysis also evaluated information from recently completed levee evaluations including the drilling information and seepage and stability analysis in Reaches 2A, 3, and 4A. A review of the levee evaluations concluded that the likely failure points for these levees that were used in the PEIS/R were reasonable and conservative. See MCR-6: Flood Management Considerations and O&M Costs for additional details. The inclusion of this additional information in the Final EIS/R does not change the conclusions of the Draft EIS/R.

See MCR-2: Seepage Management for a discussion of seepage management measures in the Project area. Physical groundwater seepage projects are designed to be effective under restoration conditions. The current design for the Compact Bypass includes bentonite slurry cut-off walls. The cutoff walls would be about 3 feet wide and would extend 15 to 20 feet below grade and about 8 feet above grade. A bentonite slurry cut-off wall may be constructed to control groundwater seepage elsewhere on the floodplain, although other seepage control measures may also be used, such as drainage ditches, interceptor lines, or seepage easements. The seepage control measures used in the Reach 2B improvements area would be finalized based on site evaluations, suitability of site conditions, feasibility, and landowners and stakeholder input.

As described in the PEIS/R (and Section 2.2.10), Restoration Flows would be maintained at or below estimates of the then-existing channel capacity within the reaches that convey the flow. In addition, seepage projects and levee stability projects have been identified in the Restoration Area where potential seepage impacts or levee stability would otherwise cause a constraint in Restoration Flows. Restoration Flows would not increase in the river reaches until Reclamation, through the seepage management efforts and through the channel capacity report process, determines that such flows would not damage adjacent landowners or impact levee stability. Erosion would also be monitored and maintenance would occur, as necessary, to avoid erosion-related impacts. See MCR-6: Flood Management Considerations and O&M Costs and MCR-2: Seepage Management.

#### **Response to Comment O-WO-8**

Reclamation would purchase the land (in fee or in easement) within the future floodplain area and replace the previously privately-owned levees with new levees designed to Corps standards. Levee design would be based on Corps Engineer Manuals: *Design and Construction of Levees Engineering and Design Manual* (Manual No. 1110-2-1913)

(Corps 2000a), *Slope Stability* (Manual No. 1110-2-1902) (Corps 2003), *Design Guidance for Levee Underseepage* (Engineering Technical Letter No. 1110-2-569) (Corps 2005), and *Guidelines for Landscape Planting and Vegetation Management at Floodwalls, Levees, & Embankment Dams* (Manual No. 1110-2-301). Long-term monitoring and maintenance of the levees would be consistent with the Program's Physical Monitoring and Management Plan and the maintenance activities described in Section 2.2.4 of this EIS/R. Although actual maintenance activities may be performed by others, Reclamation would be funding construction and O&M of the setback levees.

**Response to Comment O-WO-9**

This comment raises similar issues as comment O-WO-8. See response to comment O-WO-8. Although actual maintenance activities may be performed by others under contract, Reclamation would be funding construction and O&M of the setback levees. The responsibility for O&M of the levees that are not modified by the Project would not change.

**Response to Comment O-WO-10**

The seepage management measures that would be implemented in Reach 2B area are part of this Project and are included in the Action Alternatives and incorporated into the levee design, as described in Section 2.2.4 of this EIS/R. Inspection trenches and drainage trenches are also included in the Action Alternatives. The EIS/R impact analysis accounts for the area adjacent to the levees where a variety of seepage management measures (*e.g.*, cutoff walls, inceptor drains or ditches, seepage wells, seepage berms, *etc.*) and drainage trenches would be implemented. The current seepage management design for the Compact Bypass includes bentonite slurry cut-off walls in the levees. The cutoff walls would be about 3 feet wide and would extend 15 to 20 feet below grade and about 8 feet above grade. A bentonite slurry cut-off wall may be constructed elsewhere on the floodplain, although other seepage control measures may also be used, such as drainage ditches, interceptor lines, or seepage easements. The seepage control measures used in the Reach 2B improvements area would be finalized based on site evaluations, suitability of site conditions, feasibility, and landowners and stakeholder input.

The EIS/R is based on a 15 to 30 percent level of design for the Project. Reclamation will continue to coordinate with and seek input and feedback from stakeholders, as it has done in the past, throughout the final design process

See response to comment O-WO-4 and MCR-2: Seepage Management regarding potential surface flooding due to levee underseepage and see response to comment O-WO-8 regarding level of flood protection provided by the setback levees.

**Response to Comment O-WO-11**

This comment raises similar issues as comment O-WO-4. See response to comment O-WO-4 and MCR-2: Seepage Management. Seepage projects implemented in the Project area are analyzed in this document.

**Response to Comment O-WO-12**

Reclamation and DWR have been conducting numerous studies in the Restoration Area to evaluate channel capacities in the San Joaquin River and flood bypasses. These channel capacity evaluations are updated annually through the SJRRP channel capacity report process (SJRRP 2016a).

As described in MCR-6: Flood Management Considerations and O&M Costs, levee evaluations along the San Joaquin River and flood bypasses are being conducted by DWR as part of the San Joaquin Levee Evaluation Project to assist the SJRRP in assessing flood risks due to levee seepage and stability associated with the release of Restoration Flows. Geotechnical evaluations have included geomorphology studies, collection of geophysical data, drilling programs along the levee crown and landside toe (including boreholes, cone penetration tests, and hand augers), and laboratory testing of soil samples. These geotechnical evaluations have been used to identify existing channel capacity, inform levee seepage and stability modeling for each reach, and to identify critical levee segments that have reduced capacity for future levee stability projects.

As described in MCR-3: Subsidence, Reclamation has been intensively monitoring subsidence within the Restoration Area since 2011 and Reclamation and DWR have performed subsidence monitoring along the Flood Control Project levees to help further refine subsidence rates in the flood bypasses. DWR has surveyed topographic ground elevations in Reach 2A, the Chowchilla Bypass, the Upper Eastside Bypass, the Middle Eastside Bypass, and the Mariposa Bypass. DWR also completed surveys in 2013 and 2014 of the levee and channel in the lower portion of Reach 3, Reach 4A, and the Middle Eastside Bypass (SJRRP 2014b). DWR, in coordination with Reclamation, will conduct a study to better understand the effects of long-term subsidence on channel capacity. This study is expected to be completed in 2016. In addition to updating the models and assessing the channel capacity to consider future subsidence, DWR has started to move forward with a study within the flood bypasses to understand how subsidence is changing sediment transport. The study is designed to better understand and quantify how subsidence-induced sedimentation will affect channel capacity and to provide information on the amount of sediment removal that may be required to maintain necessary design flow capacities.

As described in MCR-2: Seepage Management, Reclamation is currently monitoring more than 200 monitoring wells and piezometers and has identified areas vulnerable to seepage effects, developed groundwater thresholds, and has prioritized seepage control projects in the Restoration Area. The highest priority seepage projects in the Restoration Area are those located in areas that would be impacted at the lowest San Joaquin River flows. Key areas of concern include the downstream end of Reach 2A, portions of Reach 3, and the downstream end of Reach 4A. SJRRP seepage projects are expected to be complete by 2020 in areas that would otherwise cause flow to be constrained below 1,300 cfs. Subsequent seepage projects are expected to be complete by 2025 in areas that would otherwise be affected by flows up to 2,500 cfs. All seepage projects are expected to be complete by 2030 to allow up to 4,500 cfs of Restoration Flows in the San Joaquin River.

The SJRRP has established a Channel Capacity Advisory Group and has evaluated and published then-existing channel capacity estimates for the river reaches, Eastside Bypass, and Mariposa Bypass in the annual Channel Capacity Reports (most recently in January 2016; SJRRP 2016a). The release of Restoration Flows is a SJRRP activity, not a Project-related activity. As described in the PEIS/R (and in Section 2.2.10 of this EIS/R), Restoration Flows would be maintained at or below estimates of the then-existing channel capacity in the reaches that convey the flow. Because the reaches are connected, flows through Reach 2B would be less than 4,500 cfs until downstream river seepage and levee stability projects are completed and Reclamation, in compliance with the commitments it made in the PEIS/R ROD (Reclamation 2012) and consistent with the requirements in its water rights order, has determined that the non-damaging channel capacity is 4,500 cfs.

***Response to Comment O-WO-13***

This comment raises similar issues as comment O-WO-4. See response to comment O-WO-4 and MCR-2: Seepage Management.

***Response to Comment O-WO-14***

Section 14.2.2 of the Draft EIS/R discusses the California Water Code as it relates to water rights. Riparian rights are mentioned briefly in Section 1.6.3 in context with the Lone Willow Slough Diversion. Section 2.2.4 of the Final EIS/R includes additional information regarding the relocations and floodproofing of existing infrastructure, including lift pumps and canals. The inclusion of this additional information in the Final EIS/R does not change the conclusions of the Draft EIS/R. Potential impacts to these utilities are discussed in Section 23.3.3 of this EIS/R (see Impact UTL-7).

***Response to Comment O-WO-15***

Mendota Dam and Pool have reduced the sediment transport ability of Reach 2B, and over time, sediments have deposited in the San Joaquin River arm of Mendota Pool changing the slope in the lower portion of Reach 2B. The design intent of the Compact Bypass channel (in Alternative B) is to mimic the natural slope of the Reach 2B channel upstream of Mendota Pool. This is accomplished by setting the sill elevation of the Compact Bypass Control Structure at a specific elevation. Grade control structures would also be included in the bypass channel downstream of the control structure, as needed, to lower the equilibrium slope locally, creating a “stair step” in the bypass channel. The grade control structures would stabilize the bed and banks of a channel by reducing slopes locally and by lowering water in a controlled manner.

The channel bed erosion described in Impact GEM-2 (Alternative B) would occur as the excess sediments deposited in the San Joaquin River arm of Mendota Pool are transported through the bypass channel. This type of erosion is expected to occur until the equilibrium slope, set by the sill elevation of the Compact Bypass Control Structure, is achieved. Sediment transport modeling has been done to verify this, as discussed in the Project design report (Reclamation 2015a). The Compact Bypass Control Structure and the grade control structures are hardened engineering features in the channel that would prevent further downcutting beyond the equilibrium slope of the channel set at the natural slope of the Reach 2B channel upstream of Mendota Pool. In addition, the channel would

include riparian vegetation, rock vanes, woody materials, or revetment to protect against bank erosion and to increase channel stability. Channel stability would be controlled as described above and therefore impacts to channel stability were found to be less than significant.

**Response to Comment O-WO-16**

Erosion protection would not be implemented as a “repair” in response to lateral erosion, but instead would be implemented proactively, at the time of construction, to reduce the potential that lateral erosion would occur and to minimize adverse effects if lateral erosion does occur. (The EIS/R is describing potential effects, not predicting that lateral erosion would occur.) The erosion protection (*e.g.*, revetment, bioengineering, or other erosion protection techniques) would be implemented during construction in all areas where the 300-foot buffer between the river channel and levees could not be provided. The significance determination considers the historical lack of lateral erosion, even under the much higher flows during the pre-Friant Dam period, the likelihood that additional riparian vegetation that would tend to protect against bank erosion would establish along the reach, and the inclusion of erosion protection during construction.

**Response to Comment O-WO-17**

Impact HAZ-5 indicates that work in the wetted portions of the river that contain mosquito habitat (*e.g.*, areas of still standing water) may increase the risk of exposure to mosquitos. (Mosquito larvae need to develop in still, standing water otherwise the breathing tubes for the larvae submerge and they are drowned.) Mitigation measure HAZ-5A would be implemented in the Project area by construction workers and maintenance staff (*e.g.*, from above the Chowchilla Bifurcation Structure to below Mendota Dam). This measure includes good housekeeping, use of mosquito repellants, coordination with mosquito abatement districts, and additional mosquito vector controls, as needed.

With Restoration Flows and implementation of the Project, a portion of the San Joaquin River arm of Mendota Pool would be changed from stagnant backwater to an active river channel, reducing the amount of standing water in the main channel throughout the year (including summer months). A reduction in the amount of standing water reduces the amount of potential mosquito breeding habitat. Areas in the expanded floodplain could experience some standing water prior to infiltration, however, as described in Section 2.2.4 of this EIS/R, floodplain and channel grading would connect low-lying areas on the floodplain to the river to prevent fish stranding. This would also reduce the amount of area that could otherwise have standing water. It is important to note that the Reach 2B setback levees would not be full from levee to levee, and the floodplain would substantially inundate for only a few weeks in half of the years. This can be seen in the inundation mapping in the Project design report (Reclamation 2015a).

**Response to Comment O-WO-18**

Section 21.3.3 of this EIS/R, Impact ECON-1, discusses the change in agricultural production values as a result of Project implementation. The decline in agricultural production values is estimated for the Action Alternatives and compared to regional agricultural activity in Fresno and Madera counties. The direct economic effect on

agricultural landowners in the Project area is mentioned to inform the reader that landowners would be compensated for their land. Land acquisition costs are not included in the estimates for the annual change in agricultural production values.

The land acquisition process for the Project will be consistent with existing federal standards and processes. Consistent with Federal law, Reclamation complies with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the Uniform Appraisal Standards for Federal Land Acquisitions, and the Department of Justice Title Standards for land acquisition actions. Appraisers to date have taken a comparison sales approach to determine the fair market value of properties, based on the highest and best use of a property.

## II.7 Comments from Individuals and Responses

### II.7.1 Fox, Dennis

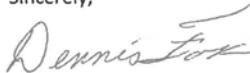
Becky Victorine, Bureau of Reclamation  
San Joaquin River Restoration Program  
2800 Cottage Way MP 170  
Sacramento, CA 95825-1898

Subject: Bypass and Reach 2B

Dear Ms Victorine:

- I-Fox-1 I do have questions as would the Bard for the necessity for a bypass a sort of 2B or not 2B as the question:
- I-Fox-2  Would not the salmon be imprinted on the main stem if from a local hatchery or redd?
  - I-Fox-3  • Could the local structure at Memdota, termed a weir, have an extended ladder system which would allow salmon passage but would deter predators?
  - I-Fox-4  • The vegetation necessary for shading has not been grown
  - I-Fox-5  • The weeds that infest the mains stem and tributaries have not been removed
  - I-Fox-6  • If any streambed is to be constructed it should best be of a C\$ Rosgen classification with allowance for the pool riffle system
  - I-Fox-7  • There should be some woody debris in place also to keep down the poached salmon syndrome.
  - I-Fox-7  • Subsidence will cause some areas to be sloughs, rather than free flowing.
- I-Fox-8 I mention the use of mini fish ladders as a result of the Fresno State study that the sand and gravel mining operations have left some ponds adjacent to the upper valley reach and they are prime habitat for predators of salmon smolts. The conclusion that the ponds should be filled in is not practical for
- I-Fox-9 where would you get materiel to fill the ponds in and at what cost. As this upper reach is not connected
- I-Fox-10 with the rest of California's aquatic areas, liberal regulations regarding predator take in this isolated area would seem most efficient. As the program does not see this as being possible to bring to the Fish and
- I-Fox-11 Wildlife Commission for two years, the major hindrance to salmon restoration in the San Joaquin is now highlighted.

Sincerely,



Dennis Fox  
918 Blossom St  
Bakersfield, Ca 93306

6613664093

## **II.7.2 Responses to Fox, Dennis**

### ***Response to Comment I-Fox-1***

The Salmon Conservation and Research facility, located on the San Joaquin River downstream of Friant Dam, is providing a local source for fish releases until a self-sustaining population has been achieved. The hatchery salmon would imprint on the San Joaquin River water. Juvenile salmon from a redd in the San Joaquin River would also imprint on the San Joaquin River water.

### ***Response to Comment I-Fox-2***

The Settlement requires construction of a bypass around Mendota Pool. Building a fish ladder at Mendota Dam without bypassing the Pool would not fulfil the purpose and need of the Project. The Fresno Slough Dam alternatives (Alternatives C and D) would include a fish ladder at Mendota Dam with Mendota Pool contained further south and only in Fresno Slough. The Compact Bypass alternatives (Alternatives A and B) would bypass the dam and Pool, and the bypass channel would be the fish passage facility. For the preferred alternative (Alternative B), a fish ladder would also be constructed at the Compact Bypass Control Structure to allow fish passage to continue while water is delivered to Mendota Pool. A fish ladder which is designed for native fish to pass upstream would also pass predator fish. However, salmonids, in general, like fast flowing, cool water and many predatory fish, such as bass, prefer warmer backwaters. Therefore, fish ladders are designed with attraction flows, which are less suitable for many predatory fish.

### ***Response to Comment I-Fox-3***

Vegetation that provides shading for fish habitat would either be actively or passively established (i.e., either planted and irrigated to establish plants or allowed to generate and establish from upstream and wind-blown seed sources). The Rearing Habitat Design Objectives (SJRRP 2014d) have recommendations for shading in side channels and the floodplain. Therefore, shading is included in the long-term design. Until this vegetation has established, the habitat can support food prey items (i.e., invertebrates) for rearing juveniles in the main channel.

### ***Response to Comment I-Fox-4***

Section 2.2.6 of the Final EIS/R was updated to indicate that the SJRRP has an existing invasive species management plan. The SJRRP's *Invasive Vegetation Monitoring and Management Environmental Assessment* (SJRRP 2012) describes the methods that would be followed for Reach 2B invasive species removal. This update in the Final EIS/R does not change the conclusions of the Draft EIS/R.

### ***Response to Comment I-Fox-5***

The Compact Bypass channel would be a multi-stage channel designed to facilitate fish passage at low flows, channel stability at moderate flows, and contain high flows. The low-flow channel is designed to be slightly sinuous. Since the release of Interim and Restorations flows, pools, riffles, and glides have developed in Reach 2B and these aquatic features are also expected to develop in the bypass channel.

***Response to Comment I-Fox-6***

To increase habitat complexity, the current design for the bypass channel includes vegetation and placement of large woody debris. See Section 2.2.6 of the Draft EIS/R. Additional information about the floodplain and riparian habitat can also be found in the revisions to the Final EIS/R in Section 2.2.6.

***Response to Comment I-Fox-7***

Subsidence is expected in the Project area, but generally this affects lowering of global elevations. See also MCR-3: Subsidence.

***Response to Comment I-Fox-8***

The comment is discussing the need for fish ladders over gravel pits from sand and mining operations to reduce predation. The Project area does not have similar features.

The Project would use floodplain and channel grading to create inundation depth diversity on the floodplain and to connect low-lying areas on the floodplain to the river. This heterogeneity in the aquatic habitat is expected to be beneficial. From a fisheries perspective, the creation of side channels/low flow areas would provide an ample supply of food for fish. In addition, over the long-term it is expected that the species composition in Reach 2B and the bypass channel would gradually change to favor native fish. The release of Restoration Flows would change aquatic habitat conditions to be more suitable to native fishes than prior conditions, which was more suitable for predatory fish

***Response to Comment I-Fox-9***

See response to comment I-Fox-8.

***Response to Comment I-Fox-10***

The removal of large predators has not always been a successful approach. This will often allow for an abundance of smaller predators to inhabit the area, where they prey upon a higher number of native fish. By bypassing Mendota Pool, the opportunity for successful outmigration is expected to be higher.

***Response to Comment I-Fox-11***

See response to comments I-Fox-8 and I-Fox-10.

II.7.3 Iger, Rick

	<p><b>PUBLIC COMMENTS</b> Mendota Pool Bypass and Reach 2B Channel Improvements Project Draft Environmental Impact Statement/Environmental Impact Report</p>
 <p>www.restoresjr.net</p>	<p>Written comments can be submitted at the public meeting, mailed to Rebecca Victorine, Bureau of Reclamation, Mid-Pacific Region MP-170, 2800 Cottage Way, Sacramento CA 95825 faxed to 916-978-5469 or emailed to <a href="mailto:Reach2B_EISEIR_Comments@restoresjr.net">Reach2B_EISEIR_Comments@restoresjr.net</a> by close of business on August 10, 2015. Thank you.</p> <p><input type="checkbox"/> Fresno July 8    <input checked="" type="checkbox"/> Los Banos July 9    <input type="checkbox"/> Sacramento July 10</p> <p>(Please print clearly)</p> <p>Name <u>Rick Iger</u></p> <p>Organization and Address <u>10315 Hinderhill Drive</u> <u>Bakersfield, CA 93312</u></p> <p>Phone <u>(661) 303-6607</u></p> <p>Email <u>riger@ppeng.com</u></p>
<p>Comment here: <u>July 9, 2015</u> <small>Date</small></p> <p>1- Iger- 1 On the preferred alternative design please consider designing control structure conveying water to the exchange contractors to a greater capacity than 2,500 cfs. There are current and near future diversions which can take water from the Mendota Pool including plans to reverse the Delta-Mendota Canal at flows over 4,000 cfs.</p> <p>1- Iger- 2 Also consider a "sodt plug" design in the control weir so during high flow releases from Millerton the flows can by-pass the weir without washing it out.</p>	
<p>All comments become part of the public record.</p>	

## **II.7.4 Responses to Iger, Rick**

### ***Response to Comment I-Iger-1***

The fundamental purpose of the Project is to implement those portions of the Settlement and the Settlement Act applicable to Reach 2B and the Mendota Bypass. The ability to deliver more than 2,500 cfs is not included as part of the purpose and need for the Project.

### ***Response to Comment I-Iger-2***

Reclamation is currently working on design of the levees next to the future Mendota Pool Control Structure. As the levees would have water on both sides during deliveries to Mendota Pool, a clay core is needed. This condition to keep the levees from breaching during regular operations may not allow a “soft plug” design. Reclamation will continue to coordinate with the local community and hold public meetings as the design progresses and encourages your participation.

## II.8 Comments from Public Hearings and Responses

### II.8.1 Fresno, California Public Hearing – July 8, 2015

#### *Haugen, Steven*

PUBLIC MEETING ON BEHALF OF US BUREAU OF RECLAMATION

1 and spell your first and last name for our court  
2 reporter; it is a formal hearing. Speak clearly into  
3 the microphone so your comments can be captured  
4 accurately.

5 And we'll begin with any federal, state, or  
6 local elected officials. I do not believe we have any  
7 of those who have submitted cards at this point, but I  
8 will provide that opportunity. So if you haven't turned  
9 in your card yet or we begin the comment period and you  
10 decide you do want to speak, you can go ahead and do  
11 that and get the card over to Craig. All right.

12 We are ready to start, and my first speaker is  
13 Steven Haugen.

P.  
Haugen  
- 1

14 MR. HAUGEN: Good evening. My name's Steve  
15 Haugen. I'm with Kings River Water Association, here  
16 tonight speaking on behalf of Kings River interest. We  
17 have a number of written comments that we'll be  
18 submitting, but I have two generalized comments that I  
19 want to bring forward tonight.

20 The first item that we have a lot of concern  
21 with is the false pathway issue that we talked about  
22 with the up-migrating adult salmon. One of the things  
23 that has been talked about in a number of the  
24 preliminary meetings leading up to this over the last  
25 several years is the need for a fish barrier in the San

PUBLIC MEETING ON BEHALF OF US BUREAU OF RECLAMATION

P -  
Haugen  
- 1 cont.

1 Joaquin River where the Kings River flows into during  
2 flood control operations. That barrier has been in a  
3 number of different presentation materials leading up to  
4 this EIR. In this particular -- in the preferred  
5 Alternative B, it's missing from that document. It's --  
6 you'll find it interesting that the three other  
7 alternatives still show barriers, but it's missing from  
8 that particular barrier.

9 We believe that that's going to be a real  
10 problem with the potential during year -- really wet  
11 years where there's a flood release going on that a  
12 significant amount of returning salmon could find a  
13 false pathway into the Kings and not return back to the  
14 San Joaquin River system to repeat their life cycles.  
15 So we see that as a real concern, and that's -- in  
16 general, that's one of the issues we see.

P -  
Haugen  
- 2

17 The second issue we have is the expansion --  
18 the actual construction and implementation of the Reach  
19 2B Project expanding that channel to 4,500 CFS, we  
20 believe, will create a significant flood control  
21 conflict in the future. That's a system that was  
22 designed to operate as -- at current capacities. This  
23 particular project will be increasing those flood --  
24 flow capacities in that area.

25 I know there is a number of -- there's at

P -  
Haugen  
- 2 cont.

1 least one document out there that gives priority to the  
2 Kings, but it's a guiding document. When we get into a  
3 wet situation in a large wet year, like in 1983 and 1969  
4 and 1997, I believe they'll be -- once the project's  
5 completed, there will be a conflict occurring during  
6 those events in trying to balance capacity, balance  
7 emergencies, balance flooding, and we're going to see a  
8 real challenge at that point in time without some sort  
9 of mitigating functions in the rest of the system.

P -  
Haugen  
- 3

10 So that one issue, there's a lot of detail  
11 around those two issues, and we'll be going into that  
12 detail in our written comments, but those two general  
13 issues, I believe, are very significant issues that are  
14 being -- that are not adequately addressed in the  
15 document as it stands.

P -  
Haugen  
- 4

16 Just general notice, some of the other  
17 issues -- some of the other issues, some of the  
18 recreationactivities, the redirection of recreation  
19 activities and the sedimentation, how that's going to

P -  
Haugen  
- 5

20 react with some of the rerouting, some of the  
21 construction, how sedimentation may impact future flood  
22 control. We'll be addressing those issues as well in  
23 our written comments. And that would conclude with my  
24 Kings River interest comments.

P -  
Haugen  
- 6

25 I do have a different set of landowner issues

## PUBLIC MEETING ON BEHALF OF US BUREAU OF RECLAMATION

P -  
Haugen  
- 6 cont.

1 I'd like to comment on at this time, if that's fine.  
2 Steve Haugen, trustee for the 1986 Mitigation Lands  
3 Trust. We're a property owner immediately east of the  
4 Mendota Pool Dam. The properties that we manage and own  
5 and operate there are directly under every alternative  
6 within the EIR. It's obvious that that property is  
7 going to have to be acquired for this project to move  
8 forward. It's under -- it's directly in the compact  
9 bypass line.

10 Our main concern with that is we just want to  
11 make sure that when it comes to compensation that we are  
12 fully compensated full-market value on both the property  
13 and the water rights associated with that property. So  
14 that's -- that's going to be a real strong consideration  
15 and a concern of ours in the functioning and operating  
16 of the Litigation Lands Trust.

17 And that concludes my comments for this  
18 evening. Thank you.

19 MS. CURTIS: Okay. Thank you. Thank you very  
20 much. All right.

21 My second card is Mr. Randy Houk.

22 MR. HOUK: Good evening. Randy Houk, H-O-U-K.  
23 I'm General Manager of Columbia Canal Company, landowner  
24 and farm. We're a private water company, a member of  
25 the Exchange Contractors. This 2B area, we have both

## **Responses to Haugen, Steven**

### **Response to Comment P-Haugen-1**

The EIS/R acknowledges that a false migration pathway would exist in Alternative B and that some fish would stray. The effects of this false migration pathway are described in Section 5.3.3 of this EIS/R under Impact AQUA-3 (Alternative B). If a fish barrier is not constructed at the bottom of the Compact Bypass or at the base of the Fresno Slough Dam, only a small portion of the up-migrating adult salmon is expected to stray into Mendota Pool during flood flows. Adult salmon are expected in both the river and the flood bypasses during flood flows as the flood management agency splits the flows. In Alternative B, migration would be delayed for some fish due to the false migration pathway, but many of the up-migrating salmon in the river is expected to use the Compact Bypass when the San Joaquin River is conveying flood flows. The loss of some fish to straying is expected to occur under this alternative while still supporting the Restoration Goal for a naturally reproducing and self-sustaining fish population.

Reclamation has evaluated a variety of non-physical barriers (see Section 2.2.5 of this EIS/R). Electric barriers generate an electric current through the water across a channel in order to deter fish. Based on existing and previous installations, electric barriers were found to present potential unavoidable electric shock hazards for fish (target and non-target species), other animals, people, and watercraft. Often target fish species either made it past the barrier or were killed. Velocities and depths needed to be consistent for the barrier to be effective; something that has proven difficult on reaches with moveable beds and those with variable flows. Velocities also need to be sufficient to sweep stunned fish out of the barrier, which may be difficult in Reach 3 with its low slope and low velocity conditions. For all these reasons, the electric barrier was not recommended. Acoustic barriers use a sound signal contained in a bubble curtain of air to deter fish; acoustic barriers may also incorporate the use of strobes and lights to deter fish. There are few existing installations of acoustic barriers, but they have been found to be most effective on juvenile fish with minimal effectiveness on adult fish. Effectiveness has also been found to decrease with increasing flows. Acoustic barrier technology is not capable of functioning during high flows (*e.g.*, 4,500 cfs) and therefore, the acoustic barrier was not recommended.

### **Response to Comment P-Haugen-2**

Reclamation and DWR have been conducting numerous studies in the Restoration Area to evaluate channel capacities in the San Joaquin River and flood bypasses. These channel capacity evaluations are updated annually through the SJRRP channel capacity report process (SJRRP 2016a).

As described in MCR-6: Flood Management Considerations and O&M Costs, throughout Settlement implementation, the maximum downstream extent and rate of Restoration Flows to be released would be maintained at or below then-existing channel capacities. If flood control releases from Friant Dam exceed the concurrent scheduled Restoration Flows, no additional releases above those required for flood control would be made for SJRRP purposes. As described in Section 1.6.3 of this EIS/R, flood releases from Pine Flat Reservoir may be bypassed to the San Joaquin River via Fresno Slough and Mendota

Pool, typically in wet water year types. Due to capacity restrictions downstream of Reach 2B, the addition of these flows further restricts the amount of flow that can enter Reach 2B, and more San Joaquin River flows will be diverted into the Chowchilla Bypass to compensate. Some portion of the San Joaquin River flows are anticipated to perform as Restoration Flows in Reach 2B, but the flood management agencies will have ultimate discretion in directing flood flows. The intent of the Project is to provide capacity to convey at least 4,500 cfs in Restorations Flows. Flood flows are managed according to the Flood Control Manual, which would be unchanged by the Project, and under the ultimate discretion of flood management agencies. No part of the Project requires the full Reach 2B capacity to be utilized in a flood management operation.

To address channel capacity restrictions in the Restoration Area, levee evaluations along the San Joaquin River and flood bypasses are being conducted by DWR as part of the San Joaquin Levee Evaluation Project to assist the SJRRP in assessing flood risks due to levee seepage and stability associated with the release of Restoration Flows. Geotechnical evaluations have included geomorphology studies, collection of geophysical data, drilling programs along the levee crown and landside toe (including boreholes, cone penetration tests, and hand augers), and laboratory testing of soil samples. These geotechnical evaluations have been used to identify existing channel capacity, inform levee seepage and stability modeling for each reach, and to identify critical levee segments that have reduced capacity for future levee stability projects.

As described in MCR-3: Subsidence, Reclamation has been intensively monitoring subsidence within the Restoration Area since 2011 and Reclamation and DWR have performed subsidence monitoring along the Flood Control Project levees to help further refine subsidence rates in the flood bypasses. DWR has surveyed topographic ground elevations in Reach 2A, the Chowchilla Bypass, the Upper Eastside Bypass, the Middle Eastside Bypass, and the Mariposa Bypass. DWR also completed surveys in 2013 and 2014 of the levee and channel in the lower portion of Reach 3, Reach 4A, and the Middle Eastside Bypass (SJRRP 2014b). DWR, in coordination with Reclamation, will conduct a study to better understand the effects of long-term subsidence on channel capacity. This study is expected to be completed in 2016. In addition to updating the models and assessing the channel capacity to consider future subsidence, DWR has started to move forward with a study within the flood bypasses to understand how subsidence is changing sediment transport. The study is designed to better understand and quantify how subsidence-induced sedimentation will affect channel capacity and to provide information on the amount of sediment removal that may be required to maintain necessary design flow capacities.

As described in MCR-2: Seepage Management, Reclamation is currently monitoring more than 200 monitoring wells and piezometers and has identified areas vulnerable to seepage effects, developed groundwater thresholds, and has prioritized seepage control projects in the Restoration Area. The highest priority seepage projects in the Restoration Area are those located in areas that would be impacted at the lowest San Joaquin River flows. Key areas of concern include the downstream end of Reach 2A, portions of Reach 3, and the downstream end of Reach 4A. SJRRP seepage projects are expected to be complete by 2020 in areas that would otherwise cause flow to be constrained below 1,300

cfs. Subsequent seepage projects are expected to be complete by 2025 in areas that would otherwise be affected by flows up to 2,500 cfs. All seepage projects are expected to be complete by 2030 to allow up to 4,500 cfs of Restoration Flows in the San Joaquin River.

Reclamation also has an existing invasive species management plan and has a financial assistance agreement in place with several non-profit agencies to compensate them for removing invasive species in the San Joaquin River. Reclamation has heard complaints about Reach 3 channel vegetation from several landowners, and has directed the non-profits to these landowners so that any invasive species in the channel can be removed. Reclamation will continue to do this in the future, to the benefit of both the flood capacity of the reach and revegetation efforts.

The Project provides the increase in conveyance capacity for Restoration Flows. Flood flows are routed at the discretion of flood operators. Currently the Flood Control Manual provides priority to Kings River flows through Fresno Slough. Changes to the Flood Control Manual are outside the scope of this EIS/R and would require analysis by the flood management agencies through separate environmental documentation.

***Response to Comment P-Haugen-3***

See response to P-Haugen-1 and P-Haugen-2.

***Response to Comment P-Haugen-4***

As discussed in Section 20.1.1 of this EIS/R, the Kings River was only one of several locations self-reported by people responding to the question on alternative fishing sites to Mendota Pool. The Fresno Slough arm of Mendota Pool, including areas near Mendota Pool Park, is often used by the same people who fish from Mendota Dam. The EIS/R is not “redirecting” recreationists to Kings River areas.

***Response to Comment P-Haugen-5***

As described in Section 14.3.3 of this EIS/R for Alternative B, channel bed erosion is expected in Reach 2B after construction of the Compact Bypass to remove sediment that has been deposited in the San Joaquin River arm of Mendota Pool. This sediment is expected to be deposited in Reach 3 primarily within 1 mile of the bypass channel, and therefore, the levees in this portion of Reach 3 would be improved if necessary. Reclamation is proposing to reduce this potential impact by constructing a pilot channel upstream in Reach 2B to remove material prior to erosion, and heavily revegetating the Compact Bypass channel to enhance channel stability.

***Response to Comment P-Haugen-6***

The land acquisition process for the Project will be consistent with existing federal standards and processes. Consistent with Federal law, Reclamation complies with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the Uniform Appraisal Standards for Federal Land Acquisitions, and the Department of Justice Title Standards for land acquisition actions. These standards require assessing fair market value. The Office of Valuation Services reviews appraisals and approves them for government use. Appraisers to date have taken a comparison sales approach to determine the fair market value of properties, based on the highest and best use of a property.

**Houk, Randy**

## PUBLIC MEETING ON BEHALF OF US BUREAU OF RECLAMATION

1	I'd like to comment on at this time, if that's fine.
2	Steve Haugen, trustee for the 1986 Mitigation Lands
3	Trust. We're a property owner immediately east of the
4	Mendota Pool Dam. The properties that we manage and own
5	and operate there are directly under every alternative
6	within the EIR. It's obvious that that property is
7	going to have to be acquired for this project to move
8	forward. It's under -- it's directly in the compact
9	bypass line.
10	Our main concern with that is we just want to
11	make sure that when it comes to compensation that we are
12	fully compensated full-market value on both the property
13	and the water rights associated with that property. So
14	that's -- that's going to be a real strong consideration
15	and a concern of ours in the functioning and operating
16	of the Litigation Lands Trust.
17	And that concludes my comments for this
18	evening. Thank you.
19	MS. CURTIS: Okay. Thank you. Thank you very
20	much. All right.
21	My second card is Mr. Randy Houk.
22	MR. HOUK: Good evening. Randy Houk, H-O-U-K.
23	I'm General Manager of Columbia Canal Company, landowner
24	and farm. We're a private water company, a member of
25	the Exchange Contractors. This 2B area, we have both

P -  
Houk  
- 1

P -  
Houk  
- 1  
cont.

1 sites in Madera and Fresno County.

2 I was going to open up with, once again, our  
3 main concern is the fish screens. But as I am seeing,  
4 it's now printed in your EIR and on paper, and the  
5 program is providing two of them: A Lone Willow fish  
6 screen and a Bypass fish screen. I'm glad to see that  
7 the framework has changed since last month, money's been  
8 provided, and those will be built as we've requested, to  
9 be continued, I take it. All right.

10 MS. FORSTHYE: The framework has not changed.

11 MR. HOUK: The framework, what that is, ladies  
12 and gentlemen, your EIRs will state, that fish screens  
13 are anticipated in there, but there's no money for them.  
14 Okay.

P -  
Houk  
- 2

15 Starting off looking at your preferred  
16 alternative, I see in here under your preferred  
17 alternative that the low-flow crossing of San Mateo has  
18 now been eliminated. I know that the EIR is taking a  
19 high look at anticipated projects, so routing is really  
20 going to be important. The only way that you can travel  
21 now between Madera and Fresno County would be on Drive  
22 10 1/2, across your anticipated gates at the head of the  
23 bypass and/or blockage to keep the pool from going  
24 downstream. Those roads are going to be have to be wide  
25 enough to carry all maintenance equipment.

## PUBLIC MEETING ON BEHALF OF US BUREAU OF RECLAMATION

P -  
Houk  
- 3

1                   And also federal facilities, as you know, due  
2 to homeland security, and federal dams and safeties,  
3 those facilities will not have any public access.  
4 They're locked 24/7 other than when you're performing  
5 maintenance or actually personnel that have contracts  
6 with the federal government are allowed access in. So,  
7 essentially, through your EIR/EIS, I think we need to  
8 rethink of how the public's going to have access to any  
9 of these areas.

P -  
Houk  
- 4

10                   With the low-flow crossing gone and your  
11 designated levy outlines that are shown, when the levies  
12 are put in place and the flood plane is, there is --  
13 everything still is private property on both sides.  
14 There will be no public access. Half our DWR flood

P -  
Houk  
- 5

15 control through the Chowchilla Bypass is fixed. Didn't  
16 see anything in the EIR speaking about protecting the  
17 private property and fencing those facilities from the  
18 bifurcation plant to the Mendota Pool Dam.

19                   Moving on downstream. Speaking to the -- they  
20 were known as the paramount pumps or the riparian pumps.  
21 It's now wonderful they've changed their name. The  
22 wonderful pumps for the riparian, nothing in the EIR was  
23 spoken on how those were going to be managed. There's  
24 approximately 75 CFFs at different types of water years  
25 that are pulled out and above your anticipated bypass.

P -  
Houk  
- 6

1 Also, just downstream, the city of Mendota's fresh water  
2 intakes, nothing in the EIR was discussed about where  
3 they're going to be positioned or replaced.

P -  
Houk  
- 7

4 The design of the canal movements, I  
5 understand, working with the program will elevate  
6 portions of the canal of backflow back to the east side  
7 of the district in Madera County, but also during  
8 certain year types, we have gravity flow from the head  
9 of Lone Willow Slew. It comes through those same  
10 canals, so canal construction and movement will have to  
11 be looked at, and, I'm assuming, because of the lack of  
12 any real construction plans, just "we'll build this,"  
13 these items, if not discussed in the EIR, just be  
14 highlighted, and we'll get into that at design  
15 construction. All right.

P -  
Houk  
- 8

16 On this alternative map here, your borrow  
17 materials, you've got about twice as much acreage on  
18 areas to borrow from, which are all permanent crops.  
19 Your staging stockpile areas that you've designated are  
20 in existing pistachio orchards, where if you just move  
21 them down your four squares of your staging areas,  
22 that's all open ground. It's been fallowed due to --  
23 it's crop ground fallowed; that hasn't been farmed in  
24 about three years. It will be the lot easier to work  
25 with the landowner there for open ground for your

PUBLIC MEETING ON BEHALF OF US BUREAU OF RECLAMATION

P -  
Houk  
- 8  
cont.

1 staging areas versus trying to assume or purchase  
2 producing pistachio orchards just to store equipment.

P -  
Houk  
- 9

3 Also, another consideration, and it goes right  
4 back to one of the -- one of the fallacies on the new  
5 Fresno Slew Dam, we're still faced with putting in the  
6 bypass. We're going to have a blockage. 90 percent of  
7 the time, the water's coming from the DMC. Our pool  
8 backs up -- part of our storage in the Mendota Pool goes  
9 to San Mateo Avenue today, and this is water coming down  
10 the DMC. The pool itself holds approximately 8,300 CFS.  
11 We've got a good handle on that time. Numerous times  
12 over the last few years, we've had to drain the pool for  
13 dam inspection. This is going to substantially decrease  
14 the amount of area we have for pool storage, that we  
15 service nine different entities over a million, four  
16 hundred thousand acre feet out of that pool.

17 What we see happening is just on the Fresno  
18 Slew side, nothing in the EIR about the possible levy  
19 problems or shoring up those levies. A lot of pressure  
20 is going to be put on them, and they're barely adequate  
21 now as they are with the existing pool space that we  
22 have. All right.

P -  
Houk  
- 10

23 We'll be -- I'll be submitting written  
24 comments by your due date. These were just off of the  
25 top of my head that I saw reviewing your small, little

## ***Responses to Houk, Randy***

### ***Response to Comment P-Houk-1***

The Draft EIS/R indicates that the need for the Mendota Pool Fish Screen in Alternative B (the preferred alternative) would be further evaluated as Project planning and design continues. As described in MCR-1: Mendota Pool Fish Screen, Reclamation has completed an extensive analysis, based on the best available information, of the potential loss of fish to the Mendota Pool. This entrainment analysis includes both flood deliveries and calls on Friant to satisfy the Exchange Contract, and includes a higher frequency of calls on Friant than has historically occurred through 2015. Reclamation has determined that the number of juvenile fall-run and spring-run Chinook salmon that would be lost to Mendota Pool without a fish screen is not within the range that is acceptable to the SJRRP. The number of juveniles expected to be entrained in Mendota Pool is small (on average approximately 6 to 7 percent of the annual population) when considered over a variety of water year types, but could include multiple years in a row with more than 20 percent of the annual population of juveniles entrained in Mendota Pool. The greatest entrainment is expected to occur during flood releases in February and March. Calls on Friant to satisfy the Exchange Contract in late spring and/or early summer months would have minimal impact to juvenile fall-run and spring-run Chinook salmon because these fish are expected to emigrate out of the area prior to mid-May.

Reclamation and the CSLC analyzed and disclosed the potential impacts of constructing and operating the Mendota Pool Fish Screen in the Draft EIS/R to allow the flexibility to construct and operate the feature, should the agencies determine it is needed as part of the overall Project in support of the Restoration Goal. Based on the detailed technical analysis performed by Reclamation (provided in Part VI – Appendices to the Responses), the SJRRP has determined that it is appropriate to include construction and operation of the Mendota Pool Fish Screen in the preferred alternative. The purpose of this change is to disclose the increased likelihood that the SJRRP could include this feature in the selected alternative for the Project. A final decision on the selected alternative for the Project will be made in the ROD/NOD, following public review of the Final EIS/R. See MCR-1: Mendota Pool Fish Screen.

### ***Response to Comment P-Houk-2***

Construction access routes are discussed in Section 2.2.4 of this EIS/R. In Alternative B (the preferred alternative), Drive 10 ½ would be rerouted over the Compact Bypass Control Structure. It is anticipated that access would be provided across the Mendota Pool Control Structure and Compact Bypass Control Structure for emergency agencies and those with local facilities. The road deck is being designed for HS-20/HL-93 loading (e.g., sufficient to allow transport of a 25-ton maintenance crane to Mendota Dam).

Project impacts to access across the river are discussed in the resource chapters, specifically Chapters 20 and 22 of this EIS/R. The EIS/R analyzes the temporary and long-term effects of replacing the San Mateo Avenue crossing (Alternatives A and C) or removing this crossing (Alternatives B and D). It also analyzes the temporary and long-term effects to emergency vehicle access at Drive 10 1/2, which crosses the river at

Mendota Dam (see Section 22.3.3, Impact TRA-4). The Project does not propose new bridge or low-flow crossings at other locations.

As mentioned above, the Project does not propose to change the type of access that is allowed over water control structures (*e.g.*, Mendota Dam or bifurcation structures). However, Reclamation does anticipate, that in Alternative B, access across the Mendota Pool Control Structure and Compact Bypass Control Structure would be allowed to emergency agencies and those with local facilities despite Reclamation and homeland security-related restrictions.

***Response to Comment P-Houk-3***

This EIS/R discusses how the Project alternatives could result in road closures (see Chapter 22). Emergency vehicular access would be provided over the Mendota Pool Control Structure and Compact Bypass Control Structure. Reclamation anticipates providing access to specific agencies over these Federal structures while complying with security related laws. Public vehicular access would not be provided.

***Response to Comment P-Houk-4***

In Alternative B, Reclamation anticipates providing public access at San Mateo Avenue, as it is currently a public road on the north side of the river. However, Reclamation does not plan to increase public access to San Mateo Avenue. There is not currently public access on the south side of the river at San Mateo Avenue.

The designs for control structures, Columbia Canal intake facility and pumping plant and associated electronic building, fish passage facilities, and fish screens include security fences and gates. Temporary construction fencing would be used around construction areas. The Project does not include permanent fencing along the entire length of the project levees, similar to existing conditions in the Project Area.

***Response to Comment P-Houk-5***

Additional information is included in Section 2.2.4 of the Final EIS/R regarding plans for relocation or floodproofing of existing infrastructure, where known. The inclusion of this additional information in the Final EIS/R does not change the analysis or conclusions of the Draft EIS/R. Natural gas pipelines would be buried lower in the soil column and water pipelines would be buried lower in the soil column or relocated outside of the levees. Two of the three City of Mendota groundwater wells would be avoided, while the third would be floodproofed and protected. Reclamation will continue to coordinate with and seek input from stakeholders, as it has done in the past, throughout the final design process, including other infrastructure on the floodplain.

***Response to Comment P-Houk-6***

This comment raises issues that are similar to P-Houk-5. See response to comment P-Houk-5.

***Response to Comment P-Houk-7***

Currently there is no plan to lower the head of Lone Willow Slough to improve water diversions. However, Reclamation would maintain the ability for entities to take historic water rights from Lone Willow Slough.

***Response to Comment P-Houk-8***

In response to stakeholder concerns, borrow areas on permanent crops have been removed from Alternative B, the preferred alternative (see Section 2.2.4 of the Final EIS/R.) Based on recent geologic investigations, Reclamation anticipates that borrow would be taken primarily from within the setback levees, and minimal if any borrow material would be needed from outside of the setback levees. Any borrow material outside of the setback levees would be taken from fallow or row-crop ground to avoid the more significant effects to permanent crops. In addition, the location of the staging areas have been moved for Alternative B to avoid permanent crops.

***Response to Comment P-Houk-9***

In the Fresno Slough Dam alternatives (Alternative C and D), the Fresno Slough Dam would be located just north of the Delta-Mendota Canal. The Fresno Slough Dam would not block water imported from the Delta-Mendota Canal.

The Project Action Alternatives would remove a portion of the San Joaquin River arm of Mendota Pool upstream of the Compact Bypass or Fresno Slough Dam. The transient storage capacity of Mendota Pool is estimated to be between 290 and 1,460 acre-feet, corresponding to the top 0.2 and 1.0 foot of the Pool, respectively. The reduction in transient storage capacity is estimated to be between 33 and 164 acre-feet for the Compact Bypass alternatives and between 46 and 230 acre-feet for the Fresno Slough Dam alternatives. This represents a reduction of approximately 11 to 16 percent of the transient storage capacity of the Pool (DWR 2012b). Although the reduced transient storage in the Pool would likely require the Pool to operate a slightly greater range of depth to store and deliver water, the change in operating levels appears to be within historical fluctuations found in Pool elevations during wet, normal-wet, and normal-dry water years. The historical overall annual range can vary from greater than 2.0 feet (wet water year), 0.7 foot (normal wet water year), and 0.5 foot (normal dry water year).

As the Action Alternatives would not change the water surface elevation operating range of Mendota Pool, it would have little to no effect on the Fresno Slough levees.

***Response to Comment P-Houk-10***

Your verbal and written comments have been reviewed and considered in preparation of the Final EIS/R.

## II.8.2 Los Banos, California Public Hearing – July 9, 2015

**Cardella, Chris**

PUBLIC MEETING ON BEHALF OF US BUREAU OF RECLAMATION

1 to have to be space given between the existing Mendota  
2 Pool Dam and the bypass itself. There has to be avenue  
3 to get in there to get around with equipment.

4 And also, it's anticipated -- maybe the  
5 program already discussed this. We've seen that your  
6 construction site office is off of Bass Avenue. The  
7 only bridge into the Fresno County side of your work  
8 area is called the Mowry Bridge, owned by Mowry Ranch.  
9 That won't support the weight required for your loads of  
10 materials. That bridge will only handle light trucks,  
11 pick-ups. You need to analyze that. I guess for that  
12 plan, you may be anticipating just using San Mateo  
13 coming in on the Fresno side for everything.

14 That's all I got. Thank you.

15 MS. CURTIS: Thank you, very much.

16 We have one more speaker, Mr. Chris Cardella.

P -  
CARDEL  
LA - 1  
17 MR. CARDELLA: Let's see. The first question  
18 I have for you is what's your definite timeframe for  
19 picking out the bypass that is actually going to be, you  
20 know, A, B, or C?

21 MS. CURTIS: Technically, during the public  
22 hearing portion, we don't answer questions. We just  
23 take comments. So we can --

24 MR. CARDELLA: Okay. Well, that's a question.

25 MS. CURTIS: That's a question that you're

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P -  
CARDEL  
LA - 1  
cont.

1 putting now on the record?

2 MR. CARDELLA: Yes.

3 MS. CURTIS: Okay.

P -  
CARDEL  
LA - 2

4 MR. CARDELLA: And then on land acquisitions,  
5 what is your -- you know, what is your timeframe with  
6 being -- what do we have to do to work together to work  
7 something out? Basically, we have to have a long-term  
8 plan, and if we pick a plan that goes right through the  
9 ranch and farm, what kind of study do you have that if  
10 you do put a bypass there, the sieve is going underearth  
11 the canal and detrinating [sic] the rest of my ranch.  
12 So if there is any damage -- and, I mean, I don't want  
13 any damage at all. That's why I've been fighting pretty  
14 hard on this. I know there's going to be some issues,  
15 so, basically, my concerns are we need to do some  
16 homework on this to make sure that we don't do damage if  
17 we're going to work together.

18 Okay. That's it.

19 MS. CURTIS: Thank you.

20 We did receive one more card, and it looks  
21 like Francisca Hernandez.

22 (As interpreted through Mr. Fernando  
23 Ponce:)

24 MS. HERNANDEZ: I'm a resident and promoter of  
25 Mendota, and I'm here for -- and I'm here as a resident,

**Responses to Cardella, Chris**

**Response to Comment P-Cardella-1**

Reclamation will issue its ROD after the Final EIS/R is made available (the ROD is anticipated September 2016). The ROD will identify Reclamation's decision regarding the selected alternative. The CSLC will hold a public meeting no less than 15 days after release of the Final EIS/R, and will issue an NOD if it certifies the EIR and approves the project.

**Response to Comment P-Cardella-2**

Land acquisitions for the Compact Bypass area are expected to occur between fall 2016 and spring 2017.

As presented at the design workshop on November 18, 2015, the current design for the Compact Bypass includes bentonite slurry cut-off walls in the levees surrounding the Compact Bypass and in the north levee from the bypass to about RM 208. The cutoff walls would be about 3 feet wide and would extend 15 to 20 feet below grade and about 8 feet above grade. The cut-off walls would prevent water from the bypass from seeping onto the adjacent property.

Reclamation will continue to work with landowners and stakeholders in the Reach 2B area during the design process.

**Hernandez, Francisca**

PUBLIC MEETING ON BEHALF OF US BUREAU OF RECLAMATION

1 putting now on the record?

2 MR. CARDELLA: Yes.

3 MS. CURTIS: Okay.

4 MR. CARDELLA: And then on land acquisitions,  
5 what is your -- you know, what is your timeframe with  
6 being -- what do we have to do to work together to work  
7 something out? Basically, we have to have a long-term  
8 plan, and if we pick a plan that goes right through the  
9 ranch and farm, what kind of study do you have that if  
10 you do put a bypass there, the sieve is going underearth  
11 the canal and detrinating [sic] the rest of my ranch.  
12 So if there is any damage -- and, I mean, I don't want  
13 any damage at all. That's why I've been fighting pretty  
14 hard on this. I know there's going to be some issues,  
15 so, basically, my concerns are we need to do some  
16 homework on this to make sure that we don't do damage if  
17 we're going to work together.

18 Okay. That's it.

19 MS. CURTIS: Thank you.

20 We did receive one more card, and it looks  
21 like Francisca Hernandez.

22 (As interpreted through Mr. Fernando  
23 Ponce:)

24 P - MS. HERNANDEZ: I'm a resident and promoter of  
25 Hernandez - 1 Mendota, and I'm here for -- and I'm here as a resident,

PUBLIC MEETING ON BEHALF OF US BUREAU OF RECLAMATION

p.  
Hernan  
dez - 1  
cont.

1 letting you know that we're here to look over the  
2 documents. And I support the project, but I want to  
3 make sure that it doesn't affect the ranches or the  
4 workers around the area.

5 MS. CURTIS: Thank you.

6 So those are the three cards that I've  
7 received. Is there anyone who wishes to make a formal  
8 comment at this time? Okay.

9 Thanks for coming then, and on behalf of the  
10 Bureau of Reclamation and the California State Lands  
11 Commission, I'd like to thank you for taking the time to  
12 attend this hearing. Again, if you plan on providing  
13 written comments, please submit them by Monday, August  
14 10th. And, technically, the public hearing will remain  
15 open until 8:30 this evening, so I am going to suspend  
16 it at this time. And if anyone wishes to speak between  
17 now and then, the comment period will remain open.

18 All right. Thank you very much for coming.

19 (Proceedings concluded at 7:22 p.m.)

20 ---o0o---

21  
22  
23  
24  
25

***Responses to Hernandez, Francisca***

***Response to Comment P-Hernandez-1***

Thank you for your support. Potential effects to ranchers and workers in the area are described in this EIS/R. See Chapter 16, “Land Use Planning and Agricultural Resources” and Chapter 10, “Environmental Justice” for more information regarding potential impacts.

**Houk, Randy**

PUBLIC MEETING ON BEHALF OF US BUREAU OF RECLAMATION

1           We will begin with any federal, state, or  
2 local elected officials or representatives for those  
3 elected officials who wish to comment." We so far don't  
4 have any speaker cards from anyone, so we'll proceed in  
5 the order that we received the cards. So, again, if you  
6 wish to provide comments, but you did not submit a  
7 speaker card, you can go to the registration table in  
8 the back and fill one out.

9           And the first speaker card I have is from  
10 Mr. Randy Houk.

**P -  
Houk  
- 1**

11           MR. HOUK: Randy Houk, General Manager at  
12 Columbia Canal Company, landowner, in Firebaugh,  
13 California. Continuation of comments from last night.  
14 A couple things have come up. One being on your  
15 preferred alternative by your construction office under  
16 your "Air Quality" and your "Environmental," you don't  
17 have on -- or mark or discuss the new Mendota Elementary  
18 School that's been built right there. It's up and in  
19 place now. It's just southeast of your anticipated  
20 construction there.

**P -  
Houk  
- 2**

21           Also, reviewing the EIR, looking -- this goes  
22 to your future design and construction -- reviewing your  
23 EIR, there's not much given to ongoing operations and  
24 maintenance on all these facilities, particularly, the  
25 gates. I see you have some boxes in there explaining

P -  
Houk -  
2  
cont.

1 you estimate eight hours, two guys. I think more work  
2 needs to be done through that in combination with your  
3 anticipated -- I'll refer to the Franklin document.  
4 That's where the monies are coming from.

5 The Columbia Mowry Distribution Center, just  
6 as an example, at the federal facility there, on  
7 average, ongoing daily through the years is about a  
8 quarter million. You're going to be reinstalling the  
9 whole distribution system. And through the design and  
10 the construction, you'll see where you can design it so  
11 the maintenance that's required -- as you've noticed in  
12 your plan here, all are existing facilities: Firebaugh,  
13 Columbia, CCID. We've all got inlets. That's due to  
14 the extreme amount of silt delivered daily down to the  
15 DMC. We all have to clean these out on average two to  
16 three years. Therefore, in your construction, your  
17 roads that you're anticipating that we spoke of last  
18 night down at the San Mateo crossing are not being  
19 reinstalled, we have to have avenues in order to clean  
20 out the silt build-up, and we're anticipating that your  
21 bypass is going to require this too.

P -  
Houk  
- 3

22 The width of the your bypass, you're going to  
23 have to be able to get between the Columbia -- the  
24 Madera side looks like it will probably be okay for  
25 maintenance, but depending on your design, there's going

PUBLIC MEETING ON BEHALF OF US BUREAU OF RECLAMATION

P -  
Houk  
- 3  
cont.

1 to have to be space given between the existing Mendota  
2 Pool Dam and the bypass itself. There has to be avenue  
3 to get in there to get around with equipment.

P -  
Houk  
- 4

4 And also, it's anticipated -- maybe the  
5 program already discussed this. We've seen that your  
6 construction site office is off of Bass Avenue. The  
7 only bridge into the Fresno County side of your work  
8 area is called the Mowry Bridge, owned by Mowry Ranch.  
9 That won't support the weight required for your loads of  
10 materials. That bridge will only handle light trucks,  
11 pick-ups. You need to analyze that. I guess for that  
12 plan, you may be anticipating just using San Mateo  
13 coming in on the Fresno side for everything.

14 That's all I got. Thank you.

15 MS. CURTIS: Thank you, very much.

16 We have one more speaker, Mr. Chris Cardella.

17 MR. CARDELLA: Let's see. The first question  
18 I have for you is what's your definite timeframe for  
19 picking out the bypass that is actually going to be, you  
20 know, A, B, or C?

21 MS. CURTIS: Technically, during the public  
22 hearing portion, we don't answer questions. We just  
23 take comments. So we can --

24 MR. CARDELLA: Okay. Well, that's a question.

25 MS. CURTIS: That's a question that you're

***Responses to Houk, Randy***

***Response to Comment P-Houk(2)-1***

Sensitive receptors have been updated in the air quality analysis of the Final EIS/R to include the Mendota Elementary School, located at 605 Bass Ave. This sensitive receptor was found not to be one of the maximally exposed sensitive receptors in the analysis. The health risk assessment was revised as appropriate for the Final EIS/R based on the SJVAPCD's comments (see Section 4.3.3 of the Final EIS/R, Impact AQ-3). As a result of the revised assessment, the impacts described in the Final EIS/R are less than significant for the school child and less than significant after implementation of Mitigation Measures AQ-3A and AQ-3B for the resident child. This is a decrease in significance from the analysis in the Draft EIS/R.

***Response to Comment P-Houk(2)-2***

Section 2.2.4 of the EIS/R describes the O&M activities for the Project Action Alternatives. Control structures and Fresno Slough Dam maintenance includes annual operating maintenance for control gates, lubricating the fittings, greasing and inspecting the motors, replacing parts and equipment, in-channel sediment removal in the structure vicinity, and cleaning the trash rack. Work needed for the radial gates includes inspection of gates and seals and periodic replacement of seals. Work needed for the trash rack includes periodic repair or replacement of components, inspecting for operation, and greasing and inspecting the motors. The design of the Project considers access to these facilities. With respect to financing Project O&M, see MCR-5: Project Funding.

***Response to Comment P-Houk(2)-3***

The design of the Project considers access to Project facilities. For Alternative B (the preferred alternative) maintenance vehicles would be able to cross the Compact Bypass via the Drive 10 ½ reroute. Maintenance vehicles would also be able to cross the Mendota Pool Control Structure.

***Response to Comment P-Houk(2)-4***

Section 2.2.4 of the Final EIS/R indicates that a new bridge may be constructed immediately adjacent to the Mowry Bridge, which holds the city of Mendota's water pipeline, for construction access. The construction access routes shown in the Final EIS/R were revised to show access at the Mowry Bridge area, as this crossing location would provide convenient access to the site of the Mendota Pool control structure. This update in the Final EIS/R does not change the conclusions of the Draft EIS/R.

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