3.7 Comments from State Agencies and Responses

This section contains a copy of comment letters (and any attachments) from the State government agencies listed in Table 3.7-1. As noted previously, each comment in the comment letters was assigned a number, in sequential order (note that some letters may have more than one comment). The numbers were then combined with an abbreviation for the State agency (example: CONS-1). For some comments, letters were added alphabetically to further identify related comments (example: DFGA-19a).

Responses to the comments follow the comment letters, and are also numbered, corresponding to the numbers assigned in the letters. The letters and associated responses are sorted alphabetically by abbreviation and appear in the section in that order.

Table 3.7-1.
State Agencies Providing Comments on
Draft Program Environmental Impact Statement/Report

Abbreviation	Agency
CONS	California Department of Conservation
CRWQCB	California Regional Water Quality Control Board
CSLC	California State Lands Commission
CVFPB	Central Valley Flood Protection Board
DFG	Department of Fish and Game
DFGA	Department of Fish and Game Attachment A
DFGB	Department of Fish and Game Attachment B
SJRC	San Joaquin River Conservancy
SWRCB	State Water Resources Control Board

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3.7.1 California Department of Conservation

CONS

NATURAL RESOURCES AGENCY — EDMUND G. BROWN, JR., GOVERNOR

DEPARTMENT OF CONSERVATION

Managing California's Working Lands

DIVISION OF LAND RESOURCE PROTECTION

801 K STREET • MS 18-01 • SACRAMENTO, CALIFORNIA 95814

PHONE 916 / 324-0850 • **FAX** 916 / 327-3430 • **TDD** 916 / 324-2555 • **WEBSITE** conservation.ca.gov

June 20, 2011

VIA FACSIMILE: 559-230-3301
Kevin Faulkenberry
California Department of Water Resources
3374 E. Shields Ave.
Fresno, CA 93726

Dear Mr. Faulkenberry:

Subject: San Joaquin River Restoration Program Draft EIS-R
SCH: 2007081125

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the Draft Environmental Impact Statement/Report for the referenced project. The Division monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act and other agricultural land conservation programs. We offer the following comments and recommendations with respect to the project's impacts on agricultural land and resources.

Project Description

The purpose of the San Joaquin River Restoration project is to implement the provisions of the settlement agreement (Settlement) specified in the recent court case of NRDC et al. v. Kirk Rodgers (Case No. CIV S-88-1658 LKK/GGH). The Settlement establishes two primary goals:

- 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.
- To reduce or avoid adverse water supply impacts on all of the Friant Division long-term contractors that may result from the Interim and Restoration flows provided for in the Settlement.

Project Location

The project area extends over six counties: Fresno, Madera, Merced, San Joaquin, Tulare, and Kern. The actual study area includes:

The Department of Conservation's mission is to balance today's needs with tomorrow's challenges and foster intelligent, sustainable, and efficient use of California's energy, land, and mineral resources.

- San Joaquin River upstream from Friant Dam, including Millerton Lake
- San Joaquin River from Friant Dam to the Merced River confluence
- San Joaquin River from the Merced River to the Sacramento/San Joaquin Delta
- Sacramento/San Joaquin Delta

Program Level Impacts

According to the DEIS-R, the project area contains 59,747 acres of agricultural land and 6,996 acres of open space land. A considerable amount of land in the project site is under Williamson Act and Farmland Security Zone contracts and/or is Important Farmland. Further, implementing the project would require the cancellation or expiration of a significant number of Williamson Act contracts. As such, the program-level impacts have been classified as significant.

Cumulative Impacts

The project would convert up to 2,300 acres of Important Farmland. Additional restoration actions (i.e. constructing a bypass with integrated floodplain habitat, etc) would convert up to 6,020 acres of Important Farmland. Approximately 7,975 acres of land would be removed permanently from Williamson Act contracts.

CONS-1

The loss of Important Farmland and cancellation of Williamson Act contracts is considered a cumulative impact. Cumulative impacts refer to two or more individual effects which, when considered together, are considerable, or which compound or increase other environmental impacts. The "individual effects" for this project (which compound the project's impact to agricultural resources) include: implementation of restoration actions and construction of the pumping plant and conveyance facility; past farmland conversions; planned future residential, commercial, and industrial development; flood control projects; and habitat restoration projects in Fresno, Madera, and Merced counties. Because there are no measures to fully mitigate the loss of Important Farmland, the project's cumulative impact has been categorized as significant and unavoidable.

Therefore, the Division asks that any subsequent CEQA document address the following items to provide a comprehensive discussion of potential impacts of the project on agricultural land and activities:

Williamson Act Lands

Under California Code of Regulations Section 15206(b)(3), a project is deemed to be of statewide, regional or area-wide significance if it would result in the cancellation of a Williamson Act contract for any parcel of 100 or more acres. As the project described above would likely result in the cancellation of 100 or more acres of contracted lands the Department asks that the following information be provided and/or discussed in any subsequent CEQA document:

CONS-2

- A map detailing the location of agricultural preserves, Farmland Security Zones and contracted land within each preserve or zone. The CEQA document should also tabulate the number of acres under Williamson Act contract, according to land type (e.g., prime or non-prime agricultural land), which could be impacted directly or indirectly by the project.
- A discussion of Williamson Act contracts that may be terminated in order to implement the project. The CEQA document should discuss the probable impacts on nearby properties resulting from the termination of adjacent Williamson Act contracts. For example, a termination of a Williamson Act contract may have a growth-inducing impact. In other words, a termination may not only lift a barrier to development, but also result in higher property taxes, and thus, an incentive to shift to a more intensive land use, such as urban development.
- As a general rule, land can only be withdrawn from a Williamson Act contract through the nine-year non-renewal process. Immediate termination via cancellation is reserved for "extraordinary circumstances" (See Sierra Club v. City of Hayward (1981) 28 Cal.3d 840, 852-855). Under Government Code section 51282, the city or county must approve a request for cancellation and base that approval on specific findings that are supported by substantial evidence. When cancellation is proposed, the Department recommends that a discussion of the findings be included in the CEQA document. Finally, a notice of the hearing to approve the tentative cancellation and a copy of the landowner's petition must be mailed to the Director of the Department ten working days prior to the hearing. (The notice should be mailed to Derek Chernow, Acting Director, Department of Conservation, c/o Division of Land Resource Protection, 801 K Street MS 18-01 Sacramento, CA 95814-3528.)

CONS-2 (con't)

- If portions of the planning area are under Williamson Act contracts (and will continue to be under contract after project implementation) the CEQA document should discuss the proposed uses for those lands. Uses of contracted land must meet compatibility standards identified in Government Code Sections 51238 - 51238.3. Otherwise, contract termination (see paragraph above) must occur prior to the initiation of the new land use.
- An agricultural preserve is a zone authorized by the Williamson Act and established by the local government to designate qualified land to be placed under the Williamson Act's 10-year contracts. Preserves are also intended to create a setting for contract-protected lands that is conducive to continuing agricultural use. Under Government Code Section 51230, "An agricultural preserve may contain land other than agricultural land, but the use of any land within the preserve and not under contract shall within two years of the effective date of any contract on land within the preserve be restricted by zoning, including appropriate minimum parcel sizes that are at a minimum consistent with this chapter, in such a way as not to be incompatible with the agricultural use of the land." Therefore, the CEQA document should also discuss any proposed general plan designation or zoning within agricultural preserves affected by the project.

- Mitigation Measures

The loss of agricultural land represents a permanent reduction in the State's agricultural land resources and the affected counties' economic bases. The Department's Farmland Mapping and Monitoring program data on historic land use conversion shows the following losses in Important Farmland for Fresno, Madera, Merced, San Joaquin, Tulare, and Kern counties1:

Affected Counties	Important Farmland Lost (in acres)	Average Yearly Loss of Important Farmland (in acres)
Fresno (1984-2008)	24,260	3,033
Madera (1984-2008)	25,260	1,053
Merced (1992-2008)	5,096	319
San Joaquin (1990-2008)	22,448	1,247
Tulare (1998-2008)	10,743	1,074
Kern (2004-2008)	27,930	6,983

CONS - 3 In 2008-2009, approximately $18.5 billion in total farm sales was generated in the affected counties.2 This cumulative loss in acreage and significant value agriculture has on the counties' economies demonstrates why the remaining agricultural resources in the counties should be protected whenever feasible.

As such, the Department recommends the use of permanent agricultural conservation easements on land of at least equal quality and size as partial compensation for the direct loss of agricultural land resulting from implementation of this project. If growth inducing or cumulative agricultural impacts are involved, the Department recommends that this ratio of conservation easements to lost agricultural land be increased. Conservation easements will protect a portion of those remaining land resources and lessen project impacts in accordance with CEQA Guideline §15370. The Department highlights this measure because of its acceptance and use by lead agencies as an appropriate mitigation measure under CEQA and because it follows an established rationale similar to that of wildlife habitat mitigation.

Mitigation via agricultural conservation easements can be implemented by at least two alternative approaches: the outright purchase of easements or the donation of mitigation fees to a local, regional or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural conservation easements. The conversion of agricultural land should be deemed an impact of at least regional significance. Hence the search for replacement lands can be conducted regionally or statewide, and need not be limited strictly to lands within the project's surrounding area.

[1] *See* Historic Land Use Conversion, http://redirect.conservation.ca.gov/dlrp/fmmp/product_page.asp.
[2] *See* California Department of Food and Agriculture – Agricultural Statistical Review, page 27, http://www.cdfa.ca.gov/statistics/PDFs/AgResourceDirectory_2010-2011/2AgOvStat10_WEB.pdf.

Thank you for giving us the opportunity to comment on this DEIS-R. If you have questions regarding our comments, or require technical assistance or information on agricultural land conservation, please contact Elliott Lum, Environmental Planner, at 801 K Street, MS 18-01, Sacramento, CA 95814; phone: (916) 324-0869; email: Elliott.Lum@conservation.ca.gov.

Sincerely,

John M. Lowrie
Program Manager
Williamson Act Program

cc: State Clearinghouse

Responses to Comments from the California Department of Conservation

CONS-1: Comment noted. This comment describes the program-level impacts and cumulative impacts to Important Farmland, as described in the Draft PEIS/R, and introduces comment CONS-2. See response to comment CONS-2.

CONS-2: Comment noted. As requested, subsequent CEQA documents for actions described at the program-level in the Draft PEIS/R will provide or discuss the recommended items, as appropriate. Text has not been revised.

CONS-3: Comment noted. As described in Chapter 16.0, "Land Use and Agricultural Resources," of the Draft PEIS/R, mitigation measures LUP-1a and LUP-5 incorporate agricultural conservation easements in accordance with CEQA Guidelines Section 15370. Agricultural conservation easements are described in mitigation measure LUP-1a for program-level impact LUP-1 on page 16-34, lines 19 through 25, and discuss that the future site-specific project proponent will either (1) acquire agricultural conservation easements at a 1:1 ratio (1 acre of acquired easement for each 1 acre of Important Farmland removed from agricultural use), or (2) provide funds to a program that conserves agricultural land to obtain easements on comparable land at a 1:1 ratio. Mitigation measure LUP-5 is identical for LUP-1a, applied to project-level impact LUP-5. Text has not been revised.

3.7.2 California Regional Water Quality Control Board

Matthew Rodriguez
Secretary for Environmental
Protection Agency

California Regional Water Quality Control Board
Central Valley Region
Katherine Hart, Chair

11020 Sun Center Drive, #200, Rancho Cordova, California 95670-6114
(916) 464-3291 • FAX (916) 464-4645
http://www.waterboards.ca.gov/centralvalley

CRWQCB

Edmund G. Brown Jr.
Governor

21 September 2011

Michelle Banonis
SJRRP Natural Resources Specialist
Bureau of Reclamation
2800 Cottage Way, MP-170
Sacramento, CA 95825-1898

COMMENTS ON SAN JOAQUIN RIVER RESTORATION PROGRAM DRAFT PEIS/R

Enclosed are comments on the April 2011 draft Program Environmental Impact Statement/Environmental Impact Report (PEIS/R) for the San Joaquin River Restoration Program (SCH # 2007081125).

If you have any questions regarding these comments, please contact me at (916) 464-4718 or tditto@waterboards.ca.gov.

Rudy Schnagl

TJ Ditto
Environmental Scientist

Enclosure: List of comments

Comments on the April 2011 draft program Environmental Impact Statement/Environmental Impact Report (PEIS/R) for the San Joaquin River Restoration Program (SCH # 2007081125)

CRWQCB-1	1.	In Alternative A1 it states that Reach 4B1 will convey 475 cfs and the Eastside and Mariposa bypasses will convey the rest of the flows. Will the bypasses, the river channel, or both provide passage for the fish to go up the river?
CRWQCB-2	2.	Alternative B1 suggests the water be recaptured above the Grasslands Bypass Project area. How will the Grasslands Bypass Project impact the reintroduction of fish in the river?
CRWQCB-3	3.	Chapter 5 states that lower temperatures are needed to support fish habitat. How will recapturing the flows above the delta impact the temperature in the river channel?
CRWQCB-4	4.	On page 6-1 lines 19 through 24 can be deleted because they repeat the last line of the previous paragraph.
CRWQCB-5	5.	Chapter 17 discusses recapturing flows below the Merced River and above the Delta. How and where will water be recaptured in the San Joaquin River below Merced and above the Delta?

Responses to Comments from the California Regional Water Quality Control Board

CRWQCB-1: Reintroduced salmon and other native fishes could use Reach 4B1, the Eastside and Mariposa bypasses, or a combination of Reach 4B1and bypasses for passage under Alternatives A1, B1, and C1. The determination to make improvements for passage or to modify or install new structures to encourage fish passage through one route over any other would be made during subsequent site-specific studies, including the Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project. The PEIS/R identifies and discloses the potential impacts of this project (in combination with all other actions that are included in the action alternatives) at a program level of detail. Alternatives A2, B2, and C2 include all of the modifications to Reach 4B1 described in Alternatives A1, B1, and C1 plus additional modifications needed to increase the capacity of Reach 4B1 to at least 4,500 cfs, with integrated floodplain habitat, as specified in Paragraph 11(b)(1) of the Settlement. The additional modifications to increase the capacity of Reach 4B1 to at least 4,500 cfs would be implemented during Phase 2, unless the Secretary, in consultation with the RA and with concurrence by NMFS and USFWS, determines that such modifications would not substantially enhance achievement of the Restoration Goal. In this manner, the PEIS/R supports development of the site-specific studies of actions related to Reach 4B, including decisions related to flow and fish routing. Text has not been revised.

CRWQCB-2: The PEIS/R evaluates the potential impacts of implementing the Settlement on existing populations of Chinook salmon in the study area, including fall-run Chinook salmon in the San Joaquin River below the Merced River confluence, and all runs of Chinook salmon within the Delta. However, the PEIS/R does not evaluate the potential impacts of implementing the Settlement (or other projects such as the Grassland Bypass Project) on reintroduced spring- and fall-run Chinook salmon, as this is outside the purpose of the PEIS/R and the scope of NEPA and CEQA. The Implementing Agencies would coordinate with other programs and projects within the study area, including the Grassland Bypass Project, to the extent feasible and where those programs and projects support the purpose, need, and objectives of the SJRRP.

The impacts of the Grassland Bypass Extension Project were analyzed in compliance with NEPA and CEQA in the *Grassland Bypass Project, 2010-2019: Final Environmental Impact Statement and Environmental Impact Report* (Reclamation and SLDMWA 2009; State Clearinghouse Number 2007121110) before implementation of that project. The impacts analyzed in that document are not reassessed or described in detail in the Draft PEIS/R. As stated in Table 2-3 on page 2-12 of the Draft PEIS/R, the Grassland Bypass Extension Project is assumed to be in place as part of the No-Action Alternative. Analysis of the potential impacts of the No-Action and action alternatives on water quality is provided in Chapter 14.0, “Hydrology – Surface Water Quality,” of the Draft PEIS/R. The potential cumulative impacts of the action alternatives taken together with other past, present, and reasonably foreseeable probable future projects (including the Grassland Bypass Project as a component of the San Joaquin River Salinity Management Plan) are evaluated in Chapter 26.0, “Cumulative Impacts,” of the Draft PEIS/R.

See MCR-1, "Analysis of Program Feasibility, Potential to Achieve Restoration and Water Management Goals," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R for additional information relevant to assessment of potential impacts of implementing the Settlement on reintroduced spring- and fall-run Chinook salmon.

CRWQCB-3: The ability to meet water quality criteria, including temperature criteria, in the San Joaquin River downstream from the Merced River confluence is described in Chapter 14.0, "Hydrology – Water Quality," of the Draft PEIS/R. Impacts of these changes in water temperatures on fisheries are in turn assessed in Chapter 5.0, "Biological Resources – Fisheries," of the Draft PEIS/R. Recapture of flows upstream from the Delta is evaluated at a program level in the PEIS/R, and is not anticipated to result in violations of existing water quality standards, or substantial water quality changes that adversely affect beneficial uses, or have substantive impacts on public health (see Impact SWQ-2 on pages 14-21 and 14-22 of the Draft PEIS/R). As further discussed in Chapter 5.0, water temperature in the San Joaquin River between the Merced River and the Delta is typically in equilibrium with air temperature during the hottest summer months, but not at other times of the year, such as spring and fall. It is possible that the water temperature would be affected by the withdrawal of water that would occur under Alternatives B1, B2, C1, and C2, potentially resulting in downstream changes in water temperature, compared with the current condition. However, the potential impact of water temperature increases would be minimized by cool water from the tributary rivers mixing with flows in the mainstem San Joaquin River, including Interim and Restoration flows from the Restoration Area, and would therefore be less than significant. Text has not been revised.

CRWQCB-4: Text on page 6-1, lines 19 through 24 has been removed in response to this and other comments. See Chapter 4.0, "Errata," of this Final PEIS/R.

CRWQCB-5: As described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, Alternatives B1, B2, C1, and C2 include recapturing Interim and Restoration flows from the San Joaquin River below the Merced River confluence at existing pumping facilities owned and operated by CVP contractors who possess San Joaquin River water rights. These actions are analyzed at a program level in the Draft PEIS/R. Subsequent site-specific studies, including additional NEPA and/or CEQA environmental compliance documentation, would be completed to determine which existing pumping facilities would be used for recapture in this portion of the San Joaquin River. Text has not been revised.

3.7.3 California State Lands Commission

STATE OF CALIFORNIA — EDMUND G. BR — CSLC

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

CURTIS L. FOSSUM, *Executive Officer*
(916) 574-1800 FAX (916) 574-1810
California Relay Service From TDD Phone **1-800-735-2929**
from Voice Phone **1-800-735-2922**

Contact Phone: **(916) 574-1890**
Contact FAX: **(916) 574-1885**

September 21, 2011

File Ref: SCH # 2007081125

Ms. Michelle Banonis
SJRRP Natural Resources Specialist
Bureau of Reclamation
2800 Cottage Way, MP-170
Sacramento, CA 95825-1898

Ms. Fran Schulte
South Central Region Office
Department of Water Resources
3374 E. Shields Avenue
Fresno, CA 93726

Subject: Draft Program Environmental Impact Statement / Environmental Impact Report (PEIS/R) for the San Joaquin River Restoration Program, Fresno, Kern, Madera, Merced, and San Joaquin Counties

Dear Ms. Michelle Banonis and Ms. Fran Schulte:

CSLC-1 The California State Lands Commission (CSLC) staff has reviewed the subject draft PEIS/R for the San Joaquin River Restoration Program (SJRRP), which is being prepared by the United States Department of the Interior, Bureau of Reclamation (USBR) as the Federal Lead Agency under the National Environmental Policy Act (NEPA) (42 U.S.C. § 4321 et seq.), and the California Department of Water Resources (DWR) as the Lead Agency under the California Environmental Quality Act (CEQA), (Pub. Resources Code § 21000 et seq.). The CSLC will act as a trustee agency because of its trust responsibility for projects that could directly or indirectly affect sovereign lands, their accompanying Public Trust resources or uses, and the public easement in navigable waters. Additionally, because the SJRRP involves work on sovereign lands, the CSLC will act as a responsible agency.

CSLC Jurisdiction and Public Trust Lands

The CSLC has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The CSLC also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code § 6301, § 6306). All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the Common Law Public Trust.

As general background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable lakes and waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of all people of the State for statewide Public Trust purposes, which include but are not limited to waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. On tidal waterways, the State's sovereign fee ownership extends landward to the mean high tide line, except for areas of fill or artificial accretion or where the boundary has been fixed by agreement or a court. On navigable non-tidal waterways, including lakes, the State holds fee ownership of the bed of the waterway landward to the ordinary low water mark and a Public Trust easement landward to the ordinary high water mark, except where the boundary has been fixed by agreement or a court. Such boundaries may not be readily apparent from present day site inspections.

CSLC-1 (con't) After review of the information contained in the PEIS/R, CSLC staff has determined that the San Joaquin River is a navigable waterway, and such land within the proposed program is under the land ownership and management jurisdiction of the CSLC. A lease and formal authorization for the use of sovereign land will be required from the CSLC for the portion of the SJRRP located on State-owned land. California holds a fee ownership in the bed of the River between the two ordinary low water marks. The entire River between the ordinary high water marks is subject to a Public Trust easement. The CSLC's jurisdiction may also extend to various sloughs and creeks that are within the boundaries of the SJRRP. The landward boundaries of the State's sovereign interests are generally based upon the ordinary high water marks of these waterways as they last naturally existed. Both the easement and fee owned lands are under the jurisdiction of the CSLC. The State's sovereign interests are under the leasing jurisdiction of the CSLC. Use of lands underlying the State's easement must be consistent with Public Trust needs in the area.

The draft PEIS/R will evaluate alternative ways to implement the Stipulation of Settlement in *NRDC, et al., v. Kirk Rodgers, et al.* (Settlement), consistent with the San Joaquin River Restoration Settlement Act in Public Law 111-11.

On September 19, 2007, CSLC staff submitted comments in response to the Notice of Preparation (NOP) to prepare a PEIS/R (enclosed). In order to determine the State's interest in the Program, CSLC and DWR entered into an agreement whereby CSLC staff will survey and map sovereign and Public Trust lands for a 108-mile stretch of the San Joaquin River. The final plats will be used to determine the portions of the SJRRP's project activities which will require a lease from the CSLC and will also be used to assist in land acquisitions for the SJRRP. Recently, CSLC staff has been mapping the boundary of the CSLC jurisdiction in an effort to determine a detailed map showing exactly where the proposed SJRRP sites would be located in relation to CSLC lands and other private ownership interests.

CSLC-2 CSLC understands that throughout 2009, DWR installed most of the apparatus to be used in monitoring groundwater, sediment deposition, and water flow. Those activities were authorized by the CSLC pursuant to Public Agency Lease PRC 8840.9.

CSLC-2 (con't)

Areas included in the SJRRP may lie in areas that are subject to a Public Trust easement. This easement provides that members of the public have the right to navigate and exercise the incidences of navigation in a lawful manner on State waters that are capable of being physically navigated by oar or motor-propelled small craft. Such uses may include, but not be limited to, boating, rafting, sailing, rowing, fishing, fowling, bathing, skiing, and other water-related public uses. The SJRRP must not restrict or impede the easement right of the public.

CSLC staff requests that the Implementing Agencies submit to the CSLC staff the following information:

CSLC-3

- A copy of the list of identified channel and structural improvements found to be necessary in implementing the restoration effort, as part of implementing settlement paragraphs 11(a), 11(b), and 12. Please note that any portion of the channel and structural improvement projects which lies waterward of the low water mark will require a lease from the CSLC.

CSLC-4

- All project specifics concerning the construction, use and maintenance of facilities to be used in the reintroduction of fall and spring-run Chinook salmon, as part of implementing settlement paragraph 14. Any portion of the reintroduction projects which lies waterward of the low water mark will require a lease from the CSLC.

CSLC-5

Please contact our office to discuss the possibility, where it may exist, of a master lease with each agency individually and for such uses and locations as may be needed to implement their respective portion of the SJRRP.

This conclusion is without prejudice to any future assertion of State ownership or public rights, should circumstances change, or should additional information become available. This letter is not intended, nor should it be construed as, a waiver or limitation of any right, title, or interest of the State of California in any lands under its jurisdiction.

Project Description

CSLC-6a

The proposed SJRRP will temporarily change Friant Dam operations to release flows (Interim Flows) from Friant Dam to the San Joaquin River downstream to its confluence with the Merced River (Restoration Area), and potentially downstream as far as the Delta, as specified in the Settlement, and as described under the SJRRP. DWR, along with several other State organizations, will implement actions needed to route Interim Flows through the Restoration Area including the potential use of a bypass (Eastside Bypass). The Interim Flows would be recaptured by existing water diversion facilities along the San Joaquin River or in the Delta for agricultural, municipal and industrial, or fish and wildlife uses. The purpose of the SJRRP is to implement the provisions of the Settlement pertaining to Water Year (WY) 2010 and collect relevant data to guide future releases of Interim Flows and rehabilitation of the Restoration Area.

The USBR and DWR propose the SJRRP to meet the following objectives and needs:

CSLC-6a (con't)

- Improve channels and structures to convey flows and provide fish passage and habitat;
- Modify Friant Dam operations to release interim and restoration flows;
- Reintroduce spring-run and fall-run Chinook salmon; and
- Recapture, recirculate, reuse, exchange and transfer interim and restoration flows.

CSLC staff understands that the projects considered in the PEIS/R include:

CSLC-6b

- Phase 1 Improvements (actions identified in the Settlement as the highest priority improvements to be completed no later than December 31, 2013, subject to Paragraphs 21(c), 24, and 36 of the Settlement). Phase 1 program components include but are not limited to creation of a bypass channel around Mendota Pool from Reach 2B to Reach 3, modifications in channel capacity at several locations, modifications at the Reach 4B headgate, modifications to the Sand Slough Control Structure and Sack Dam to ensure fish passage, screening the Arroyo Canal water diversion immediately upstream of Sack Dam, and various other modifications to structures needed to provide anadromous fish passage on an interim or ongoing basis until completion of Phase 2 improvements.

- Phase 2 Improvements (actions identified in the Settlement to be completed no later than December 31, 2016, subject to Paragraphs 21(c), 24, and 36 of the Settlement). While these improvements are also high priorities, it is the intent that they shall be planned and implemented in a manner that does not delay completion of the Phase 1 improvements. Several of these components are contingent on future determination of whether the action would achieve an identified restoration goal. Phase 2 program components include but are not limited to possible modifications in San Joaquin River channel capacity (incorporating new floodplain and related riparian habitat) through Reach 4B, modifications to the Chowchilla Bifurcation Structure to provide fish passage and prevent entertainment, filling and/or isolating the highest priority gravel pits in Reach 1, and modifications to the Sand Slough Control Structure to enable effective routing and conveyance of restoration flows into Reach 4B.

Environmental Review

CSLC staff requests that USBR and DWR consider the following comments on the Project's PEIS/R:

Subsequent Environmental Review and Notice with Later Activities

CSLC-7

- Please include CSLC as a reviewing agency on all future documents submitted through the State Clearinghouse. Copies of public notices and/or Project-related environmental documents transmitted directly to the CSLC should be sent to the attention of CSLCs Division of Environmental Planning and Management (DEPM) at the address shown on the letterhead above.

Cultural Resources

CSLC-8
- Chapter 8, Section 8.2 (Regulatory Setting) of the PEIS/R should state that title to all archaeological sites and historic or cultural resources on or in submerged lands of California is vested in the state and under the jurisdiction of the CSLC. Any submerged archaeological site or submerged historic resource remaining in state waters for more than 50 years is presumed to be significant. The recovery of objects from any submerged archaeological site requires a salvage permit under Public Resources Code § 6309.

CSLC-9
- We request that the lead agencies immediately consult with CSLC staff should any cultural resources be discovered on State sovereign lands during the SJRRP.

CSLC-10 Thank you for the opportunity to comment on the PEIS/R for the SJRRP. As a responsible and trustee Agency, the CSLC will need to rely on the Final PEIS/R for the issuance of any lease as specified above and, therefore, we request that you consider our comments prior to adoption of the PEIS/R. Please send additional information on the Project to the CSLC staff listed below as plans become finalized.

CSLC staff supports the efforts of USBR and DWR and appreciates the opportunity to work cooperatively with both agencies in implementing the SJRRP. For questions concerning CSLC leasing jurisdiction and requirements, please contact Grace Kato, Public Land Manager, at (916) 574-1227 or by email at grace.kato@slc.ca.gov. Please send copies of future Program-related documents or refer questions concerning environmental review to Ben Lichty, Associate Governmental Program Analyst, at (916) 574-1891 or by email at lichtyb@slc.ca.gov. For questions concerning archaeological or historic resources under CSLC jurisdiction, please contact Senior Staff Counsel Pam Griggs at (916) 574-1854 or via email at pamela.griggs@slc.ca.gov.

Sincerely,

Cy R. Oggins, Chief
Division of Environmental Planning
and Management

Enclosure: September 19, 2007 Comment Letter

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September 19, 2007

File Ref: W 25161

Ms. Margaret Gidding
Bureau of Reclamation
2800 Cottage Way MP-140
Sacramento, CA 95825

Ms. Karen Dulk
Department of Water Resources
3374 E. Shields Avenue
Fresno, CA 93726

Ms. Nadell Gayou
The Resources Agency
1020 Ninth Street
Sacramento, CA 95814

Subject: Notice of Intent to Prepare a Program Environmental Impact Statement/Environmental Impact Report (PEIS/EIR) for the San Joaquin River Restoration Program (Program), SCH#2007081125, Fresno, Madera, Merced, Tulare, and Kern Counties

Dear Ms. Gidding, Dulk and Gayou:

Staff of the California State Lands Commission (CSLC) has received a copy of the subject notice. The Bureau of Reclamation is the federal Lead for the National Environmental Policy Act (NEPA), and the Department of Water Resources is the state Lead for the California Environmental Quality Act (CEQA). The CSLC is a responsible/ CSLC-11 trustee agency under the CEQA. The State of California is the sovereign landowner of the bed of the San Joaquin River within the proposed project and under the jurisdiction of the CSLC (Public Resources Code Section 6301). The San Joaquin River Restoration Program PEIS/EIR will include initial planning and environmental review activities to implement a Settlement Agreement involving a lawsuit known as the *Natural Resources Defense Council et al., v. Rodgers, et al.* that includes restoration components for the San Joaquin River from Friant Dam downstream to its confluence with the Merced River. Based upon staff's review, we offer the following comments:

Jurisdiction

The State acquired sovereign ownership of tidelands and submerged lands and beds of navigable waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of all the people of the State for Public Trust purposes which include waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. The landward boundaries of the State's sovereign interests in areas that are subject to tidal action are generally based upon the ordinary high water marks of these waterways as they last existed prior to fill or artificially-induced accretions. In non-tidal navigable waterways the State holds a fee ownership in the bed of the waterway between the two ordinary low water marks. The entire non-tidal navigable waterway between the ordinary high water marks is subject to the Public Trust. The State's sovereign interests are under the jurisdiction of the CSLC.

CSLC-11 (con't)

The area encompassed by the proposed project involves lands under the Commission's jurisdiction. The historic bed of the San Joaquin River within the proposed project is under the land ownership and management jurisdiction of the CSLC. Mapping of the historic bed of the San Joaquin River between Friant Dam and State Highway 99 depicting the historic High and Low Water Lines has been completed by the CSLC. The CSLC also has in its collection numerous historical maps of the river down stream of Highway 99. Site specific improvements for the Program will need to be evaluated by CSLC boundary staff on a case-by-case basis. It is anticipated that identifying lands already owned by the State for the Program will save significant funds allocated for implementation of the Program. This should be identified as significant data needs as part of the planning under Stage 1 of the Program. Commission staff has already saved the San Joaquin River Conservancy and Wildlife Conservation Board over $10,000,000 in acquisition costs between Friant and Highway 99. The CSLC staff strongly supports restoration of the San Joaquin River and hopes to provide its expertise and services to save additional millions of taxpayer dollars for this Program. In addition, any improvements involving modifications to the river will require authorization from the CSLC.

Please contact Judy Brown at (916) 574-1868, or by email at browni@slc.ca.gov, to discuss the leasing jurisdiction and the involvement of the CSLC.

Environmental Review

Stage 1 of the Program will include formulating reasonable alternatives. At this point, no alternatives have been developed for the Program. Staff recommends that the lead agencies conduct agency/public workshops in formulating Program alternatives.

Restoring riparian vegetation along the 150-mile section of the San Joaquin River will be important for restoring an ecosystem to eventually support self-sustaining populations of salmon. The Riparian Habitat Joint Venture (RHJV) is made up of 18 federal, State and private organizations working through a Cooperative Agreement to protect and enhance riparian habitats throughout California. The RHJV should be

consulted during the development of riparian habitat restoration plans throughout the Program reach. Ann Chrisney is the RHJV Coordinator and her contact information is (916) 278-9428 or achrisney@prbo.org.

CSLC-11 (con't) An important component of the Program needs to consider the control and management of riparian and aquatic invasive species within the Program reach and should be part of the planning process and data needs of Stage 1.

Please contact Eric Gillies (916) 574-1897, or by email at gilliee@slc.ca.gov, to discuss the environmental review comments. CSLC staff looks forward to receiving future notifications on this Program as they become available.

Sincerely,

Marina R. Brand

Marina R. Brand, Assistant Chief
Division of Environmental Planning
and Management

cc: Paul Thayer, Executive Officer
Curtis Fossum, Assistant Chief Counsel
Barbara Dugal, Chief, Division of Land Management
Steve Lehman, Supervising Boundary Determination Officer
Michael McKown, Boundary Determination Officer
Judy Brown, Public Land Management Specialist
Eric Gillies, Staff Environmental Scientist

Melinda Marks, Executive Director, San Joaquin River Conservancy
Michael Crow, Deputy Attorney General
Ann Chrisney, Coordinator, Riparian Habitat Joint Venture

Responses to Comments from the California State Lands Commission

CSLC-1: Comment noted. Text has not been revised.

CSLC-2: Comment noted. As stated in Chapter 28.0, "Consultation, "Coordination and Compliance," of the Draft PEIS/R, program-level actions involving work on the San Joaquin River would require a lease from the California State Lands Commission. Implementing the project-level actions would not cause substantial adverse effects to natural and cultural resources on lands subject to the jurisdiction of the California State Lands Commission, and would not restrict or impede the easement right of the public. The inclusion of this discussion does not change the analysis or conclusions of the Draft PEIS/R. Text has not been revised.

CSLC-3: All channel and structural improvements that may be necessary in implementing the Settlement consistent with the Act are listed in Table 2-2 of the Draft PEIS/R, shown on pages 2-9 and 2-10. These actions are evaluated in the Draft PEIS/R at a program level only. The need for individual actions would be evaluated at a project level during subsequent site-specific studies. As stated in Chapter 28.0, "Consultation, Coordination, and Compliance," of the Draft PEIS/R, program-level actions that require work on the San Joaquin River would require a lease from the California State Lands Commission. DWR is coordinating with the California State Lands Commission as a Responsible Agency under CEQA in preparing this PEIS/R. Text has not been revised.

CSLC-4: Project-specific information related to the reintroduction of fall- and spring-run Chinook salmon pursuant to Paragraph 14 of the Settlement would be developed during subsequent site-specific studies. As stated in Chapter 28.0, "Consultation, Coordination, and Compliance," of the Draft PEIS/R, program-level actions that require work on the San Joaquin River would require a lease from the California State Lands Commission. DWR is coordinating with the California State Lands Commission as a Responsible Agency under CEQA in preparing this PEIS/R. Text has not been revised.

CSLC-5: Comment noted. The lead agencies continue to work with the California State Lands Commission to disseminate results of recent mapping to determine the proximity of Settlement actions to California State Lands Commission lands and other private ownership interests. The potential for development of a master lease may be explored with the California State Lands Commission once site-specific details of subsequent projects are determined. Text has not been revised.

CSLC-6a: Comment noted. Text has not been revised.

CSLC-6b: Comment noted. Text has not been revised.

CSLC-7: Comment noted. The lead agencies will include the California State Lands Commission as a reviewing agency on all future SJRRP documents submitted through the State Clearinghouse. Text has not been revised.

CSLC-8: Text on page 8-12 between lines 20 and 21 of the Draft PEIS/R has been revised consistent with comment to add description of the jurisdiction of the California

State Lands Commission over all archaeological sites and historic or cultural resources on or in submerged lands of California. See Chapter 4.0, “Errata,” of this Final PEIS/R

CSLC-9: The lead agencies will notify and consult with California State Lands Commission staff in the event that any cultural resources are discovered on State sovereign lands during implementation of SJRRP activities. Text has not been revised.

CSLC-10: Comment noted. Text has not been revised.

CSLC-11: This comment is an enclosure to the CLSC comment letter and comprises a comment letter submitted by the California State Lands Commission to the lead agencies on September 19, 2007, during the public scoping process for the SJRRP. Public scoping, including consideration of public comments, was used as part of alternatives development, as described in Appendix G, “Plan Formulation,” of the Draft PEIS/R.

3.7.4 Central Valley Flood Protection Board

CVFPB

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

CENTRAL VALLEY FLOOD PROTECTION BOARD

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September 21, 2011

Ms. Michelle Banonis
Natural Resources Specialist
U. S. Bureau of Reclamation
2800 Cottage Way, MP -170
Sacramento, California 95825-1898

Subject: Response to the Draft Program Environmental Impact Report San Joaquin River Restoration Program SCH Number: 2007081125

Dear Ms. Banonis:

The Central Valley Flood Protection Board is responsible for flood safety within California's Central Valley and maintains the integrity of the existing flood control system and designated floodways through the Board's regulatory authority. The Board provides assurance to the U.S. Army Corps of Engineers (Corps) to operate and maintain the San Joaquin River Flood Control Project, which includes project levees along the San Joaquin River, the Chowchilla Bypass, Eastside Bypass, Mariposa Bypass, Sand Slough Control Structure and the appurtenant structures in these bypasses. In turn, the Board assigns the operations and maintenance responsibilities of these facilities to the Lower San Joaquin Levee District. These flood control facilities are in the proposed project area and could be impacted by this project.

Board staff has reviewed the Draft Program Environmental Impact Statement/Environmental Impact Report (Draft PEIS/R) for the San Joaquin River Restoration Program (Federal Register / Vol. 76, No. 76 / Friday, April 22, 2011) and provides the following comments on the proposed project:

General Comments

CVFPB-1 The Program EIR should analyze the San Joaquin River Restoration Program in compliance with the California Environmental Quality Act (CEQA) Guidelines Section 15168 and consider broad policy alternatives and program-wide mitigation measures at an early time, when the agency has greater flexibility to deal with basic problems or cumulative impacts. A Negative Declaration could be adopted when an EIR has previously been prepared for a program and a later project consistent with that program, or other action, will not result in any significant effects which were not examined in that previous EIR.

In accordance with CEQA Guidelines Section 15168, "(c)(5) A program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed analysis of the program, many subsequent activities could be found to be within the scope of the project described in the program EIR, and no further environmental documents would be required.

CVFPB-2 According to Section 15168(d), the program EIR can: (1) provide the basis in an initial study for determining whether the later activity may have any significant effects; (2) be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole; (3) focus an EIR on a subsequent project to permit discussion solely of new effects which had not been considered before." The Program EIR should include project-level studies of seepage mitigation project sites which can be used to simplify the task of preparing environmental documents on later parts of the program.

CVFPB-3 The Program EIR should include project-level determinations for the necessary mitigation measures to reduce significant impacts resulting from seepage through and/or under levees, hydraulic impacts resulting from additional flows, increases in vegetation growth, and sediment accumulation in the channels and bypasses.

Specific Comments

CVFPB-4
- According to page 3-12, Appendix D *"Additional action would require a determination of need, identification for funding additional action, and site specific environmental compliance documentation. Potential actions could include but would not be limited to the following: purchasing easements and/or compensation for seepage effects, construction of slurry walls to reduce seepage flows, construction of seepage berms to protect against levee failure, construction of drainage interceptor ditches to protect affected lands, or installation of tile drains on affected lands."* Further examination of the environmental effects based on specific project-level site locations and designs should be included in the Program EIR.

CVFPB-5
- The criteria in Chapter 2, page 2-23, line 33 to 41, should be in accordance with U.S. Army Corps of Engineers (Corps) Levee Design Manual, EM 1110-2-1913, and include the factor of safety, such as slope stability factor of safety under steady state seepage condition, end of construction factor of safety, rapid drawdown factor of safety, earthquake factor of safety, seepage exit gradient factor of safety, seepage heave factor of safety, and seepage uplift factor of safety. The uplift factor of safety is normally not required if there is no structure present at the site.

  Among these the two most important are: 1) slope stability factor of safety under steady state condition, which is normally used 1.4 by the Corps; and 2) the exit or escape gradient factor of safety (which is basically used for underseepage) is taken as 1.6 by the Corps. The exit gradient is the rate of dissipation of head per unit length in the area (at the landside levee toe) where seepage exits the pervious soil layers. This underseepage exit gradient factor of safety is very important as most levees fail due to underseepage. Therefore, the slope/seepage factor of safety needs to be re-written wherever it appears in this document.

CVFPB-6

- Vegetation and Sediment Removal – The accumulation of sediment and woody vegetation that is not managed has a negative impact on channel capacity and increases the potential for flooding. When a channel accumulates sediment and vegetation that then becomes habitat for wildlife, maintenance to initial baseline conditions becomes more difficult as the removal of habitat is subject to Federal and State agency mitigation requirements. The U. S. Bureau of Reclamation should provide a Safe Harbor Agreement that would allow the maintaining agencies to conduct maintenance to project design standards according to the Corps Operation and Maintenance Manual for the Lower San Joaquin River Flood Control Project and in the event of the need to allow for the take of covered, listed species associated with the restoration program.

CVFPB-7

- Flowage Easements - Restoration flows should not contribute to any floodflows above the project design capacities as defined by the Corps Operation and Maintenance Manual for the Lower San Joaquin River Flood Control Project, which includes the San Joaquin River, Chowchilla Bypass, Eastside Bypass, Mariposa Bypass, Sand Slough Control Structure, and the appurtenant structures in these bypasses.

CVFPB-8

- Use of the Lower San Joaquin River Flood Control Project, including the Eastside Bypass, for restoration flows may result in excessive vegetation growth, sediment accumulation and/or erosion that will potentially compromise the flood safety features of the flood protection system. While the Draft PEIR includes analysis of these impacts, that analysis appears to be flawed. Reclamation concludes in Appendix N, an attachment titled "Geomorphology, Sediment Transport, and Vegetation Assessment" that vegetation growth will not increase as a result of restoration. That analysis does not account for operating to the "existing capacity" criteria which will shift more restoration flows into the bypass than were included in the modeling analysis. That appendix also includes a statement that, during a site visit, Reclamation observed the Eastside Bypass was relatively vegetation-free and concluded this was the result of soil types and water conditions. Those individuals were apparently unaware that the Lower San Joaquin Levee District has long conducted an aggressive vegetation management program that uses herbicides, burning, and disking to control vegetation. It also appears that the erosion rates used in Chapter 10, Geology and Soils, have the "existing capacity" defect. It can therefore be argued that Reclamation's analysis is flawed.

CVFPB-9

On page 2-28, Reclamation commits to either conduct or contract with others to conduct any additional flood control maintenance activities identified through the monitoring program. This commitment should be listed as a mitigation measure in Chapter 10 after acknowledging unavoidable uncertainties in predicting future erosion and vegetation growth.

CVFPB-10

In Chapter 11, the discussion of flood risks should acknowledge that the Levee District is financed by the proceeds of an assessment on private property owners benefiting from the flood control improvements maintained by the District. Under California law, the District must secure an affirmative property owner vote approving any assessment increase. The District has attempted to secure such approval on at least one occasion, but did not receive an affirmative majority. The District currently struggles

CVFPB-10 (con't)

to fund operation and maintenance essential to the integrity of the flood control system. Any additional burdens would increase cost beyond their funding capability and potentially require a reduction in maintenance activities which, in turn, could lead to an increased risk of flooding. Acknowledging these effects and listing the commitment as a mitigation measure eliminates any issues related to analysis and conclusions.

CVFPB-11

- The description of the San Joaquin River Flood Control Project facilities located in the restoration area as a State system should be changed to State/federal system. Although these facilities were built by the State, they are part of the State/federal flood control system. This is particularly important when considering changes to the existing operating guidelines. The State, through its project cooperative agreement process, has agreed to secure Corps approval of any changes to the project. The statement that the Levee District and the State are responsible for developing and implementing such changes (page 2-28) should be altered to reflect actual conditions.

CVFPB-12

- Impacts and mitigation measures on the use of the Board's easements in the Eastside Bypass to pass interim and long-term restoration flows should be discussed. Considering that the Board's easements may become permanent habitat for threatened or endangered species due to the interim flows and long-term restoration flows, provisions to compensate underlying fee owners for the permanent use of their properties needs to be fully addressed.

Thank you for your consideration of these comments. If you have any questions, please contact Len Marino, Chief Engineer, at (916) 574-0698, or via email at lmarino@water.ca.gov.

Sincerely,

Jay S. Punia
Executive Officer

cc: Governor's Office of Planning and Research
State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, California 95814

Responses to Comments from the Central Valley Flood Protection Board

CVFPB-1: Comment noted. As a program document, the PEIS/R analyzes the effects of implementing the Settlement consistent with the Act in compliance with both NEPA and CEQA. Text has not been revised.

CVFPB-2: It is assumed that the comment to "include project-level studies of seepage mitigation project sites" refers to levee slope stability and underseepage or through-seepage due to levee saturation during floods. As described in Chapter 11.0 "Hydrology – Flood Management," of the Draft PEIS/R, all impacts of implementing the Settlement on flood management would be less than significant. Under Alternatives A1 through C2, Reclamation would implement three integrated measures that would collectively avoid a potentially significant increase in the risk of flood damage or levee failure due to underseepage, through-seepage, erosion, or landside slope stability issues (as described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, in the section describing actions to minimize flood risk). These three measures include (1) establishing a Channel Capacity Advisory Group and determining and updating estimates of then-existing channel capacities (using, among other tools, USACE levee performance criteria pertaining to underseepage, through-seepage, and landside slope stability) as needed, (2) maintaining Interim and Restoration flows below estimates of then-existing channel capacities, and (3) closely monitoring erosion and performing maintenance and/or reducing Interim and Restoration flows as necessary to avoid erosion-related impacts. Sediment mobilization, bar formation, and bank erosion would be monitored through aerial and topographic surveys of areas with elevated erosion potential. These actions are analyzed at the project level in the PEIS/R.

Text in Chapter 2.0, "Description of Alternatives" (page 2-23, lines 33 through 41; page 2-24, lines 3 through 11; page 2-25, lines 36 through 39; page 2-26, lines 15 through 30), and Chapter 11.0, "Hydrology – Flood Management" (page 11-43, lines 20 through 36), of the Draft PEIS/R has been revised to clarify that Reclamation would limit the release of Interim and Restoration flows to those flows that would maintain standard USACE levee performance criteria (i.e., a levee slope stability Factor of Safety of at least 1.4 and an underseepage Factor of Safety corresponding to an exit gradient at the toe of the levee of 0.5 or less). See Chapter 4.0, "Errata," of this Final PEIS/R. Further, all project- and program-level actions would be performed in compliance with USACE requirements, including requirements set forth by USACE as conditions of permits issued for implementing such actions (see Chapter 28.0, "Consultation, Coordination, and Compliance," of this Draft PEIS/R for a description of permits, petitions, compliance documents, etc. needed for the project- and program-level actions).

The action alternatives also include immediate management actions, as part of the Physical Monitoring and Management Plan (Appendix D of the Draft PEIS/R), to reduce, redirect, or redivert Interim or Restoration flows to reduce undesirable seepage impacts, as well as actions to minimize or avoid impacts to channel capacity related to vegetation growth. As described on page 2-51 of the Draft PEIS/R, project-level actions to address impacts to channel capacity related to vegetation growth include removal of vegetation and debris that would cause Interim or Restoration flows to exceed channel capacity. Vegetation would be removed by mechanical or chemical means. Nonnative plant

removal would receive priority over removal of native species. These actions are described and evaluated in the Draft PEIS/R at a project level of detail. These actions are also analyzed at the project level in the PEIS/R.

The Physical Monitoring and Management Plan also includes long-term management actions to minimize or avoid impacts to channel capacity related to vegetation growth and sediment accumulation, as described on page 2-52 of the Draft PEIS/R. These actions may include, but would not be limited to, providing a larger floodplain between levees through the acquisition of land and construction of setback levees, regrading of land between levees, construction of sediment traps, construction of grade control structures, or channel grading. Because site-specific locations and conditions for application of these actions are not yet known, these actions are evaluated at a program level in the Draft PEIS/R.

The commenter states that, "The Program EIR should include project-level studies of seepage mitigation project sites which can be used to simplify the task of preparing environmental documents on later parts of the program." Project-level evaluations are not included for program-level actions because site-specific information (such as locations and designs of specific actions) is not available at this time. As described on page 1-9 of the Draft PEIS/R, for actions evaluated at a program level of detail, a potential range of future construction and management actions is included in the alternatives to bracket the probable range of effects. This bracketed range of potential effects allowed for an informed analysis of systemwide and cumulative impacts resulting from implementing the entirety of the Settlement. Based on the program-level analysis presented in the Draft PEIS/R, program-level mitigation measures and performance standards are identified that would apply to subsequent, future project components implemented as part of the Settlement (as conditions of approval). These performance standards will be incorporated into subsequent site-specific actions, including implementation of actions to reduce or avoid impacts related to agricultural seepage-related impacts, and actions to maintain channel capacity. Because such actions would be developed during subsequent site-specific studies, "project-level studies of seepage mitigation project sites" are not evaluated at a project level in the PEIS/R, as suggested by the commenter. Reclamation continues to seek input from landowners concerned with potential seepage impacts through the regularly held Seepage and Conveyance Technical Feedback Meetings.

Impact FLD-1, beginning on page 11-31 of the Draft PEIS/R, describes the potential for program-level actions, such as the construction of new levees, to transfer flood risk to downstream areas and expose people or structures to increased risk. Proposed physical modifications to existing facilities or new facilities would incorporate features to maintain current levels of flood protection, and minimize redirected flood risk. Hydraulic modeling of channel and structural improvements in Reaches 2B and 4B1, as described under Impact FLD-1, demonstrates little to no change in water level frequencies throughout the system. These changes are considered less than significant; however, due to lack of recent and consistent information regarding channel and levee conditions within the Restoration Area, this impact is considered potentially significant. Therefore Mitigation Measure FLD-1, "Implement Design Standards to Minimize Risk of Loss, Injury, or Death Involving Flooding," is proposed. Under Mitigation Measure FLD-1,

future site-specific studies will provide project-level analysis and implement design standards to minimize flood risk for each site-specific project. Site-specific projects that cannot or do not reduce redirected flood impacts to less than significant levels will not be implemented as part of the SJRRP.

CVFPB-3: The commenter states that, "The Program EIR should include project-level determinations for the necessary mitigation measures to reduce significant impacts resulting from seepage through and/or under levees, hydraulic impacts resulting from additional flows, increases in vegetation growth, and sediment accumulation in the channels and bypasses." As described in response to comment CVFPB-2, under all action alternatives, Reclamation would implement three integrated measures that would collectively avoid a potentially significant increase in the risk of flood damage or levee failure due to underseepage, through-seepage, erosion, or landside slope stability issues. The action alternatives also include immediate management actions, as part of the Physical Monitoring and Management Plan (Appendix D of the Draft PEIS/R), to minimize or avoid impacts to channel capacity related to vegetation growth. These actions are analyzed in the Draft PEIS/R at a project level of detail. Program-level actions are also included in the Physical Monitoring and Management Plan under all action alternatives to minimize or avoid impacts to channel capacity related to vegetation growth, as described in response to comment CVFPB-2.

As described in Chapter 3.0, "Considerations for Describing the Affected Environment and Environmental Consequences," of the Draft PEIS/R, mitigation measures are identified for both project- and program-level actions, when appropriate. Mitigation measures are presented in their entirety for significant and potentially significant project-level impacts, in accordance with Section 15126.4 of the CEQA Guidelines, and are fully enforceable through permit conditions, agreements, or other legally binding instruments. For significant and potentially significant program-level actions, types of potential mitigation measures are identified. No mitigation measures are proposed when an impact conclusion is "less than significant," "no impact," or "beneficial." As described in Chapter 11.0, "Hydrology – Flood Management," of the Draft PEIS/R, with implementation of the actions described above, most potential impacts would be less than significant or result in no impact. These potential impacts do not require mitigation, for the reasons set forth above. As described in response to comment CVFPB-2, mitigation is identified for Impact FLD-1. See response to comment CVFPB-2 for a discussion of Impact FLD-1 and the associated Mitigation Measure FLD-1.

Text has not been revised.

CVFPB-4: The commenter cites text on page 3-12 of Appendix D, "Physical Monitoring and Management Plan," of the Draft PEIS/R, describing program-level actions. Project-level evaluations are not included for program-level actions because site-specific information (such as locations and designs of specific actions) is not available at this time. As described on page 1-9 of the Draft PEIS/R, for actions evaluated at a program level of detail, a potential range of future construction and management actions is included in the alternatives to bracket the probable range of effects. This bracketed range of potential effects allowed for an informed analysis of systemwide and cumulative

impacts resulting from implementing the entirety of the Settlement. Based on the program-level analysis presented in the Draft PEIS/R, program-level mitigation measures and performance standards are identified that would apply to subsequent, future project components implemented as part of the Settlement (as conditions of approval). These performance standards will be incorporated into subsequent site-specific actions, including implementation of those actions listed by the commenter. Text has not been revised.

CVFPB-5: All project- and program-level actions would be performed in compliance with USACE requirements, including requirements set forth by USACE as conditions of permits issued for implementation of such actions. See Chapter 28.0, "Consultation, Coordination, and Compliance," of the Draft PEIS/R for a description of permits, petitions, compliance documents, etc. needed for the project- and program-level actions. Text of Chapter 2.0, "Description of Alternatives" (page 2-23, lines 33 through 41; page 2-24, lines 3 through 11; page 2-25, lines 36 through 39; page 2-26, lines 15 through 30), and Chapter 11.0, "Hydrology – Flood Management" (page 11-43, lines 20 through 36), of the Draft PEIS/R has been revised to clarify that Reclamation would limit the release of Interim and Restoration flows to flows that would maintain standard USACE levee performance criteria (i.e., a levee slope stability Factor of Safety of at least 1.4 and an underseepage Factor of Safety corresponding to an exit gradient at the toe of the levee of 0.5 or less, which in general would provide a Factor of Safety of about 1.6 as referred to in the comment) at all times. Levee performance criteria are cited in accordance with USACE EM 1110-2-1913 (USACE 2000) and ETL 1110-2-569 (USACE 2005). See Chapter 4.0, "Errata," of this Final PEIS/R. As described on page 2-25, a staff member from USACE would participate in the Channel Capacity Advisory Group, which would provide timely independent review of data, analytical methodology, and results used to estimate then-existing channel capacities, including application of the USACE levee performance criteria. In the event the levee performance criteria are revised by USACE, such revisions would be considered. The inclusion of this discussion does not change the analysis or conclusions of the Draft PEIS/R.

CVFPB-6: Appendix D, "Physical Monitoring and Management Plan," of the Draft PEIS/R describes actions included in all action alternatives to manage vegetation growth and sediment transport as they relate to maintaining channel capacity, as described in response to comment CVFPB-2 and in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R.

The Implementing Agencies are examining potential environmental protections for agencies that would continue to conduct routine operations and maintenance activities in the Restoration Area after spring-run Chinook salmon are reintroduced to the San Joaquin River. Regardless of Settlement implementation or agreements of financial assistance, LSJLD will retain a continued obligation to operate and maintain the Lower San Joaquin River Flood Control Project consistent with ESA and CESA requirements, not excepting any protections that may be established by the Implementing Agencies as part of the SJRRP.

Reclamation will consult with the regulatory agencies who oversee the conservation of sensitive species and habitats on actions related to both the program- and project-level actions identified in the Draft PEIS/R, as appropriate. Both ESA and CESA regulations currently apply to both public and private lands within the Restoration Area. These species protections are not expected to change either with or without implementation of the SJRRP. The Implementing Agencies are examining several potential protections for landowners and agencies who will continue to conduct routine agricultural operations and maintenance activities in the Restoration Area after protected spring-run Chinook salmon are reintroduced to the San Joaquin River. These protections are found in specific Federal and State laws pertaining to reintroducing populations of protected species, as described in detail in MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0 of this Final PEIS/R. See response to comment CVFPB-2 and MCR-6 for additional information relevant to this comment. Text has not been revised.

CVFPB-7: Restoration flows would not contribute to flood flows. With implementation of channel capacity increases in Reach 2B and Reach 4B1 specified in the Settlement, Restoration flow targets identified in Exhibit B for these reaches would be below channel capacity. As described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, Interim and Restoration flows at all locations would have a lower priority for downstream channel capacity than flood flows (from Friant Dam or other sources, such as the Kings River, the Fresno River, or the Chowchilla River) or irrigation deliveries to the San Joaquin River Exchange Contractors. If release of water from Friant Dam is required for flood control purposes, concurrent Interim and 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 Interim and Restoration flows, no additional releases above those required for flood control would be made for SJRRP purposes. Interim and Restoration flows would be limited to then-existing channel capacities. With these operating principles and constraints in place, Interim and Restoration flows would not contribute to flood flows above project design capacities as defined by the *Operation and Maintenance Manual for Levees, Irrigation and Drainage Structures, Channels and Miscellaneous Facilities* (Reclamation Board 1978) or otherwise adversely affect future flood control operations. Priorities and operations are set in this manual, and would not change with the implementation of the SJRRP. The text has not been revised.

CVFPB-8: The analysis presented in Appendix N, "Geomorphology, Sediment Transport, and Vegetation Assessment," of the Draft PEIS/R, provides a limited assessment of specific flow conditions, and does not attempt to evaluate all potential temporary flow conditions possible under implementation of the Settlement. Regardless of temporary flow conditions, such as diversion of Interim or Restoration flows to the bypass system due to downstream channel capacity constraints, all action alternatives include vegetation management actions to prevent impacts related to vegetation growth. The Physical Monitoring and Management Plan (Appendix D of the Draft PEIS/R) specifies guidelines for observing and adjusting to changes in physical conditions related to flow, seepage, channel capacity, native vegetation, and spawning gravel. Specific portions of the Physical Monitoring and Management Plan relevant to vegetation growth and sediment erosion and deposition include the Channel Capacity Monitoring and Management Component Plan and the monitoring programs identified therein. Potential

immediate responses to a reduction in channel capacity include removal of vegetation and debris. The results of monitoring and management activities performed as part of the SJRRP would be used to inform estimates of then-existing channel capacities, and would be included for review in reports to the Channel Capacity Advisory Group, as described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R.

See also MCR-8, "Operations and Maintenance Agreement Considerations," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R.

CVFPB-9: Reclamation and DWR recognize the need for additional monitoring and maintenance, and have included measures to address these needs in the project descriptions of all action alternatives. The Physical Monitoring and Management Plan, outlined on pages 2-49 through 2-52 of the Draft PEIS/R, and described in detail in Appendix D, "Physical Monitoring and Management Plan," of the Draft PEIS/R, specifies guidelines for observing and adjusting to changes in physical conditions related to flow, seepage, channel capacity, native vegetation, and spawning gravel. The Physical Monitoring and Management Plan includes monitoring activities and both immediate and long-term management actions to achieve objectives for flow, seepage, channel capacity, native vegetation, and spawning gravel. Additional actions included in all action alternatives would address erosion, specifically those described on page 2-26 of the Draft PEIS/R, beginning at line 31, to closely monitor erosion and perform maintenance and/or reduce Interim or Restoration flows, as necessary, to avoid erosion-related impacts. Measures included in the project description to avoid, minimize, or reduce impacts, including the Physical Monitoring and Management Plan, are therefore not included or necessary to include as mitigation measures. Furthermore, with implementation of measures included under all action alternatives to avoid, minimize, and reduce specific environmental impacts, those impacts would not occur or would be less than significant, and thus do not require mitigation.

The Implementing Agencies recognize that Interim and Restoration flows would change the nature of operations and maintenance activities; activities currently performed in a dry channel would be performed in wet channel conditions. Currently, Reclamation is working with LSJLD to develop and implement an agreement to provide financial assistance for Settlement-related costs incurred by LSJLD. The agreement is intended to assist LSJLD in adapting to Settlement implementation, as needed, to potentially undertake additional flood management activities related to the release of Interim and Restoration flows. Such an agreement would likely be similar to the agreement recently completed by Reclamation and LSJLD for Water Year 2011 Interim Flows. These commitments are further described in MCR-8, "Operations and Maintenance Agreement Considerations," in Chapter 2.0 of this Final PEIS/R. Text has not been revised.

CVFPB-10: Page 11-13, lines 11 through 16 of the Draft PEIS/R have been revised in response to comment to expand the description of LSJLD responsibilities and operations. See Chapter 4.0, "Errata," of this Final PEIS/R.

The Lower San Joaquin Flood Control Project, authorized by Congress in 1944 to protect irrigated agricultural lands and associated developments, 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 Project. LSJLD operates these facilities consistent with the *Operation and Maintenance Manual for Levees, Irrigation and Drainage Structures, Channels and Miscellaneous Facilities* (Reclamation Board 1967), which 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). The district encompasses approximately 468 square miles (300,000 acres) in Fresno, Madera, and Merced counties, of which 94 square miles are in Fresno County.

As discussed in MCR-8, "Operations and Maintenance Agreement Considerations," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, the change in operations at Friant Dam and routing of Interim and Restoration flows could increase operations and maintenance activities regardless of the alternative selected for implementation. Increased operations and maintenance activities could include increased flap gate inspection and debris removal, operation of flow control structures, levee patrols, vegetation control, and sand excavation (these actions are described in Appendix D, "Physical Monitoring and Management Plan," of the Draft PEIS/R).

The Implementing Agencies recognize that Interim and Restoration flows would change the nature of operations and maintenance activities; those activities currently performed in a dry channel would be performed in wet channel conditions. Currently, Reclamation is working with LSJLD to develop and implement an agreement to provide financial assistance for Settlement-related costs incurred by LSJLD. The agreement is intended to assist LSJLD in adapting to Settlement implementation, as needed, to potentially undertake additional flood management activities related to the release of Interim and Restoration flows. Such an agreement would likely be similar to the agreement recently completed by Reclamation and LSJLD for Water Year 2011 Interim Flows. These agreements are further described in MCR-8, "Operations and Maintenance Agreement Considerations," in Chapter 2.0 of this Final PEIS/R. Text has not been revised.

CVFPB-11: Text of page 2-28, line 15, and page 11-13, line 17, of the Draft PEIS/R, has been revised as recommended to reflect the Federal and State jurisdiction and roles in maintaining the Lower San Joaquin River Flood Control Project. See Chapter 4.0, "Errata," of this Final PEIS/R. As described in response to comment CVFPB-7, priorities and operations for the Lower San Joaquin River Flood Control Project are set in the *Operation and Maintenance Manual for Levees, Irrigation and Drainage Structures, Channels and Miscellaneous Facilities* (Reclamation Board 1978) for the project, and would not change with the implementation of the SJRRP. See response to comment CVFPB-7 for further information relevant to this comment. Text has not been revised.

CVFPB-12: All six action alternatives evaluated in the Draft PEIS/R include the use of the Eastside Bypass, and, potentially, the Mariposa Bypass, to convey Interim and/or Restoration flows, as described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R. Under Alternatives A1, B1, and C1, Reach 4B1 would convey at least 475 cfs, and the Eastside and Mariposa bypasses would convey any remaining Interim and Restoration flows. Under Alternatives A2, B2, and C2, Reach 4B1 would convey at least

4,500 cfs, and the Eastside and Mariposa bypasses would not convey Interim or Restoration flows after completion of Reach 4B1 channel modifications. The permanent use of these bypasses for implementing the Settlement would be determined as part of the Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project.

Reclamation and DWR have been coordinating and will continue to coordinate with CVFPB to determine if easements are required and the appropriate measures to address potential changes to the existing systems. Reclamation continues to investigate the potential need for agreements with landowners in the bypasses to route Interim and Restoration flows through the bypasses. While this analysis of the need for agreements is still underway, the PEIS/R addresses the environmental impacts and identifies mitigation measures, when necessary, for use of the bypass to convey Interim and Restoration flows. The PEIS/R provides project-level analyses of the release and conveyance of Interim and Restoration flows and of conducting increased operations and maintenance activities associated with implementing the Settlement. The PEIS/R also provides project-level analyses of immediate management actions, as part of the Physical Monitoring and Management Plan (Appendix D of the Draft PEIS/R), to minimize or avoid impacts to channel capacity related to vegetation growth. Project-level impacts and mitigation measures associated with these actions are described in Chapters 4.0 through 26.0 of the Draft PEIS/R.

The PEIS/R provides program-level analyses of increased habitat within the Restoration Area (as part of program-level actions described beginning on page 2-45 of the Draft PEIS/R). Program-level impacts and mitigation measures associated with these actions are described in Chapters 4.0 through 26.0 of the Draft PEIS/R. The potential to create and/or enhance habitat within the bypasses is being evaluated as part of the Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project. Site-specific project-level analyses for this project would include the specific impacts and mitigation measures necessary to address creation or enhancement of habitat for threatened or endangered species in the Eastside and Mariposa bypasses along with the need to compensate underlying fee owners for this permanent use.

3.7.5 Department of Fish and Game

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October 07, 2011

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2800 Cottage Way, MP-170
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Mr. Kevin Faulkenberry
Department of Water Resources
South Central Region Office
3374 E. Shields Avenue
Fresno, California 93726

Subject: San Joaquin River Restoration Program Environmental Document

Dear Ms. Forsythe and Mr. Faulkenberry:

The California Department of Fish and Game (Department) has reviewed the Draft Program Environmental Impact Statement/Environmental Impact Report (Draft PEIS/R) submitted 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 Department of Water Resources (DWR), as the State lead agency under the California Environmental Quality Act (CEQA) for the San Joaquin River Restoration Project (Project or Program).

The Draft PEIS/R provides program-level analysis for implementation of the Stipulation of Settlement (Settlement) in *NRDC, et al., v. Kirk Rodgers, et al.* and provides project-level analysis of the potential direct, indirect, and cumulative impacts that could result from implementing certain aspects of the Settlement, including release, conveyance, and recapture of Interim and Restoration flows. Program-level analyses provided in the document consider the broad environmental effects of implementing the Settlement. Additional analysis pursuant to CEQA will be required in the future for activities addressed at a program-level in this Draft PEIS/R, after specific project details are identified.

The Department's comments on the Draft PEIS/R are consistent with the Department's role as a State implementing agency, and its commitment to providing technical assistance towards implementation of the Settlement, in addition to the Department's other trustee and regulatory authorities. This letter, and the attached comments, address both program and project-level analyses. These comments are provided to assist in the completeness and accuracy of the

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Draft PEIS/R, and help assure the document's adequacy as a platform for subsequent project-level analyses.

DFG-1 The overarching comment provided by the Department is that the PEIS/R should acknowledge that the Department, as a Responsible Agency, may utilize the Program PEIS/R to issue related discretionary authorizations if appropriate. In an effort to ensure that this concept is clearly articulated in the PEIS/R, the Department has drafted the attached language for inclusion in Chapter 28 "Consultation, Coordination, and Compliance." This language is intended to clarify the Department's Program role and its trustee/regulatory authority. This concept should be accurately reflected in all relevant portions of the PEIS/R, including related discussions in the Executive Summary and Chapter 1.

DFG-2 The Fully Protected blunt-nosed leopard lizard (BNLL) is also known to historically occur just outside of the current San Joaquin River and associated bypass levees and the State Endangered Delta button celery (DBC) is known to occur between existing levees in the Mariposa and Eastside bypasses. Department concurrence with the approach to assess potential project related impacts to DBC and BNLL is detailed in the attached document entitled "Evaluation of Potential Effects of Restoration Flows and Habitat Assessment for Delta button celery (*Eryngium racemosum*) and blunt nosed-leopard lizard (*Gambelia sila*) in the San Joaquin River Restoration Area".

DFG-3 Additionally, as a result of the analysis included in the above referenced document, the Department concurs that flows less than 1500 cfs, within the San Joaquin River and associated bypasses in their current physical configuration(s), will not likely result in take (as defined by FGC section 86) of DBC or BNLL. However, it is currently uncertain whether or not subsequent program actions (i.e. future projects that will tier off of, or otherwise utilize, the Program Environmental Impact Statement/Environmental Impact, respectively), could result in take of DBC or BNLL. The approach outlined in the above referenced document, together with subsequent focused species specific surveys, will help inform the Department's future determination regarding programmatic and project-related impacts to DBC and BNLL.

DFG-4 Also attached is a table of specific comments referenced to sections of the PEIS/R. Many of the attached comments suggest clarifications, and are technical in nature and specific to certain portions of the document. Some refer to topics or questions that would appropriately be addressed at a programmatic level in this document, but would likely require expanded analyses or other information in subsequent project-level documents.

DFG-5 The Department is committed to providing additional support for analyses and evaluation of the Final PEIS/R and subsequent evaluation for project-level

DFG-5 (con't)

analyses. Of particular interest are actions related to Department's Trustee and Responsible Agency authority and support for restoration actions as they relate to the release of flows, design and construction of facilities to provide for fish passage and to prevent fish entrainment, the manner of reintroducing to, and monitoring and evaluating fish in, the main stem of the San Joaquin River, and the establishment and maintenance of appropriate riparian habitat.

Thank you for the opportunity to comment on the Draft PEIS/R. The Department continues to support the Settlement, and looks forward to continued collaboration amongst the implementing parties to move the project forward. 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) 243-4014, extension 259.

Sincerely,

Jeffrey R. Single, Ph.D.
Regional Manager

Attachments (3)

cc: Mr. Dan Castleberry and Mr. Robert Clarke
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2800 Cottage Way, Room W-2605
Sacramento, California 95825

Ms. Maria Rea and Mr. Jeffery McLain
National Marine Fisheries Service Southwest Region
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Mr. Paul Romero and Ms. Karen Dulik
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ec: HATLER/FERRANTI for VANCE/SINGLE; jo

Responses to Comments from the Department of Fish and Game

DFG-1: Text of pages 28-23 through 28-25 of the Draft PEIS/R has been revised in response to the text provided in an attachment to this comment. See Chapter 4.0, "Errata," of this Draft PEIS/R. DFG is a responsible agency under CEQA, and may take discretionary action pursuant to subsequent site-specific actions, including actions under Section 1602 of the California Fish and Game Code. Project proponents for subsequent site-specific projects (described at a program level in this PEIS/R) that could result in alteration of stream features subject to Section1602 will apply for a Streambed Alteration Agreement from DFG. Project-level actions detailed in this PEIS/R are not anticipated to result in the alteration of stream features and are therefore not anticipated to require a Section 1602 Streambed Alteration Agreement. The text revisions referenced in this comment are shown in Section 3.7.7, Department of Fish and Game Attachment B, as provided by DFG.

DFG-2: Comment noted. The document attached to this comment letter and referenced in this comment is available upon request from the lead agencies. Text has not been revised.

DFG-3: Comment noted. Text has not been revised.

DFG-4: The table of specific comments referenced in this comment is shown in Section 3.7.6, Department of Fish and Game Attachment A, as provided by DFG. See responses to comments DFGA-1 to DFGA-178 in Section 3.7.6.

DFG-5: See response to comment DFG-1.

3.7.6 Department of Fish and Game Attachment A

DFG Draft PEIS/R Comments

		Document	Chapter/ Section	Page #	Line(s)	Comment
DPGA-1	1	PEIS/R	1	1-15		Table 1-3 indicates that the PEIS/R supports sections 1600 through 1607 and section 2081 of California Fish and Game Code and the California Native Plant Protection Act but indicates, beginning on line 8, that the SWRCB is the only State agency expected to take discretionary action pursuant to this document. Suggest adding language to this chapter acknowledging that DFG may take discretionary action pursuant to this document or a subsequent project-level document, whichever it deems appropriate.
DPGA-2	2	PEIS/R	Fig 6.1			Mendota W. A. shown less than 1/5 actual size.
DPGA-3	3	PEIS/R	Fig21.4			Mendota W. A. shown less than 1/5 actual size.
DPGA-4	4	PEIS/R	2			DFG is concerned with any effects on Mendota WA from Mendota Pool changes. Any such flow changes should be considered in the appropriate project-level CEQA documents, such as for the Mendota Pool Bypass.
DPGA-5	5	PEIS/R	2	General	General	The potential need to modify the point of diversion at the dam to provide additional flow to operate a new conservation facility will need to be addressed in any project-level documentation.
DPGA-6	6	PEIS/R	2	44	31 - 35	Three "Supplement Salmon Population" alternatives are listed: "1. no supplementation, 2. release of hatchery fish to supplement the natural population for monitoring and management of the natural population, and 3. and/or release of hatchery fish to supplement the natural population when natural production is low." This does not capture the intent of the Conservation Facility, which is intended to establish and maintain a new population. The Conservation Facility is not intended to be a production facility. Please reword.
DPGA-7	7	PEIS/R	2	76	Table	The table states that the Hills Ferry Barrier will be used to exclude Steelhead. This action is not a feasible under current operating conditions. DFG will work with DWR and BOR to explore other methods of exclusion.
DPGA-8	8	PEIS/R	5	13	18 - 26	Under the section discussing disease, there is no mention of disease that may be a result of the operation of the proposed Conservation Facility or from the existing San Joaquin Fish Hatchery. The potential for introducing disease into the San Joaquin River and impacts to the San Joaquin Fish Hatchery and the Conservation Facility should be evaluated.

DFG Draft PEIS/R Comments

		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-9	9	PEIS/R	5	61	3 - 36	The section on hybridization does not address the potential effects that hybridization may have between spring and fall-run Chinook in Reach 1A and there is no mention of the possible need of a separation weir and relies on the use of Hills Ferry Barrier. Hybridization is covered in impact FSH-10 and could be expanded to address hybridization between spring and fall-run Chinook salmon in Reach 1A. A separation weir or other method to separate spring and fall-run spawning may be necessary. These issues will need to be addressed in a appropriate project-level CEQA document.
DFGA-10	10	PEIS/R	5	59	36	There is potentially misleading information regarding the aquatic worm farm located at San Joaquin Hatchery. The farm is described as a tubifex worm farm. Some Tubificid worms are known to carry whirling disease. Preliminary investigations by DFG at the site indicate that the oligochaetes harvested by the worm farm are primarily from the Family Lumbriculidae; whereas, Tubificids are from the family Tubificidae. While Tubificids are present at the site, it appears to be dominated by Lumbriculids. Lumbriculids are not known to transmit whirling disease. It is unknown whether the Tubificids present are carriers of whirling disease.
DFGA-11	11	PEIS/R	5	96	4	Again, the worm farm is misrepresented as a tubifex worm farm. The worm farm is primarily composed of Lumbriculid worms which are not known to transmit whirling disease.
DFGA-12	12	PEIS/EIR	5.2.1	5-12	20	" . . a shift in . . " should be removed.
DFGA-13	13	PEIS/EIR	5.2.1	5-12	20-22	It should be clarified that hybridization occurs during mating.
DFGA-14	14	PEIS/EIR	5.2.1	5-12	27	**"The** hybridization **rate** can ~~occur~~ **increase** through . . .
DFGA-15	15	PEIS/EIR	5.2.3	5-15	16-19	Time period of Hill's Ferry Barrier should be included which is September through mid-December.
DFGA-16	16	PEIS/EIR	5.2.3	5-23	1-7	Striped Bass needs to be added to the list for Reach 1.
DFGA-17	17	PEIS/EIR	5.2.3	5-23	25-30	Fall-run Chinook salmon needs to be added to Reach 5 list.
DFGA-18	18	PEIS/EIR	5.3.1	5-31	6-9	This language should be expanded in Section 5.3.2. State, and include similar language as in lines 13-19 of the same page (USACOE Section 404).
DFGA-19a DFGA-19b	19	PEIS/EIR	5.3.2	5-33	General	A Regional Water Quality Control Board section should be included under the State Section and include language describing their jurisdiction (example: The Regional Water Quality Control Board has jurisdiction over discharge and pollution of "Water of the State," and will be consulted regarding, but not limited to, National Pollutant Discharge Elimination System (NPDES) permit, water quality certification, ...). Also, "waters of the United State" is defined, but "waters of the State" is not defined. "Water of the State" should be defined in the Regional Water Quality Control Board section.
DFGA-20	20	PEIS/EIR	5.3.2	5-33	30-37	Fish and Game code 2080.2, 2080.3, and 2080.4, should be addressed in this section.

DFG Draft PEIS/R Comments

		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-21	21	PEIS/EIR	5.3.2	5-33	1-12	Fish and Game code 5650 (Pursuant to Fish and Game Code Section 5650, it is unlawful to deposit in, permit to pass into, or place where it can pass into a "Waters of the State" any substance or material deleterious to fish, plant life, or bird life); and 5937 (The owner of any dam shall allow sufficient water at all times to pass through a fishway, or in the absence of a fishway, allow sufficient water to pass over, around or through the dam, to keep in good condition any fish that may be planted or exist below the dam. During the minimum flow of water in any river or stream, permission may be granted by the department to the owner of any dam to allow sufficient water to pass through a culvert, waste gate, or over or around the dam, to keep in good condition any fish that may be planted or exist below the dam, when, in the judgment of the department, it is impracticable or detrimental to the owner to pass the water through the fishway.), and possibly 5652 (Fish and Game Code Section 5652 prohibits the deposition of any cans, bottles, garbage, motor vehicle or parts thereof, or rubbish within 150 feet of the high water mark of the "Waters of the State" (or where they can pass into any "Waters of the State") should also be listed in this section.
DFGA-22	22	PEIS/EIR	5.3.2	5-33	30-37	It should be stated that 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, and Section 15380), it should be fully considered in the environmental analysis for the Project or anticipate consultation with DFG, NMFS and USFWS for appropriate determination.
DFGA-23	23	PEIS/EIR	5.4.1	5-46	24-30	This section should include the upstream boundary of the area described as "San Joaquin River Upstream from Friant Dam."
DFGA-24	24	PEIS/EIR		5-49	Table 5-7	Table 5-6 looks incomplete. River flow isn't listed for any species.
DFGA-25	25	PEIS/EIR		5-59	15-37	Salmon Poisoning Disease, which canines can get if they eat raw diseased fish from infested waters throughout the Pacific Northwest, including the southern Cascades and northern Sierras to the Feather River drainage is not discussed. All fish caught or originating from streams in northern California, Oregon and southern Washington could potentially be infected with disease-carrying flukes harmful to dogs. Since we are moving fish from Northern California for reintroduction purposes this should be addressed.
DFGA-26	26	PEIS/EIR		5-60	33-35	"Criteria for determining impacts to tributary fish in this Draft PEIS/R were based on the flows in each tributary that are believed to provide the maximum habitat for each life stage of Chinook salmon and Central Valley steelhead." the analysis is unclear but appears to be based on the most optimal tributary conditions where analysis should be based on a range of criteria. Please clarify methods used for this analysis and specify the range of hydrologic data that are used to compare the flows providing presumed maximum habitat.

DFG Draft PEIS/R Comments

		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-27	27	PEIS/EIR		5-62	27-36	Does not address fall-run Chinook salmon studies that have and will occur. Fall-run Chinook salmon may be present as a result of studies and it has yet to be determined if fall-run from out of basin will be used for reintroduction.
DFGA-28	28	PEIS/EIR		5-67, 5-68, 5-69	14-41, 1-43, 1-29	The influence of temperature and water quality on conditions in the San Joaquin River from Merced River to the Delta should be expanded upon, especially as they relate to impacts to fish in Reach 5. Although addressed in Impact FSH-13, additional supporting statements to the conclusions should be added and better referenced on Page 5-95 for project-level effects. Although additional flows will occur in Reach 5 from restoration and interim flows, water temperatures from the San Joaquin River could be higher in the Merced River, thereby actually increasing downstream temperatures during late spring to early fall. Temperature increases may affect the survival of juvenile fall-run salmon from the Stanislaus, Tuolumne and Merced Rivers. Similarly, water quality from the San Joaquin River could be poorer than incoming tributary water quality, thereby decreasing water quality. Perhaps specifically pulling relevant information from Chapter 14 (Hydrology-Surface Water Quality) would better support the fisheries analysis for this impact mechanism.
DFGA-29	29	Appendix K	1.0	1-02	Table 1-2	Several species are only listed as "likely to occur" in the Delta, when in fact they are also likely to occur in the mainstem of the San Joaquin River downstream of the Restoration Area (DS). This table should be revised.
DFGA-30	30	Appendix K	1.0	1-02	Table 1-2	Delta smelt is listed as a species likely to occur in the mainstem of the San Joaquin River upstream of Restoration Area. This is incorrect and should be revised.
DFGA-31	31	Appendix K	Spp Life History Timing	2	Table 1	Striped bass also occur in Reach 1. Reach 1 should be included in the life history timing table for striped bass.
DFGA-32	32	Appendix K	Spp Life History Timing	4	Table 2	"'TR" indicates life stage present only in the San Joaquin River tributaries" language should be included on the first Table 2 header.
DFGA-33a DFGA-33b DFGA-33c	33	Appendix L	2.4	2-2	22-29	It is highly likely that invasive plants will establish further downstream with the restoration flows. It is unclear if invasive plant species eradication was analyzed in the current extent of the invasive plants listed (i.e. start removing plants at the furthest upstream extent and work down river) as another means of minimizing the impacts of the spread of invasive species further downstream. The spread of invasive plants displace native flora and fauna. New infestations of other invasive plants (those not listed by name) may be as significant as the responses to red sesbania, giant reed, salt cedar, and Chinese tallow (i.e. immediate response and/or before the next growing season). Further, it is unclear what the threshold is for the spread of these "other invasive plants." The spread of these "other invasive plants" may affect native flora or fauna at a lower threshold.

DFG Draft PEIS/R Comments

		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-34	34	Appendix L	2.0	2-2	33-34	This section would benefit from inclusion of the management measures from the SJRRP Vegetation Management Plan.
DFGA-35	35	PEIS/EIR	2.0	2-75	Table 2-7	The Conservation Measures to limit the spread of invasive plants refers to Appendix L for the Vegetation Monitoring and Management Plan. More detail for monitoring procedures, eradication procedures, and thresholds for management responses would be beneficial.
DFGA-36	36	PEIS/EIR	6	6-90	28-39	More detail for monitoring procedures, eradication procedures, and thresholds for management responses for the Invasive Monitoring and Management Plan would be beneficial.
DFGA-37	37	PEIS/R	14	General	General	While the discussion of water quality benefits and impacts to salmon and other aquatic life are addressed in Chapter 5, it would assist the reader if reference were made to these analyses as it relates to the environmental consequences and mitigation measures related to water quality.
DFGA-38	38	Executive Summary		27.00		Statement that seasonal barriers at Mud and Salts slough will be similar to Hills Ferry Barrier: this is unclear and would benefit from more detail.
DFGA-39	39	Executive Summary		29.00		Fisheries monitoring should also be included.
DFGA-40	40	Executive Summary		30.00		Mitigation banks must be approved by FWS and DFG.
DFGA-41	41	PEIS/R	1	1-7	22	Suggest citing CEQA sections regarding choosing a preferred alternative for more clarity and understanding for what is required under CEQA.
DFGA-42	42	PEIS/R	1	1-12	table	DFG 1600 permit should also be included in this table.
DFGA-43	43	PEIS/R	1 and 2	Ch. 1 pg. 1, Ch. 2 pg. 43	pg. 1 lines 18-21, pg. 43 lines 3-39	The beginning of the document states that the PEIS/R will "evaluate potential direct, indirect, and cumulative impacts on the environment at a program level that could result from implementing the Settlement consistent with the Act" (1-1), which would include Chinook salmon reintroductions. However, later the document states that the "PEIS/R identifies potential system effects associated with reintroducing salmon" (2-43) and that "Specific environmental effects related to the reintroduction of spring-run Chinook salmon would be addressed in the subsequent project-specific NEPA analysis" (2-43). These statements should be clarified.
DFGA-44	44	PEIS/R	2	2-8	8	Since there was no description in A1 regarding floodplain habitat integration, is it appropriate that there are none for B1, and C1 options? A more detailed discussion would be beneficial.
DFGA-45	45	PEIS/R	2	2-11		This section lacks an existing conditions section for Reach 4B1 under the No Action Alternative. Establishing baseline conditions would help and may be necessary when evaluating what the other alternatives are proposing to change.

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		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-46	46	PEIS/R	2	2-43	36-39	Additional environmental analysis of salmon reintroduction will need to be undertaken as part of project-level CEQA documentation when appropriate and detailed information is available.
DFGA-47	47	PEIS/R	3	3-1	19-25	Additional environmental analysis of salmon reintroduction will need to be undertaken as part of project-level CEQA documentation and consider how the tributaries of the SJR may be affected as well as any system where donor stocks are collected.
DFGA-48	48	PEIS/R	5	5-1	9-10	Additional environmental analysis of salmon reintroduction will need to be undertaken as part of project-level CEQA documentation and consider how other fisheries may be affected due to collection of spring-run Chinook from other systems.
DFGA-49	49	PEIS/R	5	5-7-8	multiple	A map showing potential and historic assemblage of habitat would be helpful.
DFGA-50	50	PEIS/R	5			I would be helpful to clearly cite source documents or provide additional analysis for some of the information provided in a project-level document or in the final PEIS/R. If analysis has not been conducted when details are currently unknown but certain assumptions are made, it would help if it were stated clearly and some indication provided as to when and where it will be analyzed.
DFGA-51	51	PEIS/R	5	5-63	7-9	Analysis of Chinook salmon reintroduction appears to be interspersed throughout the document. It would be helpful if the rationale for subject organization were clearly explained or if a summary of Chinook salmon reintroduction were provided.
DFGA-52	52	PEIS/R	6	6-92	12	It is unclear if the Conservation plan and Conservation Strategy for DBC are the same.
DFGA-53	53	PEIS/R	6	6-95	17-21	It is not indicated at what flows inundation might occur in the Eastside and Mariposa bypasses and when these flows will begin.
DFGA-54	54	PEIS/R	21	21-34-35	General	The PEIS/R states that "fisheries and recreation access improvements suggest that the capacity exists at the Kings River to absorb trout angling activity that would be displaced from Reach 1" (21-34). Additional environmental analysis of salmon reintroduction, a new fish hatchery and new fishing regulations as well as the effects on recreational angling such as trout fishing in the Kings River will need to be undertaken as part of a project-level CEQA document when appropriate and detailed information is available.
DFGA-55	55	PEIS/R	21	21-36	27-35	These measures would benefit from further analysis.
DFGA-56	56	PEIS/R	21	21-38	1-19	Currently, fishing for salmon is prohibited in the San Joaquin River from Friant Dam to the Interstate 5 bridge at Mossdale (per Freshwater Sport Fishing Regulation CCR, T14, Chapter 3, Article 3, Section 7.50 (168.5 (A-B))) and proposed fishing regulation changes will likely be restrictive for Chinook salmon. The analyses provided appears to be flawed and should be revised to reflect existing and future conditions that would prohibit angling for salmon.

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		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-57	57	PEIS/R	General		General	Supplemental information would be beneficial on the analysis of potential temperature effects related to SJR flows on downstream tributaries during the spring when the tributaries are trying to push juveniles out of their systems and into the Delta. A greater tie-in with the temperature model results would be helpful.
DFGA-58	58	Executive Summary		5		Purposes and Uses of PEIS/R: The Executive Summary states that the purpose of the PEIS/R is to analyze and disclose the impacts of implementing the Settlement as directed by the Act. Further down on page 5, it states that the program-level analysis addresses the entire suite of effects of implementing the Settlement, including project-level actions evaluated in detail as well as cumulative impacts. On page 6, it states that all anticipated actions necessary to implement the Settlement are described in this draft PEIS/R. However, all that is mentioned on pages 5 and 6 is the reoperation of Friant Dam for Interim and Restoration flow releases, fine sediment management, seepage management, and flow recapture. It seems appropriate to indicate that there will be project-level actions needed to increase channel conveyance, improve passage at flow control structures, and enhance habitats. All of these other actions are not mentioned until page 13.
DFGA-59	59	Executive Summary		26		Recapture of Interim and Restoration Flows in the Delta: Restoration flows reaching the Delta may result in changes in allowable Delta exports under then-existing criteria at CVP and SWP facilities. Recapture of flow in the Delta would occur under existing operating criteria consistent with and limited by prevailing and relevant laws, regulations, BOs, and court orders in place at the time the water is recaptured. It is unclear as to whether the Program will increase Delta exports at the expense of other species. More analysis of how exports will be affected by the Program and what new restrictions will be applied to prevent harm would be beneficial.
DFGA-60	60	Executive Summary		28		Paragraph 12 Actions: The Settlement simply states that there are likely additional channel or structural improvements that may further enhance the chance to achieve the Restoration Goal. The RA shall identify and recommend to the Secretary such additional improvements and potential measures. However, the PEIS/R indicates that the range of potential restoration actions span from no modifications to the following: enhance spawning gravel, reduce redd superimposition and/or hybridization, hatchery supplementation, floodplain and side-channel habitat modifications, enhance in-channel habitat, reduce potential for predation of juvenile salmonids, reduce potential for fish entrainment, enable fish passage, and modify flood control structures. These should be examples, not the full range of potential actions. What about removal of non-native vegetation?
DFGA-61	61	Executive Summary		45		This does not properly describe the time period that the barrier is in place (September-December). The barrier may not be operational during construction activities.

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		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-62	62	Executive Summary		45		Item "i" states that "The bottom topography of the San Joaquin River channel will be designed to decrease or eliminate predator holding habitat." This statement appears to be all-inclusive where a more specific analysis would be beneficial. Additional details would be helpful, especially identifying factors such as the effects of mining activities on predator habitat. Suggest revising to: "The bottom topography of the San Joaquin River that has been degraded by gravel excavation or abnormal scour by artificial structures will be restored to decrease or eliminate predator holding habitat."
DFGA-63	63	Executive Summary		64		Table ES-7 Range of Simulated Long-Term Average Water Supply Reduction to Friant-Division Long Term Contractors: The future condition should represent the Settlement, which expires in 2025. It is possible that fishery flows may be increased after 2025. However, how can the releases for the restoration and interim flows be only 250 TAF as indicated in Table ES-7, when the flow allocation for a Normal-Dry year is about 385 TAF? This table would benefit from a more detailed discussion on how the fishery flows were estimated or provision of a more detailed analysis elsewhere, at a minimum.
DFGA-64	64	Executive Summary		68		FSH-12 Changes in diversions and entrainment between the Merced River and the Delta: recovery of restoration flow releases by new pumping below the Merced River or in the Delta should require additional analysis of potential effects to Chinook salmon from the tributaries and Delta species. A more detailed analysis should be provided elsewhere, at a minimum.
DFGA-65	65	Executive Summary		93		PHH-4 Exposure to disease: All alternatives are listed as potentially significant due to West Nile and Valley Fever. Replacing standing water with flowing water should reduce the potential for West Nile.
DFGA-66	66	Executive Summary		96		REC-5 Impacts on warm water angling opportunities in the Restoration Area: Opportunities for enhancing warm water fish populations in the vicinity of the San Joaquin River near Friant Dam would benefit from further analysis.
DFGA-67	67	Executive Summary		106		Table ES-9 Cumulative Impacts: Potential direct mortality or reduced fecundity of wild fall-run Chinook salmon in San Joaquin River tributaries resulting from disease outbreak. If not here, it would be beneficial if additional analysis on the effects of interbasin transfers and water temperature impacts were covered elsewhere in the PEIS/R.

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		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-68	68	PEIS/R	1	2-3	40-6	In the description of the Water Management Goal, the document should include the following language in the Introduction: "any recirculation, recapture, reuse, exchange or transfer of the Interim Flows and Restoration Flows shall have no adverse impact on the Restoration Goal, downstream water quality or fisheries [Settlement paragraph 16(a)(1)]; be developed and implemented in accordance with all applicable laws, regulations and standards. The Parties agree that this Paragraph 16 shall not be relied upon in connection with any request or proceeding relating to any increase in Delta pumping rates or capacity beyond current criteria existing as of the Effective Date of this Settlement [Settlement paragraph 16(a)(2)]." This language was included on page 2-31, lines 5 - 7 and page 2-84, lines 10-15. This language should be included with all six alternatives.
DFGA-69	69	PEIS/R	1	4	3-11	Table 1-2 shows the milestone dates recommended in the Settlement. The document should be updated to show that the phase I completion date of 2013 will change, which will then likely affect other dates.
DFGA-70	70	PEIS/R	2	10		The table identifies the "Physical Monitoring and Management Plan" as Program and Project level actions regarding habitat monitoring and potential improvements. However, many of the habitat improvements will be based on biological assessments identified in the Fisheries Management Plan. The table, as well as other related analyses, should reflect that the Fisheries Management Plan will play a role in the determination of need for habitat improvement and flow management.
DFGA-71	71	PEIS/R	2	20		Table 2-5. An additional footnote should be added for the years 2012-2014 indicating that the Paragraph 11 construction activities will not be completed on schedule and so full Restoration Flows may not be achieved until much later than 2014. For example, the channel capacity for Reach 2B is 1,300 cfs and there is uncertainty as to whether this would be increased to 4,500 cfs by 2014.

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		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-72a DFGA-72b	72	PEIS/R	2	23	1-26	This section discusses actions that Reclamation would take to minimize flood risk. Item #2 (lines 6 - 9) indicates that Reclamation would "limit the release and conveyance of Interim and 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. 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) as defined on page 2-24, lines 5 - 6. Bullet #1 (lines 17 - 22) indicates that a Channel Capacity Advisory Group would be established 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. Bullet #2 (lines 23 - 26) indicates that Reclamation could maintain Interim and Restoration Flows below estimates of then-existing channel capacities to reduce the risk of levee failure due to underseepage, through-seepage, and associated levee stability issues to less-than-significant levels. Recommend adding an additional paragraph that indicates that the Paragraph 11 construction activities to increase the conveyance capacity of the channel will be designed to carry the full Restoration Flows with minimal risk of levee failure while sustaining unrestricted levels of both riparian vegetation growth and sediment transport. Recommend analysis of implementation of additional restoration actions to increase channel capacity until these objectives are met.
DFGA-73	73	PEIS/R	2	29	19-31	This paragraph states that the migration period for adult Central Valley steelhead is between October and December in the San Joaquin River Basin. However, McEwan (2001) indicates that ocean maturing steelhead (winter steelhead), which presently occur in the Central Valley, typically begin their spawning migrations from fall through spring. Reference: McEwan, D. 2001. Central Valley Steelhead. In: R.L. Brown (editor). Fish Bulletin 179: Contributions to the biology of Central Valley salmonids. Volume 2. Sacramento (CA): California Department of Fish and Game. Pages 1-44.
DFGA-74	74	PEIS/R	2	38	5-6	More information should be provided for this action similar to other actions listed in this section as described in the Settlement.

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		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-75	75	PEIS/R	2	39-40	13-2	Construct Mendota Pool Bypass and Modify Reach 2B. This section should summarize the existing problems for fish, clearly state the goals and objectives of this project, and indicate that the project has not yet been fully designed. For example, Mendota Dam currently impedes upstream migration for adult salmon, juvenile survival in Mendota Pool is likely to be low due to predation and unscreened diversions, and the existing channel capacity is estimated to be about 1,300 cfs. The primary goals of this project are to increase channel capacity to at least 4,500 cfs, provide fish passage, restore ecological processes, and allow up to 2,500 cfs of flow to be periodically diverted at Mendota Pool. Channel capacity should be sufficient to promote ecological processes, including natural riparian growth, floodplain inundation, and fluvial geomorphic processes (e.g., bank erosion, sediment transport, and sediment deposition without bank revetment), as well as minimal flood risk (i.e., levee failure). Channel capacity may also be increased to allow 2,500 cfs to be diverted and still allow 4,500 cfs to pass into the downstream reaches. The impact of flood flows from the James Bypass on the ability to convey the full Restoration Flows (4,500 cfs) should be fully described. Diversion and flow control structures will be designed to the extent possible to minimize entrainment and predation of juvenile fish. It should be mentioned that improvements will be necessary to modify the Chowchilla Bifurcation Structure to provide passage for juvenile and adult fish. If possible, the bypass channel will be designed to function naturally with no grade control structures that may pose a predation risk, impede fish passage, or restrict fluvial geomorphic processes. The likely frequency, timing, and magnitude of the diversions at Mendota Pool and at the Chowchilla Bifurcation Structure (Lone Willow) should be provided to demonstrate the need for fish screens and increased channel capacity.
DFGA-76	76	PEIS/R	2	40-41	17-17	Modify Reach 4B1 to convey at least 475 cfs. This section should summarize the existing problems for fish, clearly state the goals and objectives of this project, and indicate that the project has not yet been fully designed. For example, the existing channel in reaches 4B1 and 4B2 flows through the San Luis National Wildlife Refuge. It will be necessary to provide fish passage and convey the Restoration Flows through the refuges without impacting the function of the refuges. One goal is to allow juvenile salmon to utilize the refuge habitats during the winter and spring without adversely affecting refuge operations. As stated in the document, it may be necessary to modify up to five road crossings in this reach. It may also be necessary to grade some of the floodplain habitat because it currently slopes away from the river toward the levees. This should be analyzed in appropriate project-level documents.

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		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-77	77	PEIS/R	2	41	18-28	Screen Arroyo Canal and Provide Passage at Sack Dam. The objectives for screening Arroyo Canal should include both preventing entrainment and minimizing predation risk. It may also be necessary to construct multiple ladders at Sack Dam to provide passage at all flows and for resident fish species as well. It may be necessary to modify the riverbed below the dam to prevent scour holes and thereby reduce the risk of predation for juvenile salmon. This should be analyzed in appropriate project-level documents.
DFGA-78	78	PEIS/R	2	41-42	29-13	Modify Eastside and Mariposa Bypasses to Provide Fish Habitat. The Eastside Bypass flows through the Merced National Wildlife Refuge, which uses a headgate with stop logs in the river channel to help flood the wetland habitats. It will be necessary to provide fish passage and convey the Restoration Flows through the refuge without impacting the function of the refuge. This should be analyzed in appropriate project-level documents.
DFGA-79a DFGA-79b DFGA-79c	79	PEIS/R	2	42	20-34	Modify Chowchilla Bifurcation Structure. This section should clarify that the river side of the structure will be modified during Phase I (Paragraph 11 (a)) activities under the Reach 2B project and the bypass side of the structure will be modified during Phase II (Paragraph 11 (b)) activities. It should clarify that during flood control releases when flows enter the bypass system at the Chowchilla Bifurcation Structure that both juvenile and adult salmon will migrate through the bypass system. Although the primary purpose of the bypass system is flood control and habitat will not be enhanced for fish in the bypass system, it may be necessary to address potential stranding of fish in the bypass system. For example, there are gaps between the gates at the Chowchilla Bifurcation Structure leading to the bypass system leak water and allow juvenile salmon to become stranded in the bypass system. Another problem is that during flood control releases, adult salmon may not be able to pass through the Chowchilla Bifurcation Structure unless modifications are made. It is also likely that there are flow control structures in the bypass system that may impact passage for both juvenile and adult salmon that would have to be addressed. A final problem is that when flood control releases cease, juvenile and adult salmon might be stranded in the bypass system. The potential remedies, such as ladders or screens to keep fish out of the bypass system, should be discussed for each of these potential problems. This should be analyzed in appropriate project-level documents.
DFGA-80	80	PEIS/R	2	43	31-39	Salmon Reintroduction. The document indicates that NMFS will issue a final rule pursuant to Section 10(j) by April 30, 2012. It is not certain that this deadline will be met. It is also not certain that NMFS will grant permission to reintroduce salmon at that time. Permission for reintroduction may depend on the viability of the donor stock populations as well as the progress on the restoration activities, such as the Reach 2B, Reach 4B, and the Arroyo Canal - Sack Dam projects.

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		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-81	81	PEIS/R	2	43	31-39	This section should address, on a program level, the potential fisheries studies called for in the FMP and how evaluate their affect on the system and third parties.
DFGA-82	82	PEIS/R	2	44	1-4	Enhance Spawning Gravels. Salmon also require suitable water temperatures for spawning. This is particularly important for spring-run fish that may spawn near Friant Dam where water temperatures are most likely to be suitable for spawning from August through early November. There may be relatively few spawning-sized gravels near the dam and so gravel augmentation may be needed.
DFGA-83	83	PEIS/R	2	44	12-22	Reduce Potential for Redd Superimposition and/or Hybridization. The decision as to the location and design of a barrier to separate fall-run spawners from spring-run spawners appears to be based upon studies of spawning habitat availability. Analysis is unclear and suggest additional details and analysis to consider temporal and spatial conditions as they relate to spawning.
DFGA-84	84	PEIS/R	2	46	34-37	Reduce Potential for Aquatic Predation of Juvenile Salmonids. This section should mention that filling gravel pits and dredged areas is a method for reducing predation risk. This section should also mention that predation is a particular problem at structures such as chevron ("V") screens, flow bifurcation structures, dams, and grade control structures. Besides capture and removal activities, it should be mentioned that predator control could be achieved through experimental behavioral methods (e.g., noise).
DFGA-85a DFGA-85b DFGA-85c	85	PEIS/R	2	48	19-42	Modify Flood Flow Control Structures. Paragraph 11(a)(5) indicates that the Sand Slough Control Structure should be modified to provide fish passage. In contrast, it indicates that the Chowchilla Bypass Bifurcation structure should be modified to provide conveyance, but does not mention fish passage. However, fish passage in the river at the Chowchilla Bypass Bifurcation structure is being address as part of the Reach 2B project. It is confusing that this section only discusses Paragraph 11(b) requirement to address passage in the bypass at the Chowchilla Bypass Bifurcation structure but not in the river. It is also confusing that this section suggests that the bypass system, Eastside and Mariposa, are part of the Restoration Area that will require fish passage. What about passage in the upper bypass system that would only receive flood control releases? There are no plans to either block passage into this upper bypass section or to provide passage improvements. The document should clarify whether fish will migrate through the entire bypass system, and if so, indicate that passage improvements maybe needed throughout.

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		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-86	86	PEIS/R	2	49	1-11	Passage - Install Grade Control Structures. This section discusses the local backwater effect caused by the Chowchilla Bifurcation Structure on the river side. It indicates that a potential action to address the problem of sand accumulation in Reach 2A includes installing grade control structures to prevent sediment mobilization. Recommend listing other potential actions such as widening the structure to eliminate the backwater effect. This should be analyzed in appropriate project-level documents.
DFGA-87	87	PEIS/R	2	51	7-27	Seepage. This section states that Restoration Flows could be reduced, redirected, or rediverted to manage seepage. The San Joaquin River Settlement Act indicates that Interim flows shall be reduced to manage seepage. However, the Act does not mention reducing Restoration Flows for seepage management and a more detailed discussion clarifying the difference between Restoration and Interim Flows would be beneficial.
DFGA-88	88	PEIS/R	2	51	28-31	Channel Capacity. This section indicates that vegetation could be removed with chemical means to maintain channel capacity. It may be desirable to plow the weeds under several times to eradicate them and then use weed mats to protect plants during the establishment phase.
DFGA-89	89	PEIS/R	2	51	32-35	Spawning Gravel. This section indicates that flow releases could be modified to flush or mobilize gravel based on monitoring reports and recommendations of spawning gravel conditions, including modifications to the Restoration Flow Guidelines to improve the success of flushing flows. A discussion or project-level analysis on the potential to modify Restoration Flows based on the need for temperature management, fish passage, adult attraction, or floodplain inundation, would be beneficial as they may be more important than flushing flows.
DFGA-90	90	PEIS/R	2	76 and 78		Table 2-7. CVS-1 and EFH-1: Item "b" states that "the Hills Ferry Barrier will be operated and maintained to exclude Pacific salmonids from the Restoration Area during construction activities, and until suitable habitat conditions are restored." However, the Settlement calls for fish to be re-introduced in 2012 whereas key program actions (Reach 2B project) will not be completed until much later. If this mitigation measure is utilized then it may be necessary to trap and haul the adult fish from the barrier to Reach 1. If construction activities occur outside of the permitted barrier timeframe (September-December) the barrier will not be in operation. Additionally, Central Valley Steelhead migrate upstream beginning in June and continue through March. The barrier would not be in operation during the full migration period. If Hills Ferry Barrier is operated outside of its normal time frame new permits, major modifications, and additional funding will be necessary.

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		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-91	91	PEIS/R	2	91	1-7	Utilize the Chowchilla Bypass to route Restoration Flows. This alternative was eliminated from consideration because it did not meet the purpose and needs, consistent with the Settlement. Although using the bypass system was not specified in the Settlement, it may be a valuable alternative for meeting the Restoration goal considering limitations with using the natural river channel that perhaps cannot be overcome.
DFGA-92	92	PEIS/R	2	91-92	38-92	Raise Friant Dam to store more water for dry year supply and flood control. This alternative was eliminated from consideration because it did not satisfy the implementation timing of the Settlement, it is being considered under separate authorization, and it does not contribute to the SJRRP purpose. This alternative may be important to the SJRRP purpose, if raising the dam enlarged the cold water pool in Millerton Reservoir, which may be necessary to sustaining habitat for Chinook salmon in the fall. Initial studies suggest that a temperature control device would not conserve the cold water pool for fishery purposes.
DFGA-93	93	PEIS/R	3	3	3-13	Reach 4. The description of this reach should indicate that the river passes through the San Luis National Wildlife Refuge in Reach 4B and that the Eastside Bypass in Reach 4B passes through the Merced National Wildlife Refuge. Restoration Flows will pass through both the Eastside Bypass Reach 3 and the river in Reach 4B and these refuges will be an important part of the restoration actions.
DFGA-94	94	PEIS/R	5	1	8-10	Implementing the Settlement will have an affect on fisheries outside the identified project area. Further analysis will need to be provided in project-level documents.
DFGA-95	95	PEIS/R	5	4		Figure 5-1, Annual Unimpaired Hydrograph. The figure caption should indicate that the timing for the various life history stages for spring-run and fall-run Chinook salmon are approximate. It's likely that there are errors in this graph as it indicates that there would be nearly complete overlap between the juvenile spring-run and fall-run salmon which has yet to be determined and spring-run typically spawn nearly two months earlier than fall-run and the spring-run eggs and juveniles may develop much earlier than for fall-run salmon.
DFGA-96a	96	PEIS/R	5	16-22	24-34	Changes in Channel Morphology and Processes Affecting Aquatic Habitat. This section is overly simplistic and omits many types of degradation of the channel and fluvial geomorphic processes. - For example, the discussion of bank protection (revetment) beginning on page 5-17, line 12, does not mention that bank protection accelerates channel incision, which leads to the loss of channel complexity (e.g., loss of pools that provide resting and feeding areas). Channel incision also reduces the water table which affects riparian growth and recruitment. Undercut banks were probably not an important feature of valley river channels.

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DFGA-96b						– The discussion of spawning gravel availability beginning on page 5-17, line 29 is misleading, because spawning-sized gravel is different from spawning gravel, which implies habitats that are suitable for spawning because they are located in areas with suitable flows and water temperatures. There may be few spawning gravels in the area where spring-run Chinook salmon are likely to spawn under existing conditions with Restoration Flows. During the 1940s prior to water diversions, the late summer flows during spawning were very high compared to the Restoration Flow hydrographs and so conditions would have been suitable to a greater distance downstream from the dam historically than under Restoration Flow releases.
DFGA-96c						– The discussion of habitat heterogeneity beginning on page 5-20, line 3 omits the impact that a lack of flows that degrades riparian vegetation results in a loss of bank cohesiveness (i.e., erosion when flows occur) that can degrade channel morphology. In addition, gravel mining and flow control structures (e.g., Chowchilla Bifurcation Structure and Mendota Dam) can reduce sediment transport. Reductions in sediment transport typically results in channel incision and loss of channel complexity.
DFGA-97	97	PEIS/R	5	22-23	34-22	Fish. The list of primary environmental conditions that currently influence native fish species abundance and distribution omitted gravel mining. Gravel mining had a substantial influence on nonnative fish species abundance and impacts on native fishes.
DFGA-98	98	PEIS/R	5	23	23-34	Reach 1. The list of species that once occurred in Reach 1 but not detected between 2003 and 2005 included fall-run Chinook salmon but not spring-run Chinook salmon. This is confusing since a time frame was not given for this list and spring-run Chinook were present in Reach 1 prior to 1950.
DFGA-99	99	PEIS/R	5	24	31-33	This section omits the recent documentation provided by USFWS of white sturgeon and spawning by white sturgeon in the San Joaquin River just below the Restoration Area.
DFGA-100	100	PEIS/R	5	25	21-41	Native Fish Species. This section omits the recent documentation by USFWS of white sturgeon and spawning by white sturgeon in the San Joaquin River just below the Restoration Area.

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		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-101	101	PEIS/R	5	26-27	41-6	Aquatic Habitat in the Tributaries. This section should indicate that diversion rates are high, particularly during dry and water year types, which leads to increased water temperatures. As a result, viability of the fall-run salmon populations in the Tuolumne and Merced rivers is low (Mesick 2009 and 2010).Mesick, C.F. 2009. The High Risk of Extinction for the Natural Fall-Run Chinook Salmon Population in the Lower Tuolumne River due to Insufficient Instream Flow Releases. Report submitted to the State Water Resources Control Board. Revised draft 4 September 2009.Mesick, C.F. 2010. The High Risk of Extinction for the Natural Fall-Run Chinook Salmon Population in the Lower Merced River due to Insufficient Instream Flow Releases. Report submitted to the State Water Resources Control Board. 28 November 2010.
DFGA-102	102	PEIS/R	5	29	10-14	VAMP studies. The last sentence should be corrected to indicate that the HORB is no longer installed due to likely impacts on Delta smelt.
DFGA-103	103	PEIS/R	5	29	15-20	Adult Upmigration through the Delta. This section should cite Hallock et al. (1970) and Mesick (2001). Hallock R.J., R.F. Elwell, D.H. Fry, Jr. 1970. Migrations of adult king salmon Oncorhynchus tshawytscha in the San Joaquin Delta; as demonstrated by the use of sonic tags. California Department of Fish and Game. Fish Bulletin 151. Mesick, C.F. 2001. The effects of San Joaquin River flows and Delta export rates during October on the number of adult San Joaquin Chinook salmon that stray. In: Brown, R.L., editor. Fish Bulletin 179: Contributions to the biology of Central Valley salmonids. Volume 2. Sacramento (CA): California Department of Fish and Game. Pages 139-161.
DFGA-104	104	PEIS/R	5	45	Table 5-4	An analysis of potential effects to sturgeon in the San Joaquin River from Friant Dam to the Delta should be included. It would be incorrect to conclude that sturgeon are not present.
DFGA-105	105	PEIS/R	5	50		Table 5-7, Potential Impact Assessments: Environmental Conditions for representative fish species from the Merced River to the Delta. Temperature effects for juvenile fall-run salmon and CV steelhead are indicated as an uncertain impact mechanism and/or incomplete information available for the assessment. Temperature effects on adult migration were not assessed. However, the temperature effects on juvenile and adult salmonids are well understood and the water temperature model for the Restoration Area was linked to the section from the Merced River to the Delta.

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		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-106	106	PEIS/R	5		General	Flow Data and Models Used in Impact Analysis. A discussion is needed on potential limitations on Restoration Flows. First, there is uncertainty as to when the channel capacity will be increased to allow full Restoration Flows in Reaches 2B and 4B. This may take 8 years or more (Reach 2B 2.7 TM). There is also uncertainty about the need to periodically drain Mendota Pool for 2 months for inspection and maintenance, during which time there may be no flow below the Chowchilla Bifurcation Structure. Currently, draining occurs during November and December every other year, but this might change if the Fresno Slough Dam Alignment alternative is implemented. There is also uncertainty regarding the need to reduce flows for seepage management and to minimize flood risk. Finally, the critical year Restoration Hydrographs do not include base flows that would provide habitat connectivity for more than a few weeks. These issues may reduce the magnitude of the Restoration Flows, which would affect floodplain inundation, aquatic connectivity, and water temperature.
DFGA-107	107	PEIS/R	5	52	1-8	Water Temperature Assessment. This section indicates that water temperatures downstream of the confluence with the Merced River were not modeled. The CALFED water temperature model by AD Consultants should have been used to assess the impacts of Restoration Flows on the downstream fisheries. Comparing simulated water temperature from the San Joaquin River, upstream from the Merced River, with empirical water temperature data from gage locations in the mainstem San Joaquin River is not the best available method due to the lack of data on Interim Flows.
DFGA-108	108	PEIS/R	5	54	1-7	Floodplain Habitat. This section states that "Data on the relative changes in the areas of aquatic, riparian, and floodplain habitat under the program alternatives were not available for the assessment." However, the draft 2011 ATR includes a report on the relationship between flow and area of overbank inundation. These results should be used in the impact assessment. It should be noted that overbank inundation does not equate to floodplain inundation. For example, the threshold for floodplain inundation in Reach 2B ranges between 1,100 cfs (Near Mendota Pool) and 2,200 cfs and the thresholds are higher for Reaches 1 and 3. There may be floodplain inundation in Reach 5, particularly during wet year releases. The frequency of floodplain inundation in Reach 4 will partly depend on the Reach 4B project designs.
DFGA-109	109	PEIS/R	5	55	9	Table 5-9, Passage. The DWR Fish Passage Evaluation TM and the draft 2011 ATR Appendix B adult passage report should be used to add detail and clarity to this list.

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		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-110	110	PEIS/R	5	58	17-19	The following sentence is confusing: "From the Mendota Pool, predatory fish originating from the San Joaquin River downstream from the Merced River confluence could enter the San Joaquin River in the Restoration Area." Predators can be introduced to the Restoration Area and below the Restoration Area from the DMC - Mendota Pool. These fish do originate from the Delta. However, it is also possible that predators below the Restoration Area could enter the Restoration Area.
DFGA-111	111	PEIS/R	5	59	25-37	Disease. Scott Foott has observed PKD, BKD, and possibly whirling disease in juvenile fall-run salmon in the downstream tributaries. His reports should be summarized.
DFGA-112	112	PEIS/R	5	60	11-20	VAMP. The VAMP studies are being authorized one year at a time and the future of VAMP is uncertain. This uncertainty should be mentioned.
DFGA-113	113	PEIS/R	5	61		Flows Assumed To Provide Maximum Habitat in the SJR tributaries. The SWRCB Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem (July 2010) and the draft technical report on the scientific basis for alternative San Joaquin River flow and Southern Delta Salinity Objectives (October 2010) should be cited rather than using a personal communication and recommendations from the mid-1990s. These reports suggest that 60% of the unimpaired SJR flow at Vernalis from March through June would be protective of fish and wildlife beneficial uses in the SJR. Sixty percent of unimpaired flows would be much higher than those shown in Table 5-11 and would not be considered to be the maximum habitat that could be provided.
DFGA-114	114	PEIS/R	5	62	27-36	Hybridization for Fall-Run Salmon. It should be noted that there are only minor genetic differences between fall-run throughout the Central Valley (Garza et al. 2004) and that Sacramento Basin and Mokelumne River hatchery fish planted in the Bay tend to stray to the San Joaquin River tributaries (Mesick 2009 and 2010 Tuolumne and Merced Risk of Extinction papers). Therefore, if fall-run salmon were to be reintroduced from any Central Valley source, any impacts from potential hybridization would be minor.
DFGA-115	115	PEIS/R	5	63	28-31	Disease. As commented above, there are already hatchery-borne diseases in the downstream tributaries (see Scott Foott reports).
DFGA-116	116	PEIS/R	5	73	9-18	Predation at Structures. Increased predation also occurs at fish screens, particularly chevron screens such as those at the Delta pumping facilities. Predators accumulate at the trash racks, apex of the screen, within the return pipes/channels, and at the return outlet. It is possible that chevron screens will be installed at Mendota Pool, the Arroyo Canal, and in Reach 4B. Conservation measures should be included in project-level anlayses to minimize predation at fish screens.

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		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-117	117	PEIS/R	5	74	12-14	Spring-Run Holding Habitat in the SJR Tributaries. This section states that spring-run holding habitat is minimal in the SJR tributaries as justification for why the likelihood for genetic introgression is substantially reduced. However, there is a substantial amount of holding habitat in the Stanislaus River in Goodwin Canyon and downstream mine pits (e.g., Button Bush near the Orange Blossom Bridge) and in the Tuolumne River below LaGrange Dam in the canyon. Spring-run strays are routinely observed in the tributaries and yet genetic introgression may not be a likely problem because the eggs of most early spawners (spring-run) are killed by superimposing fall-run spawners, which are relatively numerous compared to the number of spring-run spawners.
DFGA-118	118	PEIS/R	5	76	1-4, 25-36	There should be a plan or discussion that indicates how the water will be paid for and allocated to deal with these temperature impacts.
DFGA-119	119	PEIS/R	5	84	33-34	This section should include a discussion of American Shad. Millerton Reservoir supports the only population of landlocked American shad in California. The riverine portion of Millerton Reservoir supports habitat that is critical for the spawning life stage of American shad. It is unknown how changes Millerton Reservoir operations will impact American shad habitat and therefore should be evaluated.
DFGA-120	120	PEIS/R	5	90		FSH-22 There should be a discussion on temperature and dissolved oxygen changes in each reach throughout the year. Additionally there should be a discussion on how changes in temperature and dissolved oxygen may affect all Chinook salmon lifestages in all reaches.
DFGA-121	121	PEIS/R	5	90	39-40	In a discussion of climate change earlier in the document, it was noted there will be an affect on the water temperatures in Millerton Lake due to an increase of air temperature in the Central Valley. However, this section states that water temperatures in the Restoration Area will decrease and therefore increase DO. These statements are contradictory because an increase in air temperature will increase water temperature and likely decrease DO.
DFGA-122	122	PEIS/R	5	97	18-37	Impact of flows to the tributaries should be further analyzed (i.e. how decreased flows will affect fish and their habitat on the tributaries and juvenile outmigration).
DFGA-123	123	Appendix K		i-vii		Table of contents should list the species being discussed to help direct the reader.
DFGA-124	124	PEIS/R	21	21-9	17	It is known that there is a significant amount of recreation activities that take place in Reach 1, however, it is unknown how much recreational activity takes place in Reaches 2 - 5. These Reaches support a large warm-water fishery and contain a significant amount of private property adjacent to the river and therefore may provide a significant amount of recreational opportunities (i.e.. hunting and fishing).
DFGA-125	125	PEIS/R	21	21-9	28	It is stated that "fishing occurs primarily in Reaches 1 - 5, which have year around flows". This is contrary to what is stated in the previous paragraph which states that Reach 2 and 5 are generally dry.

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		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-126	126	PEIS/R	21	21-29	32	Although Pine Flat Lake is a similarly sized reservoir that provides comparable recreation activities the discussion does not consider that Pine Flat Lake is more than an hour drive from Millerton Reservoir.
DFGA-127	127	PEIS/R	21	21-29	42	Discusses how increased demands for recreational opportunities in the restoration area will be addressed by the SJRC, SJRPCT, and other parkway landowners and management partners. It is unclear if linkages between these programs and the SJRRP are feasible or appropriate. A more detailed discussion would be beneficial.
DFGA-128	128	PEIS/R	21	21-31	38	The Department is currently in the process of drafting new proposed fishing regulations for the SJR. This action is intended to provide protection and minimize take of spring run Chinook salmon. The new proposed regulations will likely have permanent and/or seasonal closures within Reach 1 which will eliminate or substantially reduce angling opportunities within this Reach. Therefore, it is likely that there will be an increased demand for recreational activities at Millerton Lake SRA.
DFGA-129	129	PEIS/R	21	21-32	7	It is unclear that existing recreation programs will sufficiently absorb increased demand as a result of the Program.
DFGA-130	130	PEIS/R	21	21-32	27	How will potential restoration actions, such as modification of floodplain enhance recreation opportunities? Additional analysis should be done or this rationale should be better described.
DFGA-131	131	PEIS/R	21	21-35	9	The Kings River does support a cold-water fishery that is similar to the SJR in Reach 1, however, it would be useful to determine if the additional distance anglers may travel to fish in the Kings River would be considered acceptable to the existing angling community.
DFGA-132	132	PEIS/R	21	21-34	34	The Kings River Conservancy action to improve access and expand public parks is carried out as a separate action. Considering how the Program may relate to this objective should be further analyzed.
DFGA-133	133	PEIS/R	21	21-35	39	Lost Lake itself does not provide public fishing opportunities. The source of hydrology for the lake is ground water and is typically dry most of the year.
DFGA-134	134	PEIS/R	26	26-39	4	Millerton Reservoir supports the only population of landlocked American shad in California. The riverine portion of Millerton Reservoir supports habitat that is critical for the spawning life stage of American shad. It is unknown how changes Millerton Reservoir operations will impact American shad habitat and therefore should be evaluated.

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		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-135	135	PEIS/R	General		General	Several alternatives for reuse of Restoration flows are described. Some would be beneficial to wildlife areas and refuges others would be detrimental. For wildlife area considerations, it would be preferable to recapture the water in the Mendota Pool or via the Sack Dam as well as directly serve the East Bear Creek Unit of San Luis National Wildlife Refuge. This alternative would allow recaptured water to be utilized for wildlife area /refuge water supplies while, at the same time, reduce competition for capacity in the CVP conveyance system. This alternative could also reduce competition for storage in San Luis Reservoir which impacts wildlife area/refuges ability to reschedule conserved water from one water year to another while sending the water all the way to the delta and pumping it there may be detrimental.
DFGA-136	136	PEIS/R	General		General	As described, these seasonal barriers (Mud and Salt Slough) would create conflicts with boat access to Type A waterfowl hunting programs for the Freitas Unit of San Luis National Wildlife Refuge and the China Island unit for North Grasslands Wildlife Area. The mouth of Salt Slough in particular is very busy with boat traffic during water fowl season and also quite remote with no vehicle access. Staffing a barrier at this location would be quite challenging.
DFGA-137	137	PEIS/R	5	5-31	6-9	Suggest the paragraph be rewritten as the following: Section 401 of the CWA requires entities to obtain certification from the state or Native American tribes when applying for a federal license or permit which may result in increased pollutant loads to a water body. The certification is issued only if such increased loads would not cause or contribute to exceedences of water quality standards.
DFGA-138	138	PEIS/R	Fisheries/ Biology			Fisheries analysis regarding competition, risk of spreading disease, changing flow patters, temperature, and floodplain are important to DFG. Please review to ensure that analysis and conclusions are clearly stated.
DFGA-139	139	PEIS/R	all			It appears as though the mitigation measures have been described as the conservation strategy. Mitigation measures must be described as such to be enforceable under CEQA.
DFGA-140	140	PEIS/R	all			When an impact is identified, the mitigation measures should be spelled out under each impact.
DFGA-141	141	PEIS/R	all			Under each impact, a discussion should follow indicating how each alternative will impact each resource to aid comparison and evaluation. A table at the beginning of each resource section showing impacts and differences among alternatives would be helpful.
DFGA-142	142	PEIS/R	Ch 6	6-1	19-24	These sentences are redundant. Suggest removing them.
DFGA-143	143	PEIS/R	Biology			DBC-1 requires development of a conservation plan and preservation strategy. It would be beneficial to clearly articulate that it will happen for project level activities, including the re-operation of the dam. This may be perceived as deferred mitigation as reviewers may not be able to determine what the strategy is.

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DFGA-144	144	PEIS/R	Biology			Impact VEG-4: Regarding Delta Button Celery, impacts can be reduced by obtaining an Incidental Take Permit pursuant to Fish and Game Code Section 2081 assuming it is possible to fully mitigate for this impact. There should be a discussion in the document relative to this species and that removal of a significant portion of the population will not result in the jeopardy of this State listed species and allow continued existence and how and why the biological basis for the determination can be made.
DFGA-145	145	PEIS/R		6-79/6-80	39-40/1-2	Restoration activities that will be implemented within the boundaries of current Habitat Conservation Plans and Natural Community Conservation Plans should be provided and articulate where SJRRP actions are inconsistent with the goals and strategies of the plans. Suggest going back to CP-2 and define mitigation measures in plans here.
DFGA-146	146	PEIS/R	all			Project-level re-operation of Friant Dam may effect vernal pools and other wetlands, plants and wildlife species. Further analysis and quantification would be beneficial. It should include measurable and enforceable actions to reduce impacts.
DFGA-147	147	PEIS/R				Further analysis of how reoperation of Friant Dam will increase habitat and resources above that which it is being impacted would be beneficial. There is no guarantee that the newly created habitats will function as predicted or that areas of habitat disturbance will be re-colonized with the same suite of species - especially in the absence of active management. Outcome of passive restoration is uncertain.
DFGA-148	148	PEIS/R	all			For any activity that has the potential to "take" State listed species such as Delta button celery, Swainson's hawk, Fresno kangaroo rat, colusa grass, California tiger salamander, etc., an Incidental Take Permit (ITP) should be obtained prior to implementing such activities that could result in "take" pursuant to Fish and Game Code Section 2081. The Department must rely on the Final PEIR/PEIS for the subsequent tiring of project level CEQA documents and issuance of an ITP; therefore and minimization and mitigation measures should be included where appropriate.
DFGA-149	149	PEIS/R	2.4.1			This section describes how Programmatic-level actions require no further analysis of impacts under CEQA. For this to be true, there should be measurable mitigation measures in place, without deferring mitigation, and must identify a baseline for environmental resources such that subsequent Project-related impacts can be fully analyzed for significance, allowing subsequent Projects to tier off of this document.
DFGA-150	150	PEIS/R		2-29		Reoperation of SJR Headgate discussion would benefit from added clarity as to why environmental impacts will be analyzed in a subsequent environmental document.
DFGA-151	151	PEIS/R		2-47		This Section describes trap and haul of smolts and adults around barriers and needs clarification describing under what authority "take" of spring-run Chinook salmon will occur.

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		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-152	152	PEIS/R	Table 2-7			As mentioned previously, this table contains actions which will be implemented to reduce impacts and would benefit from a discussion of how these actions will be made measurable and enforceable under this document.
DFGA-153	153	PEIS/R	Table 2-7			VP-1c: Wetland delineations should be submitted to the United States Army Corps of Engineers for verification and mitigation requirements should be included for any jurisdictional wetlands impacted through implementation of any portion of the Project.
DFGA-154	154	PEIS/R	Table 2-7			VP-2 applies to project-level activities as well as program-level.
DFGA-155	155	PEIS/R	Table 2-7			CTS-2a: add DFG for obtaining approval of biological monitors.
DFGA-156	156	PEIS/R	Table 2-7			CTS-2b: if CTS surveys are not going to be conducted in accordance with agency approved protocols, then all potential CTS breeding ponds and uplands habitat with 1.3 miles of a potential breeding pond should be treated as occupied habitat and the appropriate avoidance, minimization, and mitigation measures (including the application for an ITP) should be discussed accordingly.
DFGA-157	157	PEIS/R	Table 2-7			CTS-3 should include mention of the fact that compensatory mitigation for loss of habitat and individuals will be developed through consultation with the USFWS and DFG through their respective permitting processes for "take".
DFGA-158	158	PEIS/R	Table 2-7			CTS, PALM, DBC, SWH, SJAS, SJKF, etc. should describe the need for consultation for issuance of an Incidental Take Permit from the Department prior to implementing any portion of the Project with the potential to impact any State listed species pursuant to Section 2081 of the Fish and Game Code.
DFGA-159	159	PEIS/R	Table 2-7			BNLL-1a: Should include avoidance measures such as identifying all potential BNLL burrows and flag and fence 100-foot no disturbance buffers, at a minimum, around all potential burrows. Add language from Fish and Game Code Sections 5050 that prohibits DFG from authorizing "take" of a fully protected species such as BNLL.
DFGA-160	160	PEIS/R	Table 2-7			DBC-3: As stated above, there is a possibility that removal of a significant portion of the known population of Delta button celery within the Project footprint may not be compensated enough to meet the fully mitigated standard that is required for issuance of an Incidental Take Permit by DFG.
DFGA-161	161	PEIS/R	Table 2-7			EAGLE-1: The bald eagle is a State fully protected species. DFG cannot authorize the take of the bald eagle; therefore, effective avoidance measures should be discussed. The 1/2 mile no Project-related disturbance buffer needs to be maintained throughout the breeding season (December 30 to July 1) or until the young have fledged and are no longer dependent upon the nest or parents for survival.

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		Document	Chapter/ Section	Page #	Line(s)	Comment
DFGA-162	162	PEIS/R	Table 2-7			SWH-1: Pre-construction surveys for Swainson's hawk should follow the acceptable survey protocol (Recommended timing and methodology for Swainson's hawk nesting surveys in California's Central Valley, Swainson's Hawk Technical Advisory Committee, May 31, 2000) that optimizes the potential for discovery of an active nest site.
DFGA-163	163	PEIS/R	Table 2-7			SWH-2a: If foraging habitat only 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. If the removal of habitat (nesting) could lead to indirect "take" of an individual, then the Project applicant would consult with DFG.
DFGA-164	164	PEIS/R	Table 2-7			SWH-2b: 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 Incidental Take Permitting process.
DFGA-165	165	PEIS/R	Table 2-7			RAPTOR-1: Please change dates for non-breeding general raptor period to September 16 through December 31.
DFGA-166	166	PEIS/R	Table 2-7			RAPTOR-2: DFG 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 DFG 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.
DFGA-167	167	PEIS/R	Table 2-7			BRO-1: Burrowing owl surveys should follow acceptable protocol (Burrowing owl survey protocol and mitigation guidelines, The California Burrowing Owl Consortium, April 1993).
DFGA-168	168	PEIS/R	Table 2-7			BRO-2a: DFG recommends following the Draft Staff Report on Burrowing owl Mitigation (1994) recommendations for mitigating impacts to burrowing owl.
DFGA-169	169	PEIS/R	Table 2-7			BRO-2b: 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.
DFGA-170	170	PEIS/R	Table 2-7			BAT-1a: Depending on bat species, suitable roosting habitat can consist of trees where they are found under loose bark, under leaves, and in cavities. Trees within 1/4 mile of Project activities should be included in bat pre-construction visual surveys.
DFGA-171	171	PEIS/R	Table 2-7			SJAS-2: Compensation requirements to fully mitigate for impacts to San Joaquin antelope squirrel will occur during the ITP process through DFG.

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DFGA-172	172	PEIS/R	Table 2-7			FKR-1a: Surveying for Fresno kangaroo rat requires the qualified biologist be appropriately permitted by DFG and the United States Fish and Wildlife Service. The protocol developed needs to be pre-approved by DFG and USFWS.
DFGA-173	173	PEIS/R	Table 2-7			FKR-1b: Please define the normal breeding season for Fresno kangaroo rat and cite the reference where it was described.
DFGA-174	174	PEIS/R	Table 2-7			FKR-3: Compensation requirements to fully mitigate for impacts to Fresno kangaroo rat will occur during the ITP process through DFG and through "take" consultation with the USFWS. However, the document needs to clearly quantify the expected level of impact to this species and a full analysis that the impact to FKR will not jeopardize the continued existence of the species. The Department is unclear how this could be accomplished in such a way that the impact could be fully mitigated.
DFGA-175	175	PEIS/R	Table 2-7			SJKF-1: Please cite the source for the breeding season for SJKF.
DFGA-176	176	PEIS/R	Table 2-7			SJKF-2: Compensation for habitat loss for SJKF will be determined through the "take" authorization process through DFG and USFWS.
DFGA-177	177	PEIS/R	Table 2-7			RHSNC-2: The Riparian Habitat Mitigation and Monitoring Plan description should state that it will be developed in consultation with DFG through the Lake and Streambed Alteration Agreement process.
DFGA-178	178	PEIS/R	Table 2-7			Regional Water Quality Control Board and DFG could have regulatory oversight of Waters of the State and should be included as a regulatory agency under WUS-1 and WUS-2.

Responses to Comments from the Department of Fish and Game Attachment A

DFGA-1: Text in Chapter 1.0, "Introduction," page 1-15, line 14, of the Draft PEIS/R, has been revised to reflect the potential for DFG to take discretionary action pursuant to the PEIS/R or a subsequent CEQA compliance document. Chapter 28.0, "Consultation, Coordination, and Compliance," pages 28-22 through 28-28, has been revised in response to the text provided in Department of Fish and Game Attachment B. See Chapter 4.0, "Errata," of this Final PEIS/R. DFG is a Responsible Agency under CEQA, and may take discretionary action pursuant to this document or for subsequent site-specific actions, including actions under Section 1602 of the California Fish and Game Code. Project proponents for subsequent site-specific projects (described at a program level in this PEIS/R) that could result in the alteration of stream features subject to Section1602, will apply for a Streambed Alteration Agreement from the DFG. Project-level actions detailed in this PEIS/R are not anticipated to result in the alteration of stream features and are therefore not anticipated to require a Section 1602 Streambed Alteration Agreement. The text revisions referenced in this comment are shown in an enclosure to DFG comments in Section 3.7.7 of this Final PEIS/R, Department of Fish and Game Attachment B, comments DFGB-1 through DFGB-4.

DFGA-2: Figure 6-1 on page 6-4 of the Draft PEIS/R has been revised in response to comment to show the Mendota Wildlife Area at the correct scale. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-3: Figure 21-4 on page 21-7 of the Draft PEIS/R has been revised in response to comment to show the Mendota Wildlife Area at the correct scale. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-4: Modifications to Mendota Pool and associated potential impacts are analyzed at a program level in the Draft PEIS/R. Site-specific study and compliance documentation is currently being completed through the Mendota Pool Bypass and Reach 2B Improvements Project. Potential effects on the sensitive biological resources of the Mendota Wildlife Area will be analyzed at a project level in that study and other subsequent site-specific studies pursuant to NEPA and/or CEQA, as appropriate, for all actions described at a program level in the PEIS/R with the potential to affect those resources. Text has not been revised.

DFGA-5: Comment noted. Modifying the point of diversion at the dam to provide additional flow to operate a new conservation facility would be addressed, as appropriate, in future project-level documentation. Text has not been revised.

DFGA-6: The section referenced, "Supplement Salmon Population," on page 2-44 of the Draft PEIS/R, describes a potential range of implementation measures under the action to supplement the salmon population. All action alternatives evaluated in the Draft PEIS/R include the potential construction and operation of a new conservation hatchery facility to assist in salmon reintroduction efforts (see page 2-43, lines 21 to 30, of the Draft PEIS/R). Since the preparation of the Draft PEIS/R, DFG has continued to refine its strategy for Chinook salmon reintroduction and has stated its intent to develop the San Joaquin River Salmon Conservation and Research Facility (Conservation Facility). The

specific function and design of the Conservation Facility is currently under development by DFG, although in this comment DFG states that the Conservation Facility is intended to establish and maintain a new salmon population and is not to be construed as a large-scale, ongoing production facility. The program-level description in the Draft PEIS/R of the action to supplement the salmon population is sufficiently broad to encompass the Conservation Facility and the *Hatchery and Genetics Management Plan* (SJRRP 2010a), and to allow a program-level impact assessment of this potential facility in the PEIS/R. Subsequent project-level analysis of the Conservation Facility pursuant to NEPA and/or CEQA would be required for constructing and operating the Conservation Facility, as for all actions described at a program level in the PEIS/R. Text has not been revised.

DFGA-7: Text in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, describes operations and maintenance of the Hills Ferry Barrier for the purpose of redirecting Chinook salmon and, incidentally, Central Valley steelhead, until completion of sufficient habitat and channel improvements to support salmonids. This text (page 2-29, lines 19-31) has been revised to incorporate the Steelhead Monitoring Plan (SJRRP 2011e), as adapted in coordination with NMFS (see Chapter 4.0, "Errata" of this Final PEIS/R). The Steelhead Monitoring Plan is included as Appendix B of this Final PEIS/R. Reclamation would continue to implement and adapt the Steelhead Monitoring Plan, which includes monitoring steelhead upstream from the Hills Ferry Barrier. If steelhead are detected upstream from the Hills Ferry Barrier, they would be collected and relocated downstream from the Merced River confluence. The Steelhead Monitoring Plan applies to Interim and Restoration flows and would not be implemented under high-flow conditions.

Long-term use of the Hills Ferry Barrier is unknown. It will be used to block anadromous fish species from moving upstream until the Restoration Area is considered ready for salmon reintroduction. After salmon reintroduction, it may be necessary to continue to use the Hills Ferry Barrier for salmon and steelhead management (e.g., the barrier may potentially be operated as a control structure to minimize interactions between spring- and fall-run Chinook salmon upstream after their populations become established). The Hills Ferry Barrier is physically capable of blocking upstream steelhead migration, although it is not in place during the period when steelhead would be more likely to occur in the area (mid-December through mid-February). The Hills Ferry Barrier can incidentally block Central Valley steelhead upstream migration. Reclamation and DWR will work with DFG to explore other methods of exclusion, as necessary.

DFGA-8: The effects of disease related to conservation facility operations are described at a program level of detail in Chapter 5.0, "Biological Resources – Fisheries," of the Draft PEIS/R, and will be evaluated at a project level of detail during subsequent site-specific studies. The potential for reintroduced Chinook salmon to serve as disease sources and result in a disease outbreak among wild fall-run Chinook salmon in major San Joaquin River tributaries is described on page 5-74 of the Draft PEIS/R under Impact FSH-11. This impact is anticipated to be less than significant, due primarily to Conservation Measure SRCS-1. Conservation Measure SRCS-1 requires that the SJRRP be operated so that actions in the vicinity of spring-run Chinook salmon habitat shall be done in accordance with existing operating criteria of the CVP and SWP, and prevailing

and relevant laws, regulations, BOs, and court orders in place at the time the actions are performed, and in coordination with NMFS and DFG, as appropriate. With regard to operation of the Conservation Facility and reintroduction of Chinook salmon, SRCS-1 and Paragraph 14 of the Settlement require compliance with any conditions of an ESA Section 10(a)(1)(A) permit for the reintroduction of spring-run Chinook salmon. Section 10 of the ESA allows for permits to be issued for direct take (10(a)(1)(A)) and "incidental take (10(a)(1)(B))." Under Section 10(a)(1)(A), the Secretary may permit any act otherwise prohibited by Section 9 for scientific purposes or to enhance the propagation or survival of the affected species, including, but not limited to, acts necessary for establishing and maintaining experimental populations.

As described in the *Draft Environmental Assessment for 10(a)(1)(A), Enhancement of the Species Permit Application for the collection and transport of Spring-Run Chinook for the San Joaquin River Restoration Program* (NMFS 2012), there is potential for eggs or juveniles translocated into the San Joaquin River to increase potential for disease transmission. However, project-level permit conditions will require specific methodologies for collecting, handling, and quarantining any eggs and fish prior to locating the eggs or fish to the San Joaquin River. Consequently, potential effects related to the introduction of disease to the existing populations would not be significant. Text has not been revised.

DFGA-9: As described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, all action alternatives include a range of potential actions to reduce redd superimposition or hybridization. The range of potential actions includes no modifications, the deployment of seasonal barriers, and separate runs of salmon, and also could include potential operation and monitoring of the Hills Ferry Barrier on a seasonal basis. These actions are described and analyzed at a program level of detail in the Draft PEIS/R. For these actions, subsequent project-level analyses pursuant to NEPA and/or CEQA would be conducted by the project proponent, as appropriate. Additionally, Appendix E, "Fisheries Management Plan," of the Draft PEIS/R describes the framework for addressing specific actions related to fisheries, including actions to address hybridization between fall-run and spring-run Chinook salmon in the Restoration Area, specifically Action I3 (page 5-38), Action L2 (page 5-43), and Action M1 (page 5-44). Additional guidelines and measures to protect genetic integrity of the runs will be provided in the *Hatchery and Genetics Management Plan* (SJRRP 2010a), which can be found on the program Web site, www.restoresjr.net.

Reclamation, DWR, and other Implementing Agencies acknowledge that implementing the Settlement will involve many challenges, some of which are not specifically addressed through provisions of the Settlement or the Act. Several comments reflect concern over the ability to achieve the Restoration and Water Management goals by implementing the provisions of the Settlement consistent with the Act, the overall likelihood of success of the SJRRP, or the likelihood of success of particular actions, such as reintroducing Chinook salmon (*Oncorhynchus tshawytscha*). The PEIS/R evaluates the potential impacts of implementing the Settlement consistent with the Act. The PEIS/R does not evaluate the feasibility of the Settlement, the likely efficacy of Settlement actions in achieving the Restoration or Water Management goals, or the

interactions of individual Settlement actions with other Settlement actions. Such evaluations could be undertaken in a feasibility study but, as described in further detail in MCR-1, "Analysis of Program Feasibility, Potential to Achieve Restoration and Water Management Goals," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, a feasibility study on implementing the Settlement consistent with the Act was not required before, or as a condition of, Settlement implementation. Accordingly, the potential for hybridization of reintroduced fall- and spring-run Chinook salmon is not evaluated in the PEIS/R. The PEIS/R does, however, present analysis of the potential for hybridization to occur between reintroduced salmon and salmonids that currently exist in San Joaquin River tributaries. See Chapter 5.0, "Biological Resources – Fisheries," of the Draft PEIS/R.

Text has not been revised.

DFGA-10: Text on page 5-96, lines 1 through 10, of the Draft PEIS/R, has been revised in response to comment and in response to additional information provided by DFG. The revised text clarifies that rainbow trout from the Stanislaus River have been previously detected with *Myxobolus cerebralis* (Modin 1998). *Myxobolus cerebralis* is a parasite that causes whirling disease in salmonids which is transmitted by the oligochaete host tubifex worm (*Tubifex tubifex)* (Wagner 2002). The tubifex worm has been identified as the only known host of *Myxobolus cerebralis*; other genera of oligochaetes have been tested, but did not produce infectivity for whirling disease (Markiw and Wolf 1983). Noteworthy is an aquatic worm harvesting operation at San Joaquin Fish Hatchery. The aquatic worms feed on the solid waste from the hatchery's effluent. DFG conducted preliminary investigations on the species composition at the site in 2009. Findings indicated that the dominant oligochaete harvested at the site is from the Family Lumbriculidae, although a small percentage of tubifex worms were observed (Adelizi pers. comm. 2011).

Although *Myxobolus cerebralis* is present in several watersheds in California, no adverse effects on salmon or trout populations have been observed in California (Modin 1998). In general, rainbow trout are more susceptible to the disease than steelhead (O'Grodnick 1979, Hoffman 1990). Furthermore, susceptibility to infection varies among stocks and individual fish (Markiw 1992). Therefore, the impact would be less than significant. See revisions in Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-11: This comment is substantially similar to comment DFGA-10. See response to comment DFGA-10.

DFGA-12: Text of page 5-12, lines 19 through 30, of the Draft PEIS/R, has been revised in response to this and other comments to clarify details regarding hybridization between species. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-13: Text of page 5-12, lines 19 through 30, of the Draft PEIS/R, has been revised in response to this and other comments to clarify details regarding hybridization between species. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-14: Text of page 5-12, lines 19 through 30, of the Draft PEIS/R, has been revised in response to this and other comments to clarify details regarding hybridization between species. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-15: Text on page 26 of the Executive Summary, on page 2-29, and in Table 2-6 on page 2-78 of the Draft PEIS/R has been revised to clarify that the period of operation of the Hills Ferry Barrier is September through mid-December, but may vary from historical operations under the action alternatives. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-16: The commenter refers to text listing species known to be present in Reach 1A at the time the Draft PEIS/R was prepared. No sources reviewed in preparation of the Draft PEIS/R identified a population of striped bass in Reach 1. The DFG 2007 document cited in the text indicates striped bass were collected downstream from the Merced River confluence and makes no reference to observed presence of striped bass in any portion of the Restoration Area, including Reach 1A. However, based on information provided by DFG (Eric Guzman, pers. com), text on page 5-23, lines 23-34 and in Appendix K, "Species Life History Timing," of the Draft PEIS/R has been modified to include striped bass in Reach 1. See Chapter 4.0, "Errata," of this Final PEIS/R. The inclusion of this discussion does not change the analysis or conclusions of the Draft PEIS/R.

DFGA-17: Unsuitable habitat in Reach 5 and annual installation of Hills Ferry Barrier (as described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R) typically precludes fall-run Chinook salmon passage into the lower reaches of the Restoration Area, although fish that migrate before or after the installation of the Hills Ferry Barrier can pass into the Restoration Area. Recently, some fall-run Chinook salmon have strayed into Reach 5 despite operation of Hills Ferry Barrier during the release of Interim Flows. The list of species documented in each reach does not include the recent strays because this occurrence is recent and temporary, and does not indicate that Reach 5 supports an assemblage of fish that includes fall-run Chinook salmon. Additionally, project-level actions under all action alternatives include implementation of monitoring and management activities to exclude and remove salmonids from the Restoration Area during the release of flows until sufficient habitat and channel improvements to support salmonids are complete, as described on page 2-29 of the Draft PEIS/R. Text has not been revised.

DFGA-18: The lines cited by the commenter refer to Sections 401 and 404 of the Clean Water Act, described under the Federal regulatory section, Section 5.3.1 of the Draft PEIS/R. Because the Clean Water Act is a Federal Act implemented by the State, it is only described under the Federal regulatory section. State laws and regulations are described in the State regulatory section, Section 5.3.2 of the Draft PEIS/R. Text has not been revised.

DFGA-19a: Text of page 5-33, lines 31 through 37 of the Draft PEIS/R has been revised in response to comment to include description of the SWRCB and RWQCBs. Note was added on the Porter-Cologne Water Quality Control Act following the California Water Code. See Chapter 4.0, "Errata," of this Final PEIS/R. The Porter-Cologne Water

Quality Control Act and responsibilities of the RWQCBs are further described in Chapter 28.0, "Consultation, Coordination and Compliance," of the Draft PEIS/R.

DFGA-19b: Text of page 5-33, lines 31-37, and page 28-28, between lines 1 and 2, of the Draft PEIS/R has been revised in response to comment to add a definition of "waters of the State" according to the California Water Code Section 13050(e). See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-20: Text of page 5-33, lines 31 through 37, of the Draft PEIS/R, has been revised in response to comment. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-21: Text of page 5-34, lines 1-4, of the Draft PEIS/R, has been revised in response to comment. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-22: Text of page 5-33, lines 31 through 37, of the Draft PEIS/R, has been revised to clarify that species of plants and animals need not be officially listed as Endangered, Rare, or Threatened on any Federal or State list to be considered Endangered, Rare, or Threatened under CEQA. Section 15380 of the CEQA Guidelines sets forth distinct definitions for Endangered, Rare, or Threatened species that encompass and expand on these designations under CESA. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-23: The geographic areas comprising the study area are described in Chapter 3.0, "Considerations for Describing the Affected Environment and Environmental Consequences," of the Draft PEIS/R. Figure 1-1 of the Draft PEIS/R shows the study area, including the San Joaquin River watershed. The upper watershed boundary is the study area boundary upstream from Friant Dam. Page 3-2 describes the San Joaquin River Upstream From Friant Dam. Potential impacts are analyzed for that area within each resource-specific chapter. Text has not been revised.

DFGA-24: River flow was not used as an environmental condition in the assessment of fish species identified in Table 5-6 of the Draft PEIS/R. River flow upstream from the Merced River is typically suitable in Reach 1 and downstream from Reach 1 until the river goes dry. Reaches where the river goes dry would have no fish and therefore no fisheries impacts due to river flow. Text has not been revised.

DFGA-25: Salmon Poisoning Disease can occur when dogs ingest freshwater fish, including salmon, steelhead and rainbow trout, infected with a bacteria (*Neorickettsia helminthoeca*) in combination with *Nanophyteus salmonicola*, a fluke. *Neorickettsia helminthoeca* live inside *Nanophyteus salmincola*. There are two intermediate hosts of *Nanophyteus salmincola* – freshwater snails (*Oxytrema plicifer*) and salmonids. Additionally, the disease is typically transmitted when dogs eat dead or dying raw fish (usually adult fish). Actions taken to prevent diseases during reintroduction using eggs or juveniles transferred from a hatchery in Northern California will not have any effect on preventing Salmon Poisoning Disease. Because rainbow trout currently occur in the San Joaquin River, there is already a risk of Salmon Poisoning Disease infecting dogs. However, if infected wild adults or juvenile Chinook salmon are captured and released,

there could be an increased risk of Salmon Poisoning Disease affecting dogs near the Restoration Area.

The spread of disease through reintroduction of infected fish would be addressed according to prevailing and relevant laws, regulations, BOs, and court orders in place at the time the actions are performed, including the requirements established in the Section 10(a)(1)(A) permit, as it is developed, and when applicable. Impacts of reintroduction would be further addressed during subsequent site-specific studies. Text has not been revised.

DFGA-26: As described in Chapter 5.0, "Biological Resources – Fisheries," of the Draft PEIS/R, the flow criteria referenced by the commenter and shown in Table 5-11 of the Draft PEIS/R are flows assumed to provide maximum habitat for each life stage of Chinook salmon and Central Valley steelhead, and do not reflect a requirement for or regulation on flows. These flow criteria, including the instream flow studies, were identified by NMFS based on several sources, including instream flow incremental methodology studies conducted to calculate maximum weighted usable area of habitat for each life stage (USFWS 1993, 1995, 1997), modeling conducted by DFG (2005), and information contained in the NMFS 2009 Recovery Plan (2009b). Changes in flow under the action alternatives compared to the No-Action Alternative were considered to result in a significant impact if those changes would cause the target flows to not be met during periods when the targets would otherwise have been met under the No-Action Alternative. As the commenter implies, sufficient habitat may exist over a range of flows; therefore, a flow below the target flows shown in Table 5-11 may still provide sufficient habitat. By evaluating the changes in flow against a target flow that provides maximum habitat, the impacts assessment provides a conservative estimate of potential impacts to tributary populations of the species under evaluation. Text has not been revised.

DFGA-27: Page 2-43 of the Draft PEIS/R identifies potential system effects associated with reintroducing Chinook salmon. USFWS submitted a 10(a)(1)(A) Enhancement of Species Permit application to NMFS on September 30, 2010, for collecting spring-run Chinook salmon for reintroduction to the San Joaquin River, consistent with the schedule identified in the Settlement. This application has been revised and resubmitted to NMFS in December 2011. NMFS conducts project-specific analyses under NEPA on the environmental effects of issuing permits under the authority of ESA Section 10(a)(1)(A), and has circulated the *Draft Environmental Assessment for 10(a)(1)(A), Enhancement of the Species Permit Application for the collection and transport of Spring-Run Chinook for the San Joaquin River Restoration Program* (NMFS 2012). As required by Section 10011 ("California Central Valley Spring Run Chinook Salmon") of the Act, NMFS will issue a final rule pursuant to ESA Section 10(j), as amended, to designate spring-run Chinook salmon reintroduced under the program as an experimental population, before the release of spring-run Chinook salmon into the San Joaquin River. Specific environmental effects related to reintroducing spring-run Chinook salmon would be addressed in the subsequent project-specific NEPA analysis, and possibly CEQA analysis, to evaluate the effects of authorizing the Section 10(j) Special Rule.

Releases of fall-run Chinook salmon conducted to date were designed to provide information on survival of juvenile Chinook salmon during their spring downstream migration through the Restoration Area, as described in the *2011 Final Annual Technical Report, Appendix E "Fisheries"* (SJRRP 2012c), available at www.restoresjr.net. This study used acoustic telemetry to identify and characterize three limiting factors for juvenile Chinook survival through the Restoration Area: predation, entrainment, and physical habitat. Understanding these limiting factors will be beneficial in identifying preferred methods for initial reintroduction efforts; assist in developing habitat enhancement projects; and help prioritize actions to reduce or eliminate mortality from predation, entrainment, and habitat impacts. These releases were relatively low in number and were not conducted with the expectation that these study fish would establish a self-sustaining population within the Restoration Area, and therefore do not constitute a reintroduction. Future studies of fall-run tracking are also not intended to establish a self-sustaining population within the Restoration Area. During the first year, only 38 percent of the fish released (72 juveniles) survived through the Restoration Area. Therefore, it is possible that a few study fish could return to the San Joaquin River, and if the Hills Ferry Barrier is removed, could enter and spawn in the Restoration Area. However, the return rate of adult fish is low; likely less than 10 fish may return to the Restoration Area between 3 and 5 years if the Hills Ferry Barrier is no longer in place.

The assumption that reintroduction would occur through passive straying established, for the purposes of impacts assessment, that fall-run Chinook salmon entering the Restoration Area would not pose a risk of compromising the genetic integrity of fall-run Chinook salmon populations already established on San Joaquin River tributaries. Active reintroduction of fall-run Chinook salmon, provided reintroduced individuals are selected from an existing San Joaquin River tributary population, would not change the impact assessment (see FSH-1 through FSH-9, FSH-12 through FSH-14, FSH-22 through FSH-29, and FSH-31 through FSH-39). Active reintroduction of fall-run Chinook salmon from a different river basin was not assessed in the Draft PEIS/R, and would require additional project-level analyses to determine potential impacts of such an action.

Text has not been revised.

DFGA-28: The commenter references Impact FSH-13 on pages 5-69 and 5-70 of the Draft PEIS/R. Impact FSH-13 assesses the program-level impacts of changes in water temperatures in the San Joaquin River between the Merced River and the Delta caused by recapture of Interim and Restoration flows. Project-level impacts related to the ability to meet water quality criteria, including water temperature criteria, in the San Joaquin River downstream from the Merced River confluence, are evaluated under Impact SWQ-5 in Chapter 14.0, "Hydrology – Water Quality," of the Draft PEIS/R. As described on page 14-27, below the Merced River confluence, monthly average San Joaquin River water temperatures would be similar to historical conditions, with increases of up to 1 percent from March through May and in November as a result of project-level actions. Overall, potential project-level surface water quality effects within the San Joaquin River from the Merced River to the Delta would not result in additional violations of existing water quality standards or substantial water quality changes that would adversely affect beneficial uses. Impact FSH-30 on pages 5-96 through 5-97 of the Draft PEIS/R

describes the potential for changes in Chinook salmon and steelhead habitat in the Merced, Tuolumne, and Stanislaus rivers as a result of project-level impacts. Because changes in water temperature and water quality as a result of project-level actions would be minor and less than significant, these changes are not further described under Impact FSH-30. Impact FSH-30 evaluates the potential for project-level actions to reduce flows on the Merced, Tuolumne, and Stanislaus rivers below those flows assumed to provide maximum habitat for each life stage of Chinook salmon and Central Valley steelhead, as described in response to comment DFGA-26. See response to comment DFGA-26 for additional information relevant to this comment. Text has not been revised.

DFGA-29: Table 1-2 in the Fish Species Occurring Upstream or Downstream from the San Joaquin River Restoration Program Area Attachment to Appendix K, "Biological Resources – Fisheries," of the Draft PEIS/R revised in response to comment. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-30: Table 1-2 in the Fish Species Occurring Upstream or Downstream from the San Joaquin River Restoration Program Area Attachment to Appendix K, "Biological Resources – Fisheries," of the Draft PEIS/R revised in response to comment. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-31: This comment is substantially similar to DFGA-16. See response to comment DFGA-16.

DFGA-32: The formatting standard used throughout the Draft PEIS/R is to define abbreviations and acronyms in the key below each table. Text has not been revised.

DFGA-33a: Existing infestations of invasive plant species (both those identified as a priority and other species) may be removed to reduce the establishment of new infestations or to support channel and native vegetation management actions. However, a number of factors would affect the decision to treat existing infestations, including cost and access considerations, and feasibility of eradication.

DFGA-33b: Existing infestations of invasive plant species (both those identified as a priority and other species) may be removed to reduce the establishment of new infestations or to support channel and native vegetation management actions.

DFGA-33c: Text of page 2-2, lines 27 through 29 of the Invasive Vegetation Monitoring and Management Plan Attachment to Appendix L, "Biological Resources – Vegetation and Wildlife," of the Draft PEIS/R, has been revised in response to comment. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-34: The management measures sections cross-referenced by this text are not included in the Draft PEIS/R and attachments. Text of page 2-2, lines 31 through 35 of the Invasive Vegetation Monitoring and Management Plan Attachment to Appendix L, "Biological Resources – Vegetation and Wildlife," of the Draft PEIS/R, has been revised in response to comment, removing the cross-reference. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-35: The Invasive Vegetation Monitoring and Management Plan Attachment to Appendix L, "Biological Resources – Vegetation and Wildlife," of the Draft PEIS/R, provides general procedures and thresholds for monitoring, eradication, and management responses to control the spread of invasive species. As stated in the plan, appropriate thresholds and eradication procedures are species-specific and would depend on the location of any new infestation. The details of monitoring, eradicating, and managing responses are being established and tested during the Interim Flows program initiated in 2009; results and updates are available at http://www.restoresjr.net. Text has not been revised.

DFGA-36: Further detail of invasive vegetation monitoring, thresholds, and control measures is related to and will be developed in conjunction with channel and native vegetation management actions of the Physical Monitoring and Management Plan (Appendix D of the Draft PEIS/R), and with the Riparian Habitat Monitoring and Management Plan to be developed in coordination with DFG as described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R. Text has not been revised.

DFGA-37: In the interest of managing redundancy and size of the PEIS/R, cross-references are minimized to the extent possible throughout the PEIS/R. It is anticipated that readers seeking information on the effects of changes in water quality on fisheries, vegetation and wildlife, land use planning and agricultural resources, recreation, socioeconomics, or other resources will refer to the chapters specific to those resource topics. Text has not been revised.

DFGA-38: The Executive Summary summarizes the Draft PEIS/R. Greater detail is not provided in the Executive Summary in the interest of managing document size. Enabling deployment of seasonal barriers at Mud and Salt sloughs pursuant to Paragraph 11(a) is a program-level restoration action common to all action alternatives, and is described in further detail on page 2-42 of the Draft PEIS/R. The type(s) of structures that would be deployed at Mud and Salt sloughs has not yet been determined; however, Appendix E, "Fisheries Management Plan," of the Draft PEIS/R describes the framework for addressing specific actions related to fisheries, including actions to deploy barriers at Mud and Salt sloughs (Appendix E, Action E1, pages 5-28 and 5-29). Text has not been revised.

DFGA-39: Appendix D, "Physical Monitoring and Management Plan" of the Draft PEIS/R provides guidelines for observing and adjusting to changes in physical conditions within the Restoration Area. Monitoring and management guidelines related to biological conditions for fish are described separately in Appendix E, "Fisheries Management Plan," of the Draft PEIS/R. Text has not been revised.

DFGA-40: Comment noted. The comment is consistent with the text in Table ES-6 and Table 2-7, Conservation Measure VP-3, part "a," which states that mitigation banks must be approved by the applicable regulatory agency/agencies, and lists DFG as a regulatory agency for this measure.

DFGA-41: Selection of a preferred alternative is not explicitly discussed in the description of State CEQA Guidelines in Chapter 1.0, "Introduction," of the Draft PEIS/R. Rather, identification of a preferred alternative (as explicitly discussed in the referenced CEQ Regulations) is in keeping with State CEQA Guidelines overall. Text has not been revised.

DFGA-42: Comment is understood to refer to Section 1600 of the California Fish and Game Code, which is included in Chapter 1.0, "Introduction" of the Draft PEIS/R, Table 1-3 in the resource row for "Wetlands, Waters of the United States, and Federal Levees." Text has not been revised.

DFGA-43: Reclamation and DWR believe the text of page 2-43, lines 31 through 39, of the Draft PEIS/R, addresses the commenter's concerns. The first sentence of this paragraph states that the PEIS/R "identifies potential *system* effects associated with reintroducing salmon" (emphasis added.) The remaining text goes on to discuss the relevant permits that must be obtained and the final rule that must be issued by NMFS. Page 2-43 then concludes with the statement referenced by the commenter, namely, that "specific" environmental effects would be evaluated in subsequent environmental documents. In other words, this PEIS/R contains a program-level evaluation of the impacts of reintroducing fall- and spring-run Chinook salmon; project-level evaluations would be contained in future environmental documents. Therefore, the text cited by the commenter on pages 1-1 and 2-43 of the Draft PEIS/R does not conflict, and no changes to the Draft PEIS/R are necessary.

DFGA-44: Comment refers to integrated floodplain habitat as part of actions to increase capacity in Reach 4B1 to at least 4,500 cfs, consistent with Settlement Paragraph 11(b)(1). Paragraph 11(b)(1) actions are included in Alternatives A2, B2, and C2 and not included in Alternatives A1, B1, or C1. This is clearly shown in several places in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, including the referenced list of bullet point summaries, Tables 2-1 and 2-2, and the full-length descriptions of each alternative presented in Chapter 2.0 of the Draft PEIS/R. Text has not been revised.

DFGA-45: Existing conditions are described generally in Chapter 3.0, "Considerations for Describing the Affected Environment and Environmental Consequences," of the Draft PEIS/R, and in detail for each resource topic presented in Chapters 4.0 through 26.0. Text has not been revised.

DFGA-46: Comment noted. As discussed in detail in MCR-4, "Segmentation under NEPA and CEQA," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, and on pages 1-9 through 1-11 of the Draft PEIS/R, the PEIS/R contains an analysis of the entire SJRRP at a program level. It also includes a project-level analysis of the release, conveyance, and recapture of Interim and Restoration flows under the SJRRP when additional detailed information was available sufficient to permit such an analysis. A major program such as the SJRRP is made up of numerous actions to be implemented over a long period of time. The PEIS/R represents a good faith effort to reasonably evaluate and disclose the environmental effects of the whole of the SJRRP. The Draft PEIS/R evaluates at a program level potential direct, indirect, and cumulative impacts of

the whole of the SJRRP on the environment that could result from implementing the Settlement consistent with the Act. The Draft PEIS/R also analyzes at a project level of detail the potential direct, indirect, and cumulative impacts that could result from implementing certain aspects of the Settlement, including release, conveyance, and recapture of Interim and Restoration flows. In addition, the Draft PEIS/R includes feasible mitigation measures to avoid, minimize, rectify, reduce, or compensate for significant adverse impacts.

These multiple levels of analysis are appropriate and proper under NEPA and CEQA. In fact, CEQA specifically allows that an EIR should focus on the level of detail that is inherent in the project description. The more that is known about the project, the greater the level of detail called for in an EIR. More specifically, Section 15146 of the State CEQA Guidelines, establishes that "[t]he degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR." This guideline goes on to direct that "[a]n EIR on a construction project will necessarily be more detailed in the specific effects of the project than will be an EIR on the adoption of a local general plan or comprehensive zoning ordinance because the effects of the construction can be predicted with greater accuracy," but that "[a]n EIR on a project such as the adoption or amendment of a comprehensive zoning ordinance or a local general plan should focus on the secondary effects that can be expected to follow from the adoption or amendment, but the EIR need not be as detailed as an EIR on the specific construction projects that might follow." As such, the differentiation in the level of analysis between certain parts of the proposed SJRRP is entirely proper under CEQA and does not represent piecemeal analysis or "segmentation" of the project.

As described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, reintroduction of Chinook salmon was included in all of the action alternatives, and the impacts of reintroduction of Chinook salmon were evaluated at a program level of detail. This assessment was based on the best available information at the time the Draft PEIS/R was prepared and analyzes impacts of reintroducing Chinook salmon on all resource areas included in the Draft PEIS/R (see Chapters 4.0 through 26.0 of the Draft PEIS/R). The Draft PEIS/R states that for all actions evaluated at a program level of detail, subsequent NEPA and/or CEQA analysis would be required (see page 1-10, lines 3 through 20, of the Draft PEIS/R).

Additional information on reintroducing spring- and fall-run Chinook salmon is provided below. This information merely clarifies the description of salmon reintroduction provided on page 2-43 of the Draft PEIS/R and does not result in new significant environmental impacts, a substantial increase in the severity of an environmental impact, or create a feasible project alternative or mitigation measure that would clearly lessen environmental impacts. Spring-run Chinook salmon reintroduction activities could include donor stock collection, transportation, and reintroduction into the San Joaquin River, and development of a hatchery broodstock and juvenile rearing at the proposed Conservation Facility (described below) that would be regulated by a NMFS 10(a)(1)(A) Enhancement of the Species Permit with concurrence, if appropriate, by DFG through its authority in Fish and Game Code Section 2080.3. A component of the 10(a)(1)(A)

Enhancement of the Species Permit is the *Hatchery and Genetics Management Plan*, which would guide management of the genetic diversity of the spring-run hatchery population (SJRRP 2010a). Consistent with the Act, spring-run Chinook salmon would be reintroduced under a Section 10(j) ESA experimental population designation and be managed by 4(d) regulations. DFG has the ability to issue concurrences on the 10(j) and 4(d) rules if certain conditions are met (Fish and Game Code Section 2080.4).

DFGA-47: This comment is substantially similar to comment DFGA-46. See response to comment DFGA-46. The following response is provided regarding the suggestion of the commenter to consider how tributaries to the San Joaquin River may be affected by the action to reintroduce fall- and spring-run Chinook salmon.

As described in the *10(a)1(A), Enhancement of Species Permit Application for the Reintroduction of Central Valley Spring-Run Chinook Salmon into the San Joaquin River* dated September 30, 2010, prepared by USFWS and the revised permit application dated December 2011, the collection of spring-run Chinook salmon stock from multiple donor systems for reintroduction into the San Joaquin River is envisioned. San Joaquin River spring-run Chinook salmon population genetics would be managed at the proposed Conservation Facility pursuant to the *Hatchery and Genetics Management Plan*, and a subset of collected individuals would be used as broodstock. Genetics of Chinook salmon released directly to the river would also be managed by a genetics management plan. Potential donor systems include Butte Creek, Mill Creek, Deer Creek, Battle Creek, Clear Creek, and the Yuba, Stanislaus, and Mokelumne rivers, along with the Feather River Fish Hatchery. Fish may also be collected from salvage locations and trawls in the Delta region. Collections of spring-run Chinook salmon stock from multiple donor systems would be carried out in such a manner as to not adversely impact donor systems. Fall-run Chinook salmon reintroduction activities could include active reintroduction (actively select donor stock and reintroduce them to the river) or passive reintroduction (allow fall-run Chinook salmon from other tributaries to stray into the San Joaquin River). In the event that active fall-run Chinook salmon reintroduction is conducted, fall-run Chinook salmon donor stock source(s) would be needed. Although specific sources have not been determined at this time, possible donor stock sources include wild and hatchery fish from the San Joaquin River and Sacramento river basins including the Feather River Hatchery, Merced River Hatchery, or other hatcheries; wild or hatchery strays within the San Joaquin River watershed; and broodstock from the Interim Conservation Facility. If active reintroduction is pursued, a stock selection document would be developed to guide decision making for selecting fall-run Chinook donor stock source(s). Collections would be conducted in a manner similar to spring-run Chinook salmon collections to prevent adverse impacts on donor systems. Collection methods may include in-river or hatchery collection of eggs, juveniles, and adults. Eggs may be collected from hatcheries or from in-river collections using methods including redd pumping, redd excavation, remote site egg-take, streamside egg collection, and holding of unripe adults to be spawned at a later date. Juveniles may be collected from hatcheries, seining, rotary screw traps, electrofishing, minnow traps, trawls, fyke nets, and monitoring/salvage operations. Adults may be collected from hatcheries, direct transfers, and remote-site egg-take stations. It is unknown at this time which methods may be used and in which system. Whether spring-run or fall-run, collected Chinook salmon individuals would be brought

to a quarantine facility for pathology studies. Donor stock would then be either released directly into the San Joaquin River or sent to the proposed Conservation Facility for the captive broodstock program.

The SJRRP would use a multi-strategy approach, when feasible, for Chinook salmon reintroduction, which would include direct release of individuals, indirect release, and translocation. Direct release would include the transport of various life stages for direct reintroduction to the San Joaquin River. Transport of Chinook salmon eggs, juveniles, or adults from donor systems directly into the San Joaquin River (after quarantine) for release/reintroduction could occur. Release of spring-run Chinook salmon eggs, juveniles, or adults produced at the proposed Conservation Facility into the San Joaquin River could also occur and would be implemented consistent with the *Hatchery and Genetics Management Plan* (SJRRP 2010a). Indirect releases could include such actions as planting eggs in streamside incubators or instream incubators; releases of juveniles could include using streamside holding tanks or ponds for the purposes of imprinting and rearing. Fish translocation involves collecting fish from donor streams to be introduced directly into the San Joaquin River. The Draft PEIS/R includes the possibility that a new hatchery would be constructed to assist in salmon reintroduction efforts (see page 2-43, lines 21 to 30, of the Draft PEIS/R). Since preparation of the Draft PEIS/R, DFG has proposed to develop the San Joaquin River Salmon Conservation and Research Facility (Conservation Facility) to amplify collected numbers and supplement translocations of spring-run Chinook salmon and conduct research. The Conservation Facility would be designed to raise Chinook salmon for release (eggs and juveniles) or for brood stock (adults), which would be kept in captivity for future breeding. If constructed, the Conservation Facility would operate under the guidance of the *Hatchery and Genetics Management Plan* (SJRRP 2010a). Any revisions to the hatchery operations would be guided by the Hatchery and Monitoring Technical Team (Technical Team), meeting twice a year or more, as needed, to review program success and critical actions including: production numbers, newly restored habitat sites, results of previous reintroduction efforts, direction of program into new locations and/or continued planting in current reintroduction areas, and other monitoring results (SJRRP 2010a).

See also MCR-4, "Segmentation under NEPA and CEQA," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, for additional information relevant to this comment.

DFGA-48: This comment is substantially similar to comment DFGA-47. See response to comment DFGA-47. As discussed in response to comment DFGA-47, all program-level actions presented in the PEIS/R, including salmon reintroduction, would require additional analysis pursuant to NEPA and CEQA during subsequent, site-specific studies. See also MCR-4, "Segmentation under NEPA and CEQA," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R for additional information relevant to this comment.

DFGA-49: Comment noted. Historical habitat is discussed in Section 5.1.1, "Historical Aquatic Habitat Conditions," of the Draft PEIS/R, beginning on page 5-2. In the interest

of managing redundancy and size of the PEIS/R information that is not necessary to the purposes of the PEIS/R is not included. Text has not been revised.

DFGA-50: Comment noted. Source documents and assumptions for each resource topic impact assessment are described in Chapters 4.0 through 26.0 of the Draft PEIS/R. Where additional relevant analysis has been made available, it has been cited in Chapter 3.0, "Individual Comments and Responses," or Chapter 4.0, "Errata," of this Final PEIS/R. Analysis not included in this PEIS/R pertains to project-level documentation of actions analyzed in this PEIS/R at the program level and would be provided in future site-specific studies.

DFGA-51: The PEIS/R is organized in a manner conventional for most joint NEPA/CEQA documents, with the potential impacts of all project actions grouped by resource topic rather than by action. This approach is designed to best serve the purpose of the PEIS/R in disclosing the potential direct, indirect, and cumulative impacts of implementing the Settlement, as directed by the Act, consistent with NEPA/CEQA requirements. While a different organizational structure such as that recommended by the commenter may have facilitated review of PEIS/R content during implementation of subsequent site-specific projects, such a structure would have made the document cumbersome for review as a public disclosure document. The structure and content of the Draft PEIS/R was developed through an iterative process that included incorporation of comments received from DFG. The potential impacts of reintroducing spring-run Chinook salmon are analyzed as a program-level action. The potential impacts of this action on each resource topic are addressed in Chapters 4.0 through 26.0 of the Draft PEIS/R, where appropriate, as part of the discussion of program-level impacts presented in those chapters.

DFGA-52: The text referred to in the comment discusses Conservation Measure DBC-1, part (b), which would establish a Delta button-celery conservation plan in collaboration with DFG and other species experts. The Delta button-celery conservation plan is part of, but not the same as, the Conservation Strategy for Delta button-celery. Text has not been revised.

DFGA-53: Reclamation will continue releasing Interim and Restoration flows from Friant Dam and those flows will be conveyed through the Eastside and Mariposa bypasses as there is little to no capacity to convey flows in the Reach 4B1 channel. The permanent use of these bypasses for implementing the Settlement would be determined as part of the Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project. In most areas of the bypasses, flows of up to 1,500 cfs would remain in the main channel (see Conservation Measure DBC-1 in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R). Text has not been revised.

DFGA-54: As stated in the Draft PEIS/R, the Implementing Agencies acknowledge that additional analysis pursuant to NEPA and/or CEQA will be required in the future for activities addressed at a program level in this Draft PEIS/R (including those referenced in the comment), after appropriate and detailed information on specific actions is available. Further discussion of recreation angling and the Kings River relevant to this comment

can be found in MCR-9, "Recreation Impacts and Kings River," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R. Text has not been revised.

DFGA-55: Mitigation Measure REC-5 would enhance remaining warm-water fishing opportunities or create new opportunities in the Reach 1 vicinity. Specific actions to enhance warm-water fishing opportunities would be developed in cooperation with SJRC, SJRPCT, DFG, Fresno County, and other agencies participating in management of the San Joaquin River Parkway, as described in Chapter 21.0, "Recreation," of the Draft PEIS/R. Enhancement actions could include improvements to facilities such as Sycamore Island Park (owned by SJRC and operated by a concessionaire) and Woodward Park (owned and operated by the City of Fresno), where warm-water fishing opportunities exist and will remain. Creation of new opportunities could occur at existing ponds, including enhancing and stocking of existing ponds, such as those within the River West – Fresno (Spano River Ranch) and River West – Madera (Proctor-Broadwell-Cobb property) San Joaquin River Parkway sites, where plans for restoration and recreational access are being developed (City of Fresno 2011, Madera County 2011), or through development of new ponds in the vicinity of the parkway but in locations that would not create potential conflicts with Settlement goals. In addition, DFG would conduct project-level analyses in compliance with CEQA and in accordance with CEQA Guidelines Section 777.8 et seq. that would evaluate and determine potential impacts and mitigation measures for recreational issues. Further discussion of recreation angling relevant to this comment can be found in MCR-9, "Recreation Impacts and Kings River," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R. Text has not been revised.

DFGA-56: Reclamation and DWR recognize that DFG, responding to past declines in fish populations, including salmon, has closed the salmon sport fishery on the San Joaquin River from Friant Dam to Mossdale (and on the San Joaquin River tributaries) since 2008. This closure was extended through February 29, 2012, as a "precautionary" measure (CFGC 2011, DFG 2011a and 2011b). However, if salmon stocks improve such that DFG reopens the salmon sport fishery on the San Joaquin River above Mossdale, a greater number of migrating salmon in the San Joaquin River between the Merced River and the Delta as a result of implementing the Settlement would enhance fishing opportunities in that area. This potential impact is described as less than significant and beneficial in the Draft PEIS/R (Impact REC-8). As noted in Impact REC-4, DFG may elect to impose new restrictions or close portions of the San Joaquin River to reduce the likelihood of anglers inadvertently catching salmon or intentionally poaching salmon. In these cases, DFG would develop project-level environmental documents to comply with CEQA before implementing new regulations. See also MCR-9, "Recreation Impacts and Kings River," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R. Text has not been revised.

DFGA-57: Comment is assumed to refer to the Merced, Tuolumne, and Stanislaus rivers. Temperature modeling performed in support of the analyses in the PEIS/R does not include temperatures on these rivers. Implementing the Settlement could affect temperatures by affecting flows in these tributaries. Temperatures in the tributaries are discussed and analyzed qualitatively in Chapter 5.0, "Biological Resources – Fisheries," and in Chapter 14.0, "Hydrology – Surface Water Quality," of the Draft PEIS/R. As

described in Chapter 5.0, "Biological Resources – Fisheries," of the Draft PEIS/R, flows in the tributaries are regulated and managed to provide adequate habitat for anadromous fish; impacts of the action alternatives on the ability to meet these requirements would be less than significant. Text has not been revised.

DFGA-58: The project-level actions described in the PEIS/R and summarized on pages ES-5 and ES-6 of the Draft PEIS/R are those actions described in the PEIS/R at a project level of detail. Additional actions, termed program-level actions, are described only at a program level of detail in the PEIS/R; for these actions, subsequent project-level analyses pursuant to NEPA and/or CEQA would be conducted by the project proponent, as appropriate. For a more detailed discussion of the use of project- and program-level analyses and terminology in this PEIS/R, please refer to the discussion in section 1.2.3, "Type of Environmental Document," of the Draft PEIS/R beginning on page 1-7. Text has not been revised.

DFGA-59: Analysis of how implementation of the Settlement would affect Delta exports is provided where relevant throughout Chapters 4.0 through 26.0, consistent with NEPA and CEQA. Operational modeling conducted in support of the Draft PEIS/R analyses was sufficient to support the qualitative evaluation of potential impacts to fish in the Delta, including salmonids, as described in Chapter 5.0, "Biological Resources – Fisheries," of the Draft PEIS/R. The qualitative analysis of potential impacts to fish in the Delta, as presented in Chapter 5.0 of the Draft PEIS/R, focuses on the south Delta. As described on page 5-63 of the Draft PEIS/R, the action alternatives are expected to affect distributions of Delta fish and, thus, the environmental conditions to which they are exposed. The south Delta is the portion of the Delta where fish distributions would be most directly affected by the program alternatives because changes in San Joaquin River flow and diversions at C.W. "Bill" Jones Pumping Plant (Jones Pumping Plant) and Harvey O. Banks Pumping Plant (Banks Pumping Plant) would occur in the south Delta. While physical impacts to the central Delta would also occur from Interim and Restoration flows reaching the Delta, and any recapture of those flows through Delta exports in the south Delta, these impacts would not be as pronounced, and are covered entirely through the focus on south Delta impacts.

Accordingly, the qualitative analysis of potential impacts to fish in the Delta largely focuses on relative changes in exports, San Joaquin River inflows, and Old and Middle river reverse flows, similar to the discussions presented in the comment as well as X2 position. This includes analysis of changes in water temperatures and dissolved oxygen concentrations (Impact FSH-31 beginning on page 5-98), changes in pollutant discharge and mobilization (Impact FSH-32 on page 5-100), changes in sediment discharge and turbidity (Impact FSH-33 beginning on page 5-100), changes in fish habitat conditions (Impact FSH-34 on page 5-101), changes in diversions and entrainment (Impact FSH-35 beginning on page 5-101), changes in predation levels (Impact FSH-36 beginning on page 5-104), changes in food web support (Impact FSH-37 beginning on page 5-106), salinity changes (Impact FSH-37 on page 5-107), and changes to inflow and flow patterns (Impact FSH-39 beginning on page 5-107). As described on page 5-101 of the Draft PEIS/R, Alternatives A1 through C2 would increase Delta exports during most months and water year types. The increased diversions alone would result in higher entrainment

risks for fish located in the south Delta. However, increased San Joaquin River inflows, and ratios of the inflows to reverse flows estimated for Alternatives A1 through C2, are expected to result in no net change in fish entrainment. As described on page 5-66 of the Draft PEIS/R, the effects of program alternatives on the flow patterns were simulated using CalSim-II operations model predictions of San Joaquin River flow at Vernalis and combined Old and Middle rivers flow. The ratio of San Joaquin River inflow to reverse Old and Middle rivers flow was used to evaluate the net effect of these flows. Increases in the ratio were considered to reduce the probability of fish entering or remaining in the south Delta. The ratios were computed only for months and years when Old and Middle river flows were negative (i.e., reversed) because only negative flows moved fish towards the south Delta. Changes in Delta exports would occur within the existing regulations governing Delta exports to protect species, and thus no new restrictions to prevent harm are anticipated. Text has not been revised.

DFGA-60: Page 45 of the Executive Summary of the Draft PEIS/R, cited in the comment, states that "The range of potential Restoration actions pursuant to Paragraph 12 spans from no modifications to the following modifications…" This statement and the examples provided for Paragraph 12 actions are necessary to bracket the full range of potential implementations in order to allow for analysis of the potential impacts of the program. Removal of nonnative vegetation, while not explicitly identified as a Paragraph 12 action, could occur within the described range of actions, most likely as part of actions to enhance floodplain habitat. As with any action described at a program level in the PEIS/R, subsequent NEPA and/or CEQA documentation would be prepared by the project proponent to determine the potential impacts of this action as part of a subsequent site-specific study. This would be separate from invasive species removal identified as part of the Conservation Strategy described in Chapter 2.0, "Description of Alternatives." Text has not been revised.

DFGA-61: With implementation of the Settlement, the period in which the Hills Ferry Barrier is in place could change from historical operations (described earlier in the same chapter), and could be in place during construction activities. Text of page 2-29, lines 19-31 and under Conservation Measure EFH-1 in Table ES-6 and Table 2-7, revised to clarify potential change in operations of the Hills Ferry Barrier. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-62: Suggested text revisions have not been incorporated as channel topography changes pursuant to this Conservation Measure could exceed the areas identified in the suggested revision. See Chapter 3.0, "Considerations for Describing the Affected Environment and Environmental Consequences," and Chapter 5.0, "Biological Resources – Fisheries," of the Draft PEIS/R, for more detailed discussions of the effects of mining activities on predator habitat. Text has not been revised.

DFGA-63: Table ES-7 shows simulated long-term average annual water supply reductions resulting from the release of Restoration Flows in accordance with the requirements specified in Exhibit B of the Settlement. Simulated releases for Interim and Restoration flows are based on the historical unimpaired runoff to Friant Dam from October 1921 through September 2003. The quantity shown in Table ES-7 does not

include simulated releases for flood control that would meet flow requirements under Exhibit B of the Settlement, and is therefore smaller than the annual flow requirements identified in Exhibit B of the Settlement. In addition, Reclamation makes releases from Friant Dam to maintain continuous flows past Gravelly Ford, providing deliveries to "holding contracts" in Reach 1. Releases for holding contracts that would meet flow requirements under Exhibit B of the Settlement are also not included in the quantity shown in Table ES-7. For more information on the methodology of simulations used to determine this information, please refer to Appendix H, "Modeling," of the Draft PEIS/R. Table ES-7 in the Executive Summary has been revised to clarify that "Releases for Interim and Restoration Flows" are computed as the difference between the minimum No-Action Alternative releases from Millerton Lake to the San Joaquin River less releases for flood control (nonflood releases under the No-Action Alternative), and the releases to the San Joaquin River with implementation of the action alternatives less releases for flood control (nonflood releases under the action alternatives). See Chapter 4.0, "Errata," of this Final PEIS/R.

The commenter states that the "Settlement . . . expires in 2025" and that "fishery flows may be increased after 2025." There is no expiration date in the Settlement and implementation of the Settlement would continue after 2025. Paragraph 20 of the Settlement outlines a specific process for possible future changes to the Restoration Flows. It is speculative at this time to assume that Restoration Flows would change in the future.

DFGA-64: The analysis presented is considered sufficient for the program-level analysis of these actions presented in the Draft PEIS/R. Subsequent site-specific studies of program-level actions would provide more detailed analyses, as appropriate.

Impact FSH-12 is analyzed in Chapter 5.0, "Biological Resources – Fisheries," of the Draft PEIS/R. Impact FSH-12 on pages 5-75 and 5-76 of the Draft PEIS/R discusses the potential for changes in diversions and entrainment of existing fish populations in the San Joaquin River between the Merced River and the Delta at the program level for Alternatives B1 and B2 (page 5-75) and Alternatives C1 and C2 (page 5-76). Increased pumping at locations between the Merced River and the Delta may increase the potential for entrainment of existing fish species into the pumps and canals. Existing CVP-contractor diversion facilities in this area include existing or planned fish screens. All new diversion facilities would be constructed and operated in accordance with existing operating criteria, prevailing and relevant laws, regulations, BOs, and court orders in place at the time the program action is performed. This would include constructing a fish screen at any new diversion facility, consistent with NMFS and DFG standards for fish screens that reduce entrainment and predation. This impact would be less than significant. Impacts of actions analyzed at the program level in the PEIS/R would be analyzed at the project level in future site-specific documentation.

Commenter suggests additional analysis of potential effects to Chinook salmon, which are not evaluated in the PEIS/R. As described in MCR-1, "Analysis of Program Feasibility, Potential to Achieve Restoration and Water Management Goals," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, the PEIS/R does not evaluate

the feasibility of implementing the program or the efficacy of meeting the Restoration and Water Management goals. See MCR-1 in Chapter 2.0 of this Final PEIS/R for additional information relevant to this comment. Text has not been revised.

DFGA-65: Impact PHH-4, on page 20-21 of the Draft PEIS/R, is the program-level impact "Exposure to Diseases," which does not include the effects of replacing standing water with flowing water. Impact PHH-9 addresses "Exposure to Diseases" due to project-level impacts and includes the effects of increased inundation in the Restoration Area. See Chapter 20.0, "Public Health and Hazardous Materials," of the Draft PEIS/R, for the full impact discussion. Text has not been revised.

DFGA-66: Mitigation Measure REC-5 would enhance remaining warm-water fishing opportunities or create new opportunities in the Reach 1 vicinity. Specific actions to enhance warm-water fishing opportunities would be developed in cooperation with SJRC, SJRPCT, DFG, Fresno County, and other agencies participating in management of the San Joaquin River Parkway, as described in Chapter 21.0, "Recreation," of the Draft PEIS/R. Enhancement actions could include improvements to facilities such as Sycamore Island Park (owned by SJRC and operated by a concessionaire) and Woodward Park (owned and operated by the City of Fresno) where warm-water fishing opportunities exist and will remain. Creation of new opportunities could occur at existing ponds, including enhancing and stocking of existing ponds, such as those within the River West – Fresno (Spano River Ranch) and River West – Madera (Proctor-Broadwell-Cobb property) San Joaquin River Parkway sites, where plans for restoration and recreational access are being developed (City of Fresno 2011, Madera County 2011), or through development of new ponds in the vicinity of the parkway but in locations that would not create potential conflicts with Settlement goals. See also MCR-9, "Recreation Impacts and Kings River," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, for additional information relevant to this comment.

DFGA-67: Reasonably foreseeable water transfers are accounted for in the surface water operations modeling, described in the CalSim Assumptions for Existing Conditions and No Action Alternative Attachment to Appendix G, "Plan Formulation," of the Draft PEIS/R. Other potential short-term interbasin water transfers are not considered reasonably foreseeable and therefore are not included in the cumulative impacts assessment.

Application of river temperature modeling was limited to the extent of the Restoration Area to limit the introduction of uncertainty to a level deemed acceptable for the analyses these simulations support. The analysis of potential water temperature impacts in the San Joaquin River downstream from the Merced River confluence was based on simulated water temperatures from Friant Dam to the Merced River confluence and measured water temperatures at downstream locations.

Application of the water temperature model requires identification or assumption of daily reservoir operations and resulting river flows for the controlling reservoir(s) for the geographic portion of the model being applied. Within the Restoration Area, where water temperatures are most directly affected by implementation of the Settlement, monthly

water operations from CalSim-II were disaggregated into daily water operations that are still bound by overall monthly limits. The Millerton Daily Operations Model was used to simulate daily water operations of Millerton Lake. This model, developed in Excel, interpolates between the monthly CalSim-II boundary conditions (including inflow, diversions, and long-term snowmelt flood releases) to generate a potential set of daily values that are consistent with the CalSim-II monthly values to achieve mass balance. The daily operation data were then used with a simplified flood routing procedure to generate a set of simulated daily releases from Millerton Lake to the San Joaquin River. The resulting daily Millerton Lake operations are used in the Millerton Lake and San Joaquin River temperature models to simulate water temperatures within the Restoration Area.

This process of disaggregation, described in Appendix H, "Modeling," of the Draft PEIS/R necessarily introduces some uncertainty into the water temperature results. This level of uncertainty was deemed acceptable within the Restoration Area, where Friant Dam operations are limited to the relatively simple condition of a single, independently operated reservoir.

Running the temperature model for the San Joaquin River and tributaries downstream from the Merced River would require disaggregating monthly operations of the jointly operated system of reservoirs located on the tributary rivers to get daily values suitable for use in the temperature model. The uncertainty associated with defining the operations of the system of reservoirs located on the tributary rivers, compounded by the uncertainty introduced through the disaggregation process, was deemed unacceptable for use in evaluating potential impacts in the Draft PEIS/R. Instead, use of the temperature model for impact evaluation was constrained to the Restoration Area. Downstream from the Restoration Area, the analyses presented in the Draft PEIS/R compare simulated water temperatures from Friant Dam to the Merced River confluence and measured water temperatures at downstream locations to evaluate water temperature impacts. Text has not been revised.

DFGA-68: The text describing the Water Management Goal, referenced by the commenter, provides a brief summary of the two goals of the Settlement, and is not intended to comprehensively describe all portions of the Settlement pertaining to the implementation of these goals. In the interest of managing redundancy and size of the PEIS/R, repetition of identical language between chapters and between descriptions of the action alternatives is minimized throughout the PEIS/R. This language is included in the part of the document where it was deemed to provide the most clarity, Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R. Text has not been revised.

DFGA-69: As described in MCR-3, "Order and Schedule of Implementing Settlement Actions," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, the Settling Parties have recently developed a Third-Party working draft *Framework for Implementation* (SJRRP 2012b) for the SJRRP. The *Framework for Implementation* outlines the actions to be taken to implement the SJRRP and presents a schedule and budget for these actions. The *Framework for Implementation* schedule was developed with input from water agencies/districts and landowners downstream from Friant Dam

who may be affected by implementation of the Settlement, and is intended to be protective of these Third-Party interests while meeting the requirements of the Settlement for expeditious action. The *Framework for Implementation* also provides an accounting of future funding needs and the remaining funds available to implement the SJRRP. The *Framework for Implementation* can be found on the SJRRP Web site at www.restoresjr.net. While the *Framework for Implementation* presents a revised schedule for implementation of the Settlement, it does not result in new significant environmental impacts, a substantial increase in the severity of an environmental impact, or create a feasible project alternative or mitigation measure that would clearly lessen environmental impacts.

DFGA-70: Table 2-2, on pages 2-9 and 2-10 of the Draft PEIS/R, cited in the comment, identifies monitoring actions, immediate management actions, and long-term management actions within the Physical Monitoring and Management Plan. These actions are described in more detail beginning on page 2-49 of the Draft PEIS/R. Monitoring and management guidelines related to biological conditions for fish are described separately in Appendix F, "Fisheries Management Plan," of the Draft PEIS/R.

DFGA-71: As described in MCR-3, "Order and Schedule of Implementing Settlement Actions," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, the Settling Parties have recently developed a Third-Party working draft *Framework for Implementation* (SJRRP 2012b) for the SJRRP. The *Framework for Implementation* outlines the actions to be taken to implement the SJRRP and presents a schedule and budget for these actions. The *Framework for Implementation* schedule was developed with input from water agencies/districts and landowners downstream from Friant Dam who may be affected by implementation of the Settlement, and is intended to be protective of these Third-Party interests while meeting the requirements of the Settlement for expeditious action. The *Framework for Implementation* also provides an accounting of future funding needs and the remaining funds available to implement the SJRRP. The *Framework for Implementation* can be found on the SJRRP Web site at www.restoresjr.net. While the *Framework for Implementation* presents a revised schedule for implementation of the Settlement, it does not result in new significant environmental impacts, a substantial increase in the severity of an environmental impact, or create a feasible project alternative or mitigation measure that would clearly lessen environmental impacts. Further information on actions related to Reach 2B can be found in the Mendota Pool Bypass and Reach 2B Improvements Project documentation on the SJRRP Web site at www.restoresjr.net. The text has not been revised.

DFGA-72a: All Paragraph 11 activities, including actions to increase channel capacity and provide integrated floodplain habitat at specified reaches, are assessed in the PEIS/R at the program level. Construction of any new structure described in the program-level actions, including levees, would be designed to meet existing standards and requirements. The need to accommodate vegetation growth and sediment transport during construction of program-level actions would be determined during subsequent site-specific studies. Text has not been revised.

DFGA-72b: Comment noted. As stated on page 2-95 of the Draft PEIS/R, the SJRRP is being implemented concurrently with other programs by other agencies that would modify the San Joaquin River and the Lower San Joaquin River Flood Control Project to address flood protection needs. Reclamation and DWR recognize the importance of coordination and communication in planning and implementing projects that affect the flood control system in order to prevent impacts to flood management.

DWR is characterizing the condition of levees along the San Joaquin River and the bypasses in the Restoration Area through the NULE Program as part of the California FloodSAFE initiative. Initial findings from these evaluations indicate deficiencies at the assessed water surface elevation along evaluated levees in the Restoration Area that were not identified for channel improvements in the Settlement. The NULE Program categorized the majority of San Joaquin River levees in the Restoration Area as hazard level C, which indicates a high likelihood of levee failure or the need to flood fight to prevent levee failure. Channel improvements to address these deficiencies in flood protection have not yet been identified and evaluated, and are not included in the Settlement (and therefore are not part of the action alternatives). As noted on page 62 of the Executive Summary, it is possible that the Settlement could be fully implemented in a manner consistent with the Act, and the purpose of the project thereby achieved, without release of the maximum Restoration Flows. Specific future modifications to the flood control system under the FloodSAFE initiative or other actions are uncertain and speculative, and are not considered reasonably foreseeable or probable future actions at this time. In recognition of these limitations, Reclamation and DWR have included a detailed process in all action alternatives to minimize potential increases in flood risk from Interim and Restoration flows as specified on pages 2-22 through 2-28 of the Draft PEIS/R. These actions include identifying and monitoring then-existing channel capacity throughout the Restoration Area and maintaining Interim and Restoration flows at or below then-existing channel capacity in accordance with the findings. The potential for cumulative effects associated with implementing the Settlement and FloodSAFE programs and projects is presented in Chapter 26.0, "Cumulative Impacts," of the Draft PEIS/R." Text has not been revised.

DFGA-73: Text of page 2-29, lines 19 through 31, of the Draft PEIS/R, revised in response to comment. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-74: Detailed discussion of the action to reintroduce fall- and spring-run Chinook salmon is provided beginning on page 2-43, lines 3 through 39, of the Draft PEIS/R. Text has not been revised.

DFGA-75: The level of specificity recommended in the comment is appropriate to, and being developed as part of, the site-specific study of this action. Consistent with the program level of description and analysis of this action in the PEIS/R, the PEIS/R does not attempt to include this level of detail. Further information on actions related to Reach 2B can be found in the Mendota Pool Bypass and Reach 2B Improvements Project documentation on the SJRRP Web site at www.restoresjr.net. Text has not been revised.

DFGA-76: The level of specificity recommended in the comment is appropriate to, and being developed as part of, the site-specific study of this action. Consistent with the program level of description and analysis of this action in the PEIS/R, the PEIS/R does not attempt to include this level of detail. Further information on actions related to Reach 4B1 can be found in the Reach 4B, Eastside Bypass and Mariposa Bypass Channel and Structural Improvements Project documentation on the SJRRP Web site at www.restoresjr.net. Text has not been revised.

DFGA-77: Comment noted. Objectives and impacts related to fish passage and fish barriers would be analyzed in more detail as appropriate in site-specific project-level documentation. Text has not been revised.

DFGA-78: Consistent with the program level of description and analysis of Common Restoration Actions in the Draft PEIS/R, the action to Modify Eastside and Mariposa Bypasses to Enable Fish Passage (beginning on page 2-41, line 29) is not described or analyzed at the level of detail specified in the comment. The level of specificity recommended is appropriate to, and being developed as part of the site-specific study of this action, the Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project. Text has not been revised.

DFGA-79a: As stated on page 2-42 of the Draft PEIS/R, Paragraph 11(b)(2) of the Settlement stipulates modifications to the Chowchilla Bypass Bifurcation Structure as a Phase 2 action to provide fish passage and prevent fish entrainment, if such modifications are necessary to achieve the Restoration Goal, as determined by the Secretary in consultation with the RA, and with concurrence from NMFS and USFWS. Page 2-94 of the Draft PEIS/R identifies several channel and facility modifications that would be implemented to increase channel capacity and improve fish passage in the Restoration Area, including implementation of a trap-and-haul program (page 2-47), and the installation of barriers to prevent straying in flood bypasses (page 2-48). Because some of these projects have hydraulic and other physical interdependencies, implementation would be accomplished by combining related projects into groups. Project planning, environmental compliance, permitting, design, and construction would be coordinated for projects in each group. Accordingly, modifications to the Chowchilla Bypass Bifurcation Structure could be undertaken as part of the Mendota Pool Bypass and Reach 2B Improvements Project, as the commenter states.

DFGA-79b: As discussed in MCR-5, "Adequacy of Purpose and Need, and Range of Alternatives, Under NEPA/CEQA," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, identification of alternatives evaluated in the PEIS/R was the culmination of an extensive process undertaken by Reclamation and DWR, involving the Implementing Agencies in coordination with Settling Parties, other stakeholders, and interested members of the public. The description of alternatives presented in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R describes a reasonable range of potentially feasible alternatives, especially given the purpose and objectives of implementing the Settlement consistent with the Act. As described in Chapter 2.0 of the Draft PEIS/R, routing Interim and/or Restoration flows through the Chowchilla Bypass instead of through the San Joaquin River on a permanent basis would not be consistent

with the Restoration Goal, which is to "restore and maintain fish populations in good condition in the main stem of the San Joaquin River." This action was not retained for inclusion in the action alternatives because it would prevent achieving the SJRRP purpose and need, consistent with the Settlement. Modifications to improve fish passage within the Chowchilla Bypass are not included under the action alternatives. In response to downstream conditions, Interim or Restoration flows could be temporarily diverted to the bypass system, and flood flows would continue to be routed through the bypass system according to the standard operations of the system. Accordingly, the text on page 2-42, line 7, has been revised in response to the comment to clarify that fish could enter the Chowchilla Bypass when future flood control releases are routed to the bypass. See revisions in Chapter 4.0, "Errata," of this Final PEIS/R. Therefore, actions associated with the Chowchilla Bypass Bifurcation Structure focus on providing fish passage between Reach 2A and Reach 2B, and preventing or minimizing entrainment and stranding in the Chowchilla Bypass, consistent with Paragraph 11(b)(2) (if such modifications are necessary to achieve the Restoration Goal, as determined by the Secretary in consultation with the RA, and with the concurrence of NMFS and USFWS). See MCR-5 in Chapter 2.0 of this Final PEIS/R for additional information relevant to this comment.

DFGA-79c: As noted by the commenter and on page 2-42 of the Draft PEIS/R, gaps between the gates of the Chowchilla Bypass Bifurcation Structure historically allowed some flow to leak through the gates, when closed, and may have been large enough to allow fish to pass through into the bypass, leaving them stranded. However, as noted in Table 2-8 on page 2-93 of the Draft PEIS/R, DWR sealed gaps in the gates as part of routine maintenance activities in 2009.

DFGA-80: Paragraph 14(a) of the Settlement requires NMFS to "issue a decision on the permit application for the reintroduction of spring-run Chinook salmon as expeditiously as possible but no later than April 30, 2012." NMFS issued the *Draft Environmental Assessment for 10(a)(1)(A), Enhancement of the Species Permit Application for the collection and transport of Spring-Run Chinook for the San Joaquin River Restoration Program* in April 2012. In addition, the Settlement does not require that NMFS allow for the reintroduction of salmon; rather, the Settlement only requires that NMFS complete the final rule. Consistent with requirements in the ESA and relevant Federal law, NMFS may not allow fish reintroduction in the final rule or may condition the fish reintroduction actions on other SJRRP actions, source stock populations, or other relevant actions/activities as appropriate and allowable under law. The Draft PEIS/R as written reflects the actions stipulated in the Settlement. Although NMFS has not yet issued its final decision, the change in this time frame does not result in new significant environmental impacts, a substantial increase in the severity of an environmental impact, or create a feasible project alternative or mitigation measure that would clearly lessen environmental impacts. NMFS is expected to issue its final rule in 2012, but the exact timing is not known at this time. For the reasons described above, no changes to the Draft PEIS/R have been made.

DFGA-81: The Fisheries Management Plan (Appendix E of the Draft PEIS/R) is referenced on page 2-49 of the Draft PEIS/R and as part of the Conservation Strategy

presented in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R. The actions described in the Fisheries Management Plan are primarily monitoring activities and management guidelines, the effects of which are realized through implementation of specific program-level actions described in greater detail throughout Chapter 2.0 of the Draft PEIS/R. The potential impacts of implementing the action alternatives, including monitoring actions described in Appendix E, are described in Chapters 4.0 through 26.0. Original text referenced by the commenter describes a "management plan" developed to help guide implementation of SJRRP actions. Text on page 2-43, line 13, has been revised to refer directly to the Fisheries Management Plan. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-82: Text of page 2-22, lines 1 and 2, of the Draft PEIS/R, has been revised to include water temperature. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-83: A decision as to location and design of potential barriers is not made in the Draft PEIS/R. As described on page 2-44 of the Draft PEIS/R, lines 25 and 26, the location and design of barriers has yet to be determined. An evaluation of spawning habitat availability and quality would likely guide this decision, but has not been completed; such an evaluation would include consideration of temporal and spatial conditions related to spawning, as suggested by the commenter. Appropriate location(s) and design(s) would be determined as part of a subsequent site-specific study. Appendix E, "Fisheries Management Plan," of the Draft PEIS/R describes the framework for addressing specific actions related to fisheries, including actions to address hybridization between fall-run and spring-run Chinook salmon in the Restoration Area, specifically Action I3 (page 5-38), Action L2 (page 5-43), and Action M1 (page 5-44). Additional guidelines and measures to protect genetic integrity of the runs will be provided in the *Hatchery and Genetics Management Plan* (SJRRP 2010a). Text has not been revised.

DFGA-84: Many actions described in the Settlement and included under all the action alternatives would provide multiple benefits to Chinook salmon related to predation (including beneficial effects on water temperatures, habitat complexity, and predator populations) in the Restoration Area. The potential for various actions to address predation are included in the descriptions of those actions, including modifications to gravel pits (page 2-42, lines 35 through 42, and page 2-43, lines 1 and 2 of the Draft PEIS/R), modifications to floodplain and side-channel habitat (page 2-45, lines 14 through 40, and page 2-46, lines 1 through 21 of the Draft PEIS/R), and actions to enhance in-channel habitat (page 2-46, lines 22 through 33 of the Draft PEIS/R). The text referenced by the commenter (page 2-46, line 34 of the Draft PEIS/R) describes the range of actions that could be taken in addition to those described elsewhere in the Draft PEIS/R, and would be undertaken specifically to further enhance the success of achieving the Restoration Goal. Experimental behavioral methods were not contemplated in formulation of the action alternatives, and are therefore not explicitly addressed. However, such methods would be considered during subsequent site-specific studies and applied to reduce the potential for predation of juvenile salmonids.

See MCR-1, "Analysis of Program Feasibility, Potential to Achieve Restoration and Water Management Goals," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R for additional information relevant to this comment. Text has not been revised.

DFGA-85a: The text referenced by the commenter describes program-level actions to modify flood flow control structures under Paragraph 12 of the Settlement. These actions are provided in addition to those described previously as Paragraph 11 actions, including modifications to the Sand Slough Control Structure for fish passage (described on page 2-41 of the Draft PEIS/R and set forth under Paragraph 11(a)(5) of the Settlement) and modifications to the Chowchilla Bypass Bifurcation Structure that provide fish passage and prevent fish entrainment (described on page 2-42 of the Draft PEIS/R and set forth under Paragraph 11(b)(3)). As described on page 2-48 of the Draft PEIS/R, additional actions not identified in the Settlement could be necessary to improve fish passage and flow conveyance at flood control structures within the Restoration Area, including modifications to the Chowchilla Bypass Bifurcation Structure, Sand Slough Control Structure, and structures in the Eastside and Mariposa bypasses.

As described on page 2-94 of the Draft PEIS/R, several channel and facility modifications would be implemented to increase channel capacity and improve fish passage in the Restoration Area. Because some of these projects have hydraulic and other physical interdependencies, implementation would be accomplished by combining related projects into groups. Project planning, environmental compliance, permitting, design, and construction would be coordinated for projects in each group. Accordingly, modifications to the Chowchilla Bypass Bifurcation Structure to provide fish passage are currently under evaluation as part of the Mendota Pool Bypass and Reach 2B Improvements Project, as the commenter states.

Modifications to the Eastside and Mariposa bypasses to provide fish passage are set forth under Paragraph 11(a)(8) and Paragraph 11(a)(9) of the Settlement, as described on page 2-37 of the Draft PEIS/R. The commenter correctly notes no actions are included under the action alternatives to provide fish passage improvements in the "upper bypass system," which is assumed to refer to the Chowchilla Bypass and Eastside Bypass Reach 1 (from Ash Slough to the Sand Slough Control Structure). As described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, routing of Interim and/or Restoration flows through the Chowchilla Bypass instead of through the San Joaquin River on a permanent basis would not be consistent with the Restoration Goal, which is to "restore and maintain fish populations in good condition in the main stem of the San Joaquin River." This action was not retained for inclusion in the action alternatives because it would prevent achieving the SJRRP purpose and need, consistent with the Settlement. Therefore, modifications to improve fish passage within the Chowchilla Bypass are not included under the action alternatives.

In response to downstream conveyance limitations, Interim or Restoration flows could be temporarily diverted to the bypass system, and flood flows would continue to be routed through the bypass system according to the operations defined in the *Operation and Maintenance Manual for Levees, Irrigation and Drainage Structures, Channels and Miscellaneous Facilities* (Reclamation Board 1978). Accordingly, text on page 2-42, line

7 of the Draft PEIS/R has been revised in response to the comment to clarify that fish could enter the Chowchilla Bypass when future flood control releases are routed to the bypass. See revisions in Chapter 4.0, "Errata," of this Final PEIS/R. Therefore, actions associated with the Chowchilla Bypass Bifurcation Structure focus on providing fish passage between Reach 2A and Reach 2B, and preventing or minimizing entrainment and stranding in the Chowchilla Bypass, consistent with Paragraph 11(b)(2) (if such modifications are necessary to achieve the Restoration Goal, as determined by the Secretary in consultation with the RA, and with the concurrence of NMFS and USFWS). The action alternatives also include a range of potential actions to enable fish passage beyond the actions stipulated in the Settlement, including no modifications, establishing and/or maintaining low-flow channels, trapping and hauling juveniles and adults, modifying road crossings, and installing barriers to prevent straying, as described on pages 2-47 through 2-48 of the Draft PEIS/R.

The actions discussed above are described in the Draft PEIS/R at a program level of detail. The locations and designs of these actions have not yet been determined; however, Appendix E, "Fisheries Management Plan," of the Draft PEIS/R describes the framework for addressing specific actions related to fisheries, including actions to address fish passage in the bypass system, specifically Action A1 (page 5-15) and Action D3 (page 5-25). Additional information will be developed during subsequent site-specific studies.

DFGA-85b: As described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, routing of Interim and/or Restoration flows through the Chowchilla Bypass instead of through the San Joaquin River on a permanent basis would not be consistent with the Restoration Goal, which is to "restore and maintain fish populations in good condition in the main stem of the San Joaquin River." This action was considered, but not retained for inclusion in the action alternatives because as a complete alternative to conveying flows in the river channel, it would prevent achieving the SJRRP purpose and need, consistent with the Settlement. As a partial alternative, where Interim or Restoration flows could be split between the bypass system and the river channel, this approach would conflict with achieving the SJRRP purpose and need by potentially stranding reintroduced fish in the bypass system. However in consideration of downstream conditions, Interim or Restoration flows could be temporarily diverted to the bypass system, and flood flows would continue to be routed through the bypass system in accordance with established operations of the Lower San Joaquin River Flood Control Project.

Several actions are described in Chapter 2.0 to prevent or minimize the effects of stranding of reintroduced fish in the bypass system, including modifications to the Chowchilla Bypass Bifurcation Structure (page 2-42 of the Draft PEIS/R), implementation of a trap-and-haul program (page 2-47 of the Draft PEIS/R), and the installation of barriers to prevent straying in flood bypasses (page 2-48 of the Draft PEIS/R). The inclusion of this discussion does not change the analysis or conclusions of the Draft PEIS/R. Text has not been revised.

DFGA-85c: This comment is substantially similar to comment DFGA-85b. See response to comment DFGA-85b.

DFGA-86: The action alternatives include many potential actions to manage sediment and minimize flood risk in the Restoration Area as a result of Interim and Restoration flows. As described on page 2-49 of the Draft PEIS/R, potential program-level actions to address sediment deposition upstream from the Chowchilla Bypass Bifurcation Structure under the action alternatives range from no implementation to installing grade control structures to reduce sediment mobilization. Implementing actions evaluated at a program level of detail in the PEIS/R would require subsequent site-specific analyses pursuant to NEPA and/or CEQA, as appropriate.

Additional actions included under all action alternatives would also contribute to sediment management by addressing flows and sediment mobilization, including regular monitoring of sediment mobilization as an integral part of actions to minimize increases in flood risk (discussed on pages 2-27 and 2-28 of the Draft PEIS/R) and as part of Appendix D, "Physical Monitoring and Management Plan," in the Draft PEIS/R and summarized on page 2-50). The Physical Monitoring and Management Plan includes monitoring of sediment mobilization, bar formation, and bank erosion through aerial and topographic surveys of areas with elevated erosion potential, as well as actions to address channel capacity including, but not limited to, providing a larger floodplain between levees through acquiring land and constructing setback levees, regrading land between levees, constructing sediment traps, constructing grade control structures, or grading channels. No actions are identified under the action alternatives to eliminate the backwater effect at the Chowchilla Bypass Bifurcation Structure, such as widening the structure, as recommended by the commenter. The backwater effect associated with the Chowchilla Bypass Bifurcation Structure is a hydraulic condition associated with the intended function of the structure, and as such cannot be eliminated. Text has not been revised.

DFGA-87: The comment correctly notes that the Act does not specify that Restoration Flows could be reduced to minimize or avoid seepage impacts, but the Act also does not preclude that action. The measure to reduce, redirect, or redivert flows to manage seepage is part of the action alternatives, pertains to both Interim and Restoration flows, and is included to minimize or avoid potential impacts to Third Parties, which is required by the Act. The definition of Interim Flows in relation to Restoration Flows is provided in Paragraph 15 of the Settlement and included in the Draft PEIS/R as Appendix A, "Stipulation of Settlement in *NRDC, et al., vs. Rogers, et al.*" The inclusion of this discussion does not change the analysis or conclusions of the Draft PEIS/R. Text has not been revised.

DFGA-88: Comment noted. Actions to maintain channel capacity are described in the Physical Monitoring and Management Plan, Appendix D, of the Draft PEIS/R. Recommended provisions could be implemented consistent with descriptions in the PEIS/R. Text has not been revised.

DFGA-89: The potential to modify Restoration Flows based on the need for temperature management, fish passage, adult attraction, floodplain inundation, or other considerations are included in the description of project-level actions to release Interim or Restoration flows provided on pages 2-17 through 2-39 of the Draft PEIS/R, and the analysis of

potential impacts of these actions. The Settlement includes an annual allocation of Interim and Restoration flows using either the Restoration Flow schedules included in Exhibit B of the Settlement, or a more continuous hydrograph, as shown in Figure 2-6 of the Draft PEIS/R, in consideration of recommendations to be made by the RA. As described in Exhibit B of the Settlement, the distribution of Restoration Flow releases depicted in Figure 2-5 is intended to allow flexibility in any given year for the RA, in consultation with the Technical Advisory Committee, to recommend to the Secretary appropriate ramping rates and precise flow amounts on specific dates. The RA may consider a variety of topics potentially including, but not limited to, the need for temperature management, fish passage, adult attraction, or floodplain inundation in making recommendations. Text has not been revised.

DFGA-90: Comment noted. Conservation Measures CVS-1 and EFH-1, and project-level actions described on page 2-29 of the Draft PEIS/R, include continued operation of the Hills Ferry Barrier to exclude salmonids from the Restoration Area during the release of flows during construction activities until sufficient habitat and channel improvements to support salmonids are complete. The text on page 2-29, lines 19 through 31 of the Draft PEIS/R has been revised to clarify that the period of operation of the Hills Ferry Barrier is September through mid-December, but may vary from historical operations under the action alternatives (see revisions in Chapter 4.0, "Errata," of this Final PEIS/R). The future Federal lead agency would pursue permits for this and other project-level actions as described on Chapter 28.0, "Consultation, Coordination, and Communication," of the Draft PEIS/R. Chapter 28.0 describes Section 10004(h) of the Act, which states that the Secretary, in consultation with DFG, shall evaluate the effectiveness of the Hills Ferry Barrier in preventing unintended upstream migration of anadromous fish in the San Joaquin River and any false migratory pathways. Section 10004(h) of the Act also authorizes the Secretary to assist DFG in making any improvements to the Hills Ferry Barrier, if necessary to avoid imposing additional regulatory actions against Third Parties. Reclamation and DWR have consulted with DFG and NMFS on the use of the Hills Ferry Barrier, and are currently evaluating the effectiveness of the Hills Ferry Barrier. Consistent with Section 10004(h)(4) of the Act, if it is determined that any unintended upstream migration of anadromous fish upstream from the Merced River confluence occurs as a result of Interim Flows, and such migration would result in regulatory action against Third Parties, the Secretary would comply with the conditions of the Act including assisting DFG in making any necessary improvements to the Hills Ferry Barrier, and bearing the costs of installing any fish screens or fish facilities necessary to comply with the ESA of 1973 (16 USC 1531 et seq.), except to the extent that such costs are already or willingly borne by others.

Additionally, text on page 2-29 of the Draft PEIS/R has been revised to state that Reclamation would continue to implement and adapt the Steelhead Monitoring Plan (SJRRP 2011e), in coordination with NMFS. Under the Steelhead Monitoring Plan, the presence of steelhead upstream from Hills Ferry Barrier is monitored. If steelhead are detected, they would be collected and relocated downstream from the Merced River confluence. The Steelhead Monitoring Plan applies to Interim and Restoration flows and would not be implemented in flood flow conditions. See Appendix B, "Central Valley

Steelhead (*Oncorhynchus mykiss*) Monitoring Plan for the San Joaquin River Restoration Program," of this Final PEIS/R for additional information relevant to this comment.

DFGA-91: Comment noted. As described on page 2-91 of the Draft PEIS/R, routing Interim and/or Restoration flows through the Chowchilla Bypass instead of through the San Joaquin River on a permanent basis would not be consistent with the Restoration Goal, which is to "restore and maintain fish populations in good condition in the main stem of the San Joaquin River." This action was not retained because it would prevent achieving the SJRRP purpose and need, consistent with the Settlement. Text has not been revised.

DFGA-92: Comment noted. The lead agencies agree that raising Friant Dam (or developing other new surface water storage upstream from Friant Dam) could contribute to the cold water pool in Millerton Lake, and may therefore provide ancillary benefits to reintroduced Chinook salmon. As described on page 2-91 and 2-92 of the Draft PEIS/R and noted in the comment, development of additional storage at or upstream from Friant Dam is currently being studied. The CALFED Bay-Delta Program (CALFED) ROD, issued in August 2000, states that additional storage in the upper San Joaquin River basin should be studied to determine if it could be a beneficial long-term project. The purpose of this storage is to "contribute to restoration of and improve water quality for the San Joaquin River and facilitate conjunctive water management and water exchanges that improve the quality of water deliveries to urban communities." The ROD states that the additional storage could come from "enlargement of Millerton Lake at Friant Dam or a functionally equivalent storage program in the region." Reclamation and DWR are preparing a feasibility study of additional storage at or upstream from Friant Dam consistent with the CALFED ROD, as part of the Upper San Joaquin River Basin Storage Investigation. This action was not retained because it does not substantially contribute to the SJRRP purpose. Text has not been revised.

DFGA-93: Many aspects of the river and bypass reaches beyond those presented in Chapter 3.0, "Considerations for Describing the Affected Environment and Environmental Consequences," of the Draft PEIS/R are important to implementation of the Settlement. Additional aspects, including the wildlife refuges, are described as appropriate in Chapters 4.0 through 26.0. Specifically, the locations of wildlife refuges are highlighted in Chapter 6.0, "Biological Resources – Vegetation and Wildlife." Text has not been revised.

DFGA-94: The commenter states that implementing the Settlement will affect fisheries outside the study area. The commenter provides no specific documentation of the concern raised nor does the commenter provide the basis for their comment, data or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts to support their comment. As described in Chapter 3.0, "Considerations for Describing the Affected Environment," of the Draft PEIS/R, the study area is defined to include the San Joaquin River upstream from Friant Dam, the Restoration Area, the San Joaquin River downstream from the Merced River, San Joaquin River tributaries between the Merced River and the Delta, and the Delta.

While the Implementing Agencies have made significant progress in identifying details and preparing the permits required for the reintroduction process since the Settlement was reached, uncertainty remains regarding details of this process, including identification of a source population(s) for reintroduced Chinook salmon. Remaining uncertainty to be resolved includes the source population(s) from which individuals could be collected for reintroduction; the life stage or stages and number of individuals that would be collected; and the frequency, method, and timing of collection. The Draft PEIS/R does not evaluate the potential impacts to source population(s) because impacts to those source population(s) would be too speculative for meaningful consideration at this time. These impacts will be discussed in future NEPA and CEQA documents, as required, and when appropriately detailed information is available.

As described in Chapter 1.0, "Introduction," of the Draft PEIS/R Interim and Restoration flows would contribute a relatively small amount of water to the Delta compared to contributions of the San Joaquin and Sacramento rivers and other tributaries. Therefore, implementation of the SJRRP would have negligible effects on flow and water quality at locations downstream from the Delta (in Suisun, San Pablo, or San Francisco bays, or in the Pacific Ocean). For this reason, the Delta was identified as the downstream extent of the study area. No modeling was performed to evaluate impacts downstream from the Delta.

As described on pages 13-175 through 13-186 of the Draft PEIS/R, Interim and Restoration flows would contribute a relatively small amount of water to the Delta compared to contributions of the San Joaquin and Sacramento rivers and other tributaries. Similarly, potential impacts to resources within the Delta as a result of the action alternatives were found to be less than significant, including potential direct and indirect impacts analyzed in Chapter 5.0, "Biological Resources – Fisheries," Chapter 6.0, "Biological Resources – Vegetation and Wildlife," Chapter 10.0, "Geology and Soils," Chapter 11.0, "Hydrology – Flood Management," Chapter 14.0, "Hydrology – Surface Water Quality," Chapter 16.0, "Agricultural Resources and Land Use Planning," Chapter 17.0, "Noise," Chapter 19.0, "Power and Energy," Chapter 20.0, "Public Health and Hazardous Materials," and Chapter 21.0, "Recreation," of the Draft PEIS/R. Therefore, no significant impacts to resource categories, including fisheries, are anticipated to occur as a result of implementing the Settlement outside the study area, and the Delta was identified in Chapter 1.0, "Introduction," of the Draft PEIS/R as the downstream extent of the study area. Appropriate study areas will be separately defined for subsequent site-specific studies, and may encompass some or all of the study area identified in the PEIS/R. Text has not been revised.

DFGA-95: The exact timing of spring-run or fall-run Chinook salmon spawning varies based on several environmental factors, including flow patterns and ambient and water temperatures. As described in Exhibit D, Stock Selection Strategy: Spring-Run Chinook Salmon, of Appendix E, "Fisheries Management Plan," of the Draft PEIS/R, because of extensive and ongoing hatchery introductions, a good portion of the spring-run Chinook salmon currently in the mainstem Sacramento River have hybridized with fall-run Chinook salmon, and are heavily introgressed with fall-run Chinook characteristics, particularly with regard to run timing (Yoshiyama et al. 1998). Therefore, it is not

uncommon for spring-run and fall-run spawning periods to overlap temporally as well as spatially. For instance, as described in Exhibit D, adult spring-run Chinook salmon on the Feather River begin spawning in September, usually 2 to 3 weeks earlier than the fall-run Chinook salmon (Kindopp pers. com.) and continue spawning through late October. Adult fall-run Chinook salmon typically return to the Feather River to spawn during September through December, with peak returns from mid-October through early December (Sommer et al. 2001). Figure 5-1 captures the full range of potential historical spawning periods for spring- and fall-run Chinook salmon in the San Joaquin River, and is not intended to predict peak spawning periods for reintroduced populations. As described in Appendix K, "Biological Resources – Fisheries," of the Draft PEIS/R, it is likely that current run timing in the San Joaquin River would differ from historical timing. Additional figures showing life stage timing for existing populations (including candidate broodstock populations on the Feather River and Mill and Deer creeks) are included in Appendices E and K. In response to the comment, a caption was added to Figure 5-1 on page 5-5 of the Draft PEIS/R to indicate that timing for the various life history stages shown for spring- and fall-run Chinook salmon are approximate and may vary from that shown in the figure. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-96a: The commenter identifies three topics related to geomorphic processes, including channel complexity, the presence of suitable spawning gravels, and changes in edge or streambank habitat. The commenter states that bank protection accelerates channel incision, which leads to the loss of channel complexity, and provides additional detail on this process. This is consistent with and expands on the discussion on page 5-17 of the Draft PEIS/R, which states that bank protection along channel margins and decreased flow regime have reduced the processes that create complex side channels and high-flow scour channels. Text has not been revised.

DFGA-96b: Regarding the presence of suitable spawning gravels, the text on page 5-17, line 31, of the Draft PEIS/R, has been revised in response to comment to clarify that the text is referring to spawning-sized gravel, as recommended by the commenter. Spawning habitat, as the commenter notes, includes flows, water temperatures, and suitably sized gravel. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-96c: Regarding changes in edge or streambank habitat related to higher water stage, text on page 5-20 of the Draft PEIS/R states that substantial changes in flow can raise the water surface (i.e., stage) and increase the length of shoreline that interacts with riparian vegetation and other complex shoreline habitat elements. Changes in flow also affect lateral and vertical connectivity and interactions of groundwater and surface water, which can in turn affect microhabitat conditions such as water temperature and quality. This discussion ties riparian vegetation value and function to flow. Text on page 5-21 of the Draft PEIS/R adds to this discussion, noting that flow directly affects most other environmental conditions in rivers, including water temperature, water quality, geomorphic processes, and habitat quantity, quality, and connectivity. These conditions in turn affect many biological interactions. Conversely, the amount of flow is directly affected by diversions and other water operations in regulated systems. This discussion is a general description of factors and processes that can affect fisheries within the San Joaquin River between Friant Dam and the Merced River. Appendix N,

"Geomorphology, Sediment Transport, and Vegetation Assessment," of the Draft PEIS/R provides a more detailed discussion of potential changes to river geomorphology, including discussions on the flow control structures (pages 5-22 through 5-31) and gravel mining (pages 5-1 through 5-10). Text has not been revised.

DFGA-97: The lead agencies agree with the commenter that gravel mining has influenced, and continues to substantially influence, nonnative and native fish species abundance and distribution. The referenced bullet list identifies environmental conditions, and does not identify specific activities, such as gravel mining, that influence those conditions. Gravel mining, in itself, is not considered an environmental condition, but clearly has contributed to several of the environmental conditions listed in the referenced text, including "highly altered flow regimes," and "changes in sediment supply and transport." The specific historical influence of the gravel pits on nonnative and native fish species abundance and distribution is also summarized on page 5-16 of the Draft PEIS/R. Text has not been revised.

DFGA-98: The list of species referenced by the commenter and presented on page 5-23 of the Draft PEIS/R summarizes native species that were recently (following construction of Friant Dam and the Friant-Kern and Madera canals) detected in Reach 1, but which were not detected between 2003 and 2005 and reported in the DFG 2007 study. This list was compiled by reviewing several studies conducted after 1980 that report the presence of fall-run Chinook salmon in Reach 1 (Yoshiyama et al. 1998, DFG 1991, as cited in McBain and Trush 2002, Moyle 2002). No such recent studies document the presence of spring-run Chinook salmon in Reach 1; therefore, spring-run Chinook salmon are not included in this list. Text has not been revised.

DFGA-99: The text referenced by the commenter is in Section 5.2.3 of the Draft PEIS/R, which summarizes aspects of the current aquatic habitat and distribution of fish found in the San Joaquin River from Friant Dam to the Merced River. It is assumed that the commenter refers to studies showing that white sturgeon spawning in the San Joaquin River occurs downstream from Reach 5 (specifically between the confluences with the Tuolumne and Stanislaus rivers), according to recent observations made by USFWS staff during Interim Flows monitoring (Gruber et al. 2012). Page 5-24, lines 31 through 33, of the Draft PEIS/R, which state, "the current distributions of white sturgeon, green sturgeon, river lamprey (*Lampetra ayresii*), Kern brook lamprey, and western brook lamprey (*L. richardsoni*) within the Restoration Area are unknown," has not been revised because while these species may have been periodically observed, their distribution is still unknown. Text on page 5-24, lines 31-33, and page 5-25, lines 31-35 of the Draft PEIS/R have been revised to clarify that the Fisheries Management Work Group is currently conducting a fish inventory and monitoring program, the results of which have not yet been published. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-100: Text on page 5-25, line 41, of the Draft PEIS/R, has been revised in response to the comment to clarify that USFWS has documented white sturgeon spawning in the San Joaquin River downstream from Reach 5, primarily between the Tuolumne and Stanislaus rivers (Gruber et al. 2012). See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-101: Text on page 5-26, line 40 through page 5-27, line 6 of the Draft PEIS/R, has been revised in response to comment to clarify that anadromous fish populations on all three tributaries are affected by flow and water temperatures, particularly during dry and critical water year types. Mesick 2009 and Mesick 2010 have been added as references for this discussion. The inclusion of this discussion does not change the analysis or conclusions of the Draft PEIS/R. Further discussions of the effects of flow on the tributary fish populations are described on pages 5-59 through 5-61 of the Draft PEIS/R. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-102: Text on page 5-29, line 10-14, of the Draft PEIS/R has been revised in response to comment to indicate that until 2008, a temporary barrier was used when necessary at the Head of Old River. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-103: Text on page 5-29, line 20, of the Draft PEIS/R, has been revised to refer to Hallock et al. (1970), Mesick (2001), and Newcomb and Pierce (2010), in response to this and other comments. See Chapter 4.0, "Errata," of this Final PEIS/R. The inclusion of this discussion does not change the analysis or conclusions of the Draft PEIS/R.

DFGA-104: Review of scientific literature and existing data sources in development of the Draft PEIS/R provided evidence that white sturgeon occur in the San Joaquin River downstream from the Restoration Area, from the Merced River to the Delta. Additionally, a white sturgeon was observed on the upstream side of the Hills Ferry Barrier in 2011 (Portz, pers. com). Text on page 5-45, Table 5-4 of the Draft PEIS/R has been revised in response to comment to clarify that sturgeon occur in this portion of the San Joaquin River. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-105: Table 5-7 on page 5-50 of the Draft PEIS/R has been modified in response to comment to include water temperature as an environmental condition considered in the evaluation process for juvenile and adult fall-run Chinook salmon and Central Valley steelhead, consistent with the analyses of impacts presented in Section 5.4.3, "Program-Level Impacts and Mitigation Measures," and Section 5.4.4, "Project-Level Impacts and Mitigation Measures," of the Draft PEIS/R. See Chapter 4.0, "Errata," of this Final PEIS/R.

The commenter also raises concerns regarding modeling of water temperatures between the Merced River and the Delta. Changes in water temperatures in the San Joaquin River downstream from the Merced River confluence were not explicitly simulated. Application of river temperature modeling was limited to the extent of the Restoration Area to limit the introduction of uncertainty to a level deemed acceptable for the analyses these simulations support. The analysis of potential water temperature impacts in the San Joaquin River downstream from the Merced River confluence was based on simulated water temperatures from Friant Dam to the Merced River confluence and measured water temperatures at downstream locations.

Application of the water temperature model requires identification or assumption of daily reservoir operations and resulting river flows for the controlling reservoir(s) for the geographic portion of the model being applied. Within the Restoration Area, where water

temperatures are most directly affected by implementation of the Settlement, monthly water operations from CalSim-II were disaggregated into daily water operations that are still bound by overall monthly limits. The Millerton Daily Operations Model was used to simulate daily water operations of Millerton Lake. This model, developed in Excel, interpolates between the monthly CalSim-II boundary conditions (including inflow, diversions, and long-term snowmelt flood releases) to generate a potential set of daily values that are consistent with the CalSim-II monthly values to achieve mass balance. The daily operation data were then used with a simplified flood routing procedure to generate a set of simulated daily releases from Millerton Lake to the San Joaquin River. The resulting daily Millerton Lake operations are used in the Millerton Lake and San Joaquin River temperature models to simulate water temperatures within the Restoration Area.

This process of disaggregation, described in Appendix H, "Modeling," of the Draft PEIS/R necessarily introduces some uncertainty into the water temperature results. This level of uncertainty was deemed acceptable within the Restoration Area, where Friant Dam operations are limited to the relatively simple condition of a single, independently operated reservoir.

Running the temperature model for the San Joaquin River and tributaries downstream from the Merced River would require disaggregating monthly operations of the jointly operated system of reservoirs located on the tributary rivers to get daily values suitable for use in the temperature model. The uncertainty associated with defining the operations of the system of reservoirs located on the tributary rivers, compounded by the uncertainty introduced through the disaggregation process, was deemed unacceptable for use in evaluating potential impacts in the Draft PEIS/R. Instead, use of the temperature model for impact evaluation was constrained to the Restoration Area. Downstream from the Restoration Area, the analyses presented in the Draft PEIS/R compare simulated water temperatures from Friant Dam to the Merced River confluence and measured water temperatures at downstream locations to evaluate water temperature impacts. Text has not been revised.

DFGA-106: The commenter has identified a series of limitations on Restoration Flows that are also discussed and addressed in the Draft PEIS/R. See for example, discussion of limitations of Interim and Restoration flows to avoid impacts through the actions to minimize increases in flood risk in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, as well as discussion of immediate management actions to address seepage or other impacts in the Physical Monitoring and Management Plan, also outlined in Chapter 2.0. Flows could also be limited through actions directed in the Settlement, such as construction of Phase 1 and Phase 2 projects, and the Restoration Hydrograph set forth in Exhibit B for the critical water year type. The critical low restoration year type includes no additional flows for restoration actions. This year type represents the driest year on record (1977) and has occurred one time in the historical record. These limitations are also discussed in the project description in Chapter 2.0 of the Draft PEIS/R. As these limitations were addressed in the Draft PEIS/R, no changes to the Draft PEIS/R have been made.

DFGA-107: The commenter refers to the SJR-5Q temperature model (developed by AD Consultants), which includes separate modules developed for the Restoration Area and the San Joaquin River downstream from the Merced River. The downstream module was not used in the analyses presented in the Draft PEIS/R due to the uncertainty associated with defining the operations of the system of reservoirs located on the tributary rivers, compounded by the uncertainty introduced through the disaggregation process. This comment is substantially similar to comment DFGA-105. See response to comment DFGA-105.

DFGA-108: The commenter requests that the SJRRP 2011 Annual Technical Report results be used in the impact assessment, presumably as an assessment of floodplain impacts. The commenter noted that the "draft 2011 Annual Technical Report includes a relationship between flow and overbank inundation," but later states that "overbank inundation does not equate to floodplain inundation." The meaning of the commenter's specific comment is unclear. However, the SJRRP continues to work on inundation mapping and modeling related to fisheries habitat requirements to implement the appropriate amount and type of floodplain habitat needed for successful implementation of the program. Reclamation and DWR will continue to coordinate with DFG as an Implementing Agency to properly support the Restoration Goal and to address fisheries habitat suitability and species survival. New information related to this effort, as it becomes available, will help to inform future processes and decisions to assess future site-specific actions and to account for environmental benefits or impacts.

As described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, routing of Interim and/or Restoration flows through the Chowchilla Bypass instead of through the San Joaquin River on a permanent basis would not be consistent with the Restoration Goal, which is to "restore and maintain fish populations in good condition in the main stem of the San Joaquin River." This action was considered, but not retained for inclusion in the action alternatives because as a complete alternative to conveying flows in the river channel, it would prevent achieving the SJRRP purpose and need, consistent with the Settlement. As a partial alternative, where Interim or Restoration flows could be split between the bypass system and the river channel, this approach would conflict with achieving the SJRRP purpose and need by potentially stranding reintroduced fish in the bypass system. However in consideration of downstream conditions, Interim or Restoration flows could be temporarily diverted to the bypass system, and flood flows would continue to be routed through the bypass system in accordance with the established operations of the Lower San Joaquin River Flood Control Project.

Several actions are described in Chapter 2.0 to prevent or minimize the effects of stranding reintroduced fish in the bypass system, including modifications to the Chowchilla Bypass Bifurcation Structure (page 2-42 of the Draft PEIS/R), implementation of a trap-and-haul program (page 2-47 of the Draft PEIS/R), and the installation of barriers to prevent straying in flood bypasses (page 2-48 of the Draft PEIS/R). The inclusion of this discussion does not change the analysis or conclusions of the Draft PEIS/R. Text has not been revised.

DFGA-109: Text of page 5-55, line 9, of the Draft PEIS/R, has been revised in response to comment by adding reference to Appendix B of the 2011 Annual Technical Report (SJRRP 2012c). See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-110: Text on page 5-58, lines 17 through 19, of the Draft PEIS/R has been revised in response to comment to clarify that predatory fish originating from the lower San Joaquin River near the Delta and from the Delta could become entrained at pumping plants in the Delta, and potentially enter the Restoration Area at the Mendota Pool via the Delta-Mendota Canal (DMC). See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-111: Several documents developed by Scott Foott (USFWS) and others documenting the presence and effects of Proliferative Kidney Disease, Bacterial Kidney Disease, and whirling disease in salmonids were used in the development of Appendix E, "Fisheries Management Plan," of the Draft PEIS/R. These documents are cited in Appendix E. The level of detail provided in Chapter 5.0, "Biological Resources – Fisheries," of the Draft PEIS/R regarding the potential to transmit hatchery-borne diseases is considered sufficient for the program-level analyses of impacts related to salmon reintroduction. The referenced documents have also been used in development of the *Hatchery and Genetics Management Plan* (SJRRP 2010a), and will be further used as appropriate during development of subsequent project-level analyses. Text has not been revised.

DFGA-112: Text of page 5-60, lines 11 through 20, of the Draft PEIS/R, has been revised in response to comments, to clarify that though the future of VAMP is uncertain, a continuation of a VAMP-like condition is included in the No-Action Alternative because SWRCB indicates that VAMP experimental data will be used to create permanent objectives for the pulse flow period. See Chapter 4.0, "Errata," of this Draft PEIS/R.

DFGA-113: In response to this and other comments, the text on page 5-29, line 20, of the Draft PEIS/R, has been revised to remove the cited personal communication and cite all original sources used in Table 5-11, including USFWS 1993, 1995, and 1997; DFG 2005; and NMFS 2009b (cited in the Draft PEIS/R as NMFS 2009). See revision in Chapter 4.0, "Errata," of this Final PEIS/R. Together, these sources provide an estimate of the flows that would provide the maximum habitat for various life stages of Chinook salmon and Central Valley steelhead on the Merced, Tuolumne, and Stanislaus rivers. The target flows shown in Table 5-11 were identified in coordination with NMFS based on these sources, which include studies conducted to calculate flow and habitat requirements for Chinook salmon on the tributaries (USFWS 1993, 1995, and 1997), the 2009 NMFS CVP/SWP Operations BO (2009a) and results of the San Joaquin River fall-run Chinook salmon population model published by DFG (DFG 2005).

The commenter recommends use of two alternate sources as the basis for determining significance of impacts to fisheries in the PEIS/R, rather than the sources listed in the Draft PEIS/R. The first source recommended by the commenter is the San Joaquin River flow recommendations put forth by SWRCB in 2010. The SWRCB 2010 report identified by the commenter puts forth recommendations for flows at Vernalis, but does not include

recommendations for flows on the Stanislaus, Tuolumne, and Merced rivers that could be used in the analyses of potential impacts on fisheries habitat on these rivers. The second source recommended for use by the commenter discusses a range of alternative flow recommendations; including 20, 40, and 60 percent of unimpaired San Joaquin River flows at Vernalis for the February through June time frame. As stated in the *Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives*, the alternatives discussed in that report do not necessarily represent the alternatives that SWRCB would ultimately recommend, or those which SWRCB would evaluate in compliance with CEQA (SWRCB 2012). The report states that, "Instead, these alternatives represent the likely range of alternatives that will be analyzed. This range of [San Joaquin River] flows and southern Delta salinity objectives will be further refined to develop alternatives for analysis in the [CEQA environmental compliance document]." As of February 2012, SWRCB continued to review, develop, and evaluate alternative flow objectives for the San Joaquin River at Vernalis between February and June (SWRCB 2012). Because these flow recommendations were anticipated to be further revised and evaluated (in compliance with CEQA) at the time this PEIS/R was developed, limited to the period between February and June, and address flows only at Vernalis (rather than on the Merced, Tuolumne, and Stanislaus rivers), the recommendations are not considered a reasonable replacement for the sources used to develop the target flows identified in Table 5-11 of the Draft PEIS/R.

See response to comment DFGA-26 for additional information relevant to this comment.

DFGA-114: As described in Appendix E, "Fisheries Management Plan," of the Draft PEIS/R, if fall-run Chinook salmon are actively reintroduced, they would be collected from the San Joaquin River tributaries. However, it is currently anticipated that fall-run Chinook salmon and steelhead would be reintroduced through natural recolonization by strays from existing San Joaquin River populations. Text has not been revised.

DFGA-115: This comment is substantially similar to comment DFGA-111. See response to comment DFGA-111.

DFGA-116: Comment noted. As discussed in detail in MCR-7, "Adequacy of Conservation Strategy," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, the Conservation Strategy was developed during extensive coordination with USFWS, NMFS, and DFG, with each regulatory agency contributing measures, text, and revisions before publication in the Draft PEIS/R. Reclamation and DWR recognize, however, that the Conservation Strategy may not cover every project-level impact sufficiently. The comment that "conservation measures should be included in project-level analyses to minimize predation at fish screens" is duly noted. Conservation Strategy measures and additional feasible mitigation measures will be applied as necessary during subsequent site-specific analyses to minimize predation at fish screens to reduce potentially significant impacts to less-than-significant levels. As the commenter suggests, Conservation Strategy measures will be included in project-level analyses, as appropriate.

The lead agencies consider the Conservation Strategy, as included in the project description presented in this Final PEIS/R, sufficient to achieve the purpose of avoiding,

minimizing, rectifying, reducing, and compensating for potential impacts to sensitive species and habitats. While incorporation of the Conservation Measures as mitigation measures rather than as part of the project description would automatically require additional monitoring and reporting responsibilities under CEQA, the Conservation Strategy is enforceable under NEPA and CEQA, as described in the previous subsection. Moreover, the regulatory agencies involved in appropriately and successfully implementing the Conservation Strategy measures (i.e., USFWS, NMFS, and DFG) are resource agencies that are fully empowered and responsible for protecting sensitive species and habitats are protected during implementation of the SJRRP, as required under the ESA, CESA, and other regulations. For more detailed discussions, see MCR-7 in Chapter 2.0 of this Final PEIS/R. For the reasons set forth above and in MCR-7, no changes to the PEIS/R related to the Conservation Strategy are necessary.

DFGA-117: Text on page 5-74, lines 7 through 27, under Impact FSH-10 of the Draft PEIS/R, has been revised in response to comment to remove text referring to minimal holding habitat. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-118: Comment refers to mixing of cool water from tributaries (Merced, Tuolumne, and Stanislaus rivers) with San Joaquin River water. This mixing is anticipated to occur incidentally as a result of ongoing operations, and would not require purchase of water. Water would not be allocated from the tributaries for this purpose as part of the SJRRP. Text has not been revised.

DFGA-119: Studies by PG&E (1986 and 2001) demonstrated that shad need uninterrupted, steady discharges from the powerhouses for successful spawning. Discharges from Kerckhoff Powerhouse No. 2 into the upper portion of Millerton Lake provide the water surface velocities that stimulate spawning behaviors and continuous flows in the lotic portion of the reservoir that keep eggs suspended until hatching occurs. These conditions are not widely available in the San Joaquin River upstream from Millerton Lake; thus, the evaluation of impacts to American shad spawning habitat is confined to Millerton Lake. Potential impacts to representative fish species habitat in Millerton Lake are discussed on page 5-84 of the Draft PEIS/R under Impact FSH-18. The text on page 5-84, line 34 has been revised to clarify that species potentially affected by changes in habitat in Millerton Lake include American shad. See Chapter 4.0, "Errata," of this Final PEIS/R. The inclusion of this discussion does not change the analysis or conclusions of the Draft PEIS/R.

DFGA-120: As described on page 5-90 of the Draft PEIS/R, based on SJR5Q model results, spring and early summer (May and June) water temperatures in Reach 1 would be approximately 5°F lower under Alternatives A1 through C2 than under the No-Action Alternative (modeled average water temperature at the State Route 41 and Gravelly Ford). In the wetted portions of Reaches 2 and 3, spring and early summer (May and June) water temperatures would be 3 to 5°F lower, with little to no expected differences in water temperatures during the warmest months (July and August). Midwinter (December – January) water temperatures in Reaches 2 and 3 would be approximately 3°F lower under Alternatives A1 through C2 than under the No-Action Alternative (modeled average water temperature at the Mendota Pool and Sack Dam). Water

temperatures in Reaches 4 and 5 would be 1 to 2°F lower than under the No-Action Alternative during spring and early summer and similar to the No-Action Alternative during other months (modeled average water temperature at the Mariposa Bypass return, Salt Slough, and the Merced River confluence). For water temperature modeling output, see Appendix H, "Modeling," of the Draft PEIS/R. Dissolved oxygen concentrations are typically inversely related to water temperatures; thus, anticipated decreases in water temperatures would correspond to anticipated increases in dissolved oxygen concentrations.

Regarding the commenter's suggestion to include a discussion on the effects of temperature and dissolved oxygen on Chinook salmon in all reaches, Reclamation, DWR, and other Implementing Agencies acknowledge that implementing the Settlement will involve many challenges, some of which are not specifically addressed through provisions of the Settlement or the Act. Several comments reflect concern over the ability to achieve the Restoration and Water Management goals by implementing the provisions of the Settlement consistent with the Act, the overall likelihood of success of the SJRRP, or the likelihood of success of particular actions, such as reintroducing Chinook salmon (*Oncorhynchus tshawytscha*). The PEIS/R evaluates the potential impacts of implementing the Settlement consistent with the Act. The PEIS/R does not evaluate the feasibility of the Settlement, the likely efficacy of Settlement actions in achieving the Restoration or Water Management goals, or the interactions of individual Settlement actions with other Settlement actions. Such evaluations could be undertaken in a feasibility study but, as described above, a feasibility study on implementing the Settlement consistent with the Act was not required before, or as a condition of, Settlement implementation. See MCR-1, "Analysis of Program Feasibility, Potential to Achieve Restoration and Water Management Goals," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, for additional information related to this comment. Text has not been revised.

DFGA-121: Under the No-Action Alternative, fish habitat conditions such as water temperatures are anticipated to continue to deteriorate for a variety of reasons, including climate change. Climate change is included under both the No-Action Alternative and the action alternatives. As described on pages 5-80 and 5-83 of the Draft PEIS/R, Millerton Lake water temperatures are anticipated to increase as a result of climate change under the No-Action Alternative and the action alternatives. However, due to, thermal stratification within Millerton Lake, the lake is anticipated to retain a cold water pool, and releases to the San Joaquin River would continue to provide relatively cool water compared with river water temperatures that might be observed in unimpaired runoff. Therefore, the continuous flow and habitat restoration (particularly with respect to riparian vegetation) that would result under the action alternatives would help reduce the severity of increased water temperatures compared to the No-Action Alternative. As described on page 5-90, lines 39 through 43, in the Draft PEIS/R, given the projected increases in mean annual and seasonal air temperatures estimated under modeled climate change scenarios, water temperatures would be lower (and associated dissolved oxygen concentrations would be higher) under the action alternatives than under the No-Action Alternative in all reaches during the warmest months (June and August). This would be a beneficial impact of all action alternatives.

Hence, the statements referenced by the commenter are not contradictory because a reduced cold water pool in Millerton Lake could still be able to decrease temperatures and increase dissolved oxygen levels through Friant Dam releases under a climate change scenario. Text has not been revised.

DFGA-122: Impacts of flows from tributaries are discussed on pages 5-53 through 5-57 of the Draft PEIS/R. On page 5-97, the Draft PEIS/R states that under the action alternatives, flows on the tributaries almost always either meet the target flows (as shown in Appendix K, "Biological Resources – Fisheries," of the Draft PEIS/R) or, if not, then do not change from the No-Action Alternative or existing conditions. As described in Chapter 5.0, "Biological Resources – Fisheries," of the Draft PEIS/R the flow criteria referenced by the commenter and shown in Table 5-11 of the Draft PEIS/R are flows assumed to provide maximum habitat for each life stage of Chinook salmon and Central Valley steelhead, and do not reflect a requirement for or regulation on flows. These flow criteria, including the instream flow studies, were identified by NMFS based on several sources, including instream flow incremental methodology studies conducted to calculate maximum weighted usable area of habitat for each life stage (USFWS 1993, 1995, 1997), modeling conducted by DFG (DFG 2005), and from the NMFS 2009 Recovery Plan (NMFS 2009b). These sources are listed in revised citations for Table 5-11 on page 5-61 of the Draft PEIS/R. See Chapter 4.0, "Errata," of this Final PEIS/R. Changes in flow under the action alternatives as compared to the No-Action Alternative were considered to result in a significant impact if those changes would cause the target flows to not be met during periods when the targets would otherwise have been met under the No-Action Alternative. As the commenter suggests in comment DFGA-26, sufficient habitat may exist over a range of flows; therefore, a flow below the target flows shown in Table 5-11 may still provide sufficient habitat. By evaluating the changes in flow against a target flow that provides maximum habitat, the impacts assessment provides a conservative estimate of potential impacts to tributary populations of the species under evaluation. Therefore, there was no need to further analyze the effects of a change in flow on fish and fish habitat. Text has not been revised.

DFGA-123: Comment noted. Species are listed alphabetically by Latin family names in Appendix K, "Biological Resources - Fisheries," of the Final PEIS/R. Text has not been revised.

DFGA-124: Comment noted. The cited text, page 21-9, line 17, of the Draft PEIS/R, states that, "Most of the recreation use on the river within the Restoration Area occurs in Reach 1." The paragraph goes on to generally describe recreational uses and access to the river along Reaches 1 through 5. The description states that, "other use of the river or riverbed in these reaches is assumed to be by adjacent private landowners and possibly other local residents, and may include fishing, hunting, and off-highway vehicle use. Reach 4 (also generally dry) and Reach 5 include public lands that offer hunting and fishing opportunities." Recreational use of the river or riverbed by adjacent private landowners for hunting or fishing is described on page 21-1, lines 15 through 16 and page 21-9, lines 23 through 27. Text has not been revised.

DFGA-125: The text referred to in the comment from Chapter 21.0, "Recreation," of the Draft PEIS/R, states that "fishing occurs primarily in Reaches 1 and 5" (page 21-9, line 28), not “Reaches 1 – 5" as the comment states. Also, please note that the preceding paragraph (page 21-9, lines 17 through 27) states that Reach 2 "is almost entirely dry" and that Reach 4 is "generally dry," not that "Reach 2 and 5 are generally dry" as stated in the comment. Text has not been revised.

DFGA-126: The text referenced in the comment states that “some” of the recreation demand would be met by Pine Flat Lake. Presumably not all of the demand would be met due to the difference in locations. Text has not been revised.

DFGA-127: As described on page 2-32 of the Draft PEIS/R, most recreation activity on the San Joaquin River between Friant Dam and the Merced River occurs along Reach 1. The San Joaquin River Parkway along Reach 1A has a particularly high degree of recreational activity. Potential restoration actions, such as modification of floodplain and side channel habitat, would enhance some recreation opportunities and increase demand for recreation opportunities in the parkway. The *San Joaquin River Parkway Master Plan* (SJRC 2000) provides guidance for managing the parkway to increase recreation opportunities in response to increased demand. Acquisition and development of recreation facilities on parkway parcels is in progress and would continue, with the goal of increasing public lands in the parkway from 3,500 acres to 6,000 acres. This ongoing parkway development would meet a substantial portion of increased recreation demand, and within the management goals and objectives of the *San Joaquin River Parkway Master Plan*.

Potential restoration actions, such as modification of floodplain and side channel habitat, also would enhance recreation opportunities and increase demand for recreation access and facilities downstream from Reach 1. Unlike Reach 1, along Reaches 2 through 5, only a few small communities are close to the river. The cities of Mendota and Firebaugh, along Reaches 2 and 3, respectively, could choose to expand access and facilities within their jurisdictions in response to increased recreation demand. Existing informal use areas, particularly at road crossings, would continue to provide access for recreation and could be enhanced and formalized to better serve the expected increased numbers of people drawn to the restored river.

New facilities and improvements to informal access points, such as parking areas and restrooms, would most likely be developed as demand increases via coordinated efforts between municipal and county government entities, Federal and State agencies, and nongovernmental organizations. Plans and mechanisms for future enhancement of 39 recreation access areas and facilities on the river already exist. For example, local governments frequently apply for Federal and State assistance to meet recreation facility needs, tapping into the Land and Water Conservation Fund, which provides matching grants to states and through states to local units of government, for acquiring and developing public outdoor recreation sites and facilities (NPS 2008). The California Department of Boating and Waterways (DBW) provides grants and design assistance for boating facility development (DBW 2009). State Parks, in the *Central Valley Vision Draft Implementation Plan*, expresses the intention to cooperate in planning for

restoration of the San Joaquin River, and states the intention of creating a new unit to address recreation opportunities. As part of the Central Valley Vision process, State Parks has prioritized development of recreation opportunities along rivers and has initiated a feasibility study to identify and prioritize opportunities and potential acquisition sites on the San Joaquin River and tributaries (State Parks 2008). The nonprofit organization Revive the San Joaquin has among its five organizational goals "to encourage river recreation activities compatible with protection of wildlife" (Revive the San Joaquin 2009) and could be expected to be a partner in recreation access enhancement.

DFGA-128: New fishing regulations and/or seasonal closures within Reach 1 to protect salmon would not cause a substantial increase in demand for recreational activities at Millerton Lake State Recreation Area (SRA) because the dominant type of fishing on Reach 1 is cold-water fishing (for trout), which is available but is not a major activity at the lake. The lake fishery is dominated by black bass, striped bass, and other warm-water species. Also, trout fishing at Millerton Lake does not primarily occur from the bank or shore, as it does on Reach 1, but occurs from motorized boats, particularly during late spring through summer when fish move to deep water and boats are needed to reach the fish. Boats are also needed to reach the upper end of the lake, where most trout fishing occurs. Therefore, large numbers of the primarily bank-based trout anglers on Reach 1 would not be expected to transfer their angling activity to Millerton Lake, which would be an entirely different fishing experience. This additional analysis supports the analysis and conclusion presented in the Draft PEIS/R. Text has not been revised.

DFGA-129: Planned restoration and development for recreational use of several large San Joaquin River Parkway sites suggest that existing programs will be sufficient to absorb increased recreation demand resulting from the SJRRP. Currently, restoration and recreation access plans are being developed for two of the largest parkway sites, the River West-Fresno (Spano River Ranch) and River West-Madera (Proctor-Broadwell-Cobb property) sites (City of Fresno 2011, Madera County 2011), both of which are in close proximity to Fresno residential areas. Conceptual plans for these two areas, which together comprise nearly 1,200 acres, indicate the developed parks could provide river access, trails, and possibly warm-water fishing in existing ponds. Also, a short distance upstream, recent improvements at the Jensen River Ranch site (implemented alongside ongoing habitat restoration) include a multiuse trail, benches, picnic sites, and restrooms. See also MCR-9, "Recreation Impacts and Kings River," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, for additional information relevant to this comment.

DFGA-130: Modification of floodplain and side-channel habitat would indirectly enhance recreation opportunities by improving wildlife habitat, thus enhancing wildlife viewing opportunities for boaters and others. Specifically, Impact REC-6 on page 21-36 of the Draft PEIS/R, describes potential enhancement of recreation opportunities by potential restoration actions within the Restoration Area, including management of floodplain and side channel habitat to support fish rearing and migration. The enhancement of wildlife habitat that would result from improved floodplain and side channel fish habitat would enhance conditions for wildlife-based recreation, such as bird-watching. Impact REC-6 would be less than significant and beneficial. Restored side

channels could also provide attractive settings for canoeists and kayakers who desire to venture off the main channel. Text has not been revised.

DFGA-131: As acknowledged on page 21-34 of the Draft PEIS/R, the Kings River may not be as convenient as the San Joaquin River for some San Joaquin River anglers (due to greater driving distances), particularly for those who reside in north or northeast Fresno and adjacent areas, in close proximity to Reach 1. However, a specific study to determine the acceptability of this additional travel distance to the existing angling community, as called for in this comment, is not necessary and is beyond the scope of the PEIS/R. In general, it can be stated that the scarcity of lower elevation trout-fishing opportunities in the region means that trout fishing opportunities are dispersed and so require substantial travel for many anglers, and also limits the number of feasible locations where trout fishing opportunities could be enhanced to compensate for the potential loss of trout fishing on Reach 1. Although additional travel would be required for some anglers who chose to shift some portion of their angling activity to the Kings River, the Kings River provides the best opportunity for maintaining the regional supply of trout fishing opportunities. See MCR-9, "Recreation Impacts and Kings River," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, for additional information relevant to this comment.

DFGA-132: The text cited in the comment, under Impact REC-4, is analyzed at the program level in the Draft PEIS/R. Future site-specific studies would address this impact and any necessary mitigation measures at the project level, and would determine the details of Mitigation Measure REC-4 or other appropriate mitigation if necessary. Under Mitigation Measure REC-4, specific actions to enhance fishing access would be developed in cooperation with the Kings River Conservancy and State and local agencies participating in ongoing park and river access construction and enhancement projects. Example projects include construction of the Kings River Access Park or similar facilities to provide anglers and others with amenities such as nonmotorized boat launches, parking areas, restrooms, information kiosks, and picnic tables. See also MCR-9, "Recreation Impacts and Kings River," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, for additional information relevant to this comment.

DFGA-133: Text of page 21-35, lines 38 through 40, of the Draft PEIS/R, revised in response to comment. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-134: This comment is substantially similar to DFGA-119. See response to DFGA-119.

DFGA-135: The action to recapture Interim and Restoration flows contributes to the Water Management goal of the Settlement. Exhibit B of the Settlement includes flow targets in six locations to determine achievement of the Restoration Goal, including at the confluence of the Merced River. The goal is to meet the flow targets stipulated in the Settlement unless there is a restriction, such as limited channel capacity downstream in Reach 4 or Reach 5, potential take of listed species that could not be avoided, or to redirect flows to minimize seepage impacts. As stated beginning on page 2-13, line 30 of the Draft PEIS/R, locations available for recapture of Interim and Restoration flows

within the Restoration Area include Mendota Pool and the East Bear Creek Unit of the San Luis National Wildlife Refuge. Interim and Restoration flows could be diverted from the Mendota Pool to the extent that these flows would meet demands, replacing CVP water supplies that would otherwise be delivered via the Delta Mendota Canal. If considerations in Reach 5 or in downstream reaches (such as channel capacity or potential take of listed species that could not be avoided) require that less (or no) flow enters those reaches, Interim and Restoration flows could be diverted to the East Bear Creek Unit in Eastside Bypass Reach 3, to the extent that these flows would meet water supply demands. Text has not been revised.

DFGA-136: An unknown portion of the approximately 3,300 waterfowl hunters who visited the San Luis National Wildlife Refuge during the 2010-11 season hunted in the Freitas unit, and accessed the unit via the San Joaquin River and Salt Slough, which bisects the unit. Approximately 1,300 waterfowl hunters visited the China Island unit during the 2010-11 season, but the unit is accessible by road, and it is not known how many hunters accessed the area via the San Joaquin River and Mud Slough. The potential for the proposed seasonal barriers to conflict with hunting access and opportunities in these units depends on the several undetermined factors in how the barriers would be implemented.

Temporary or permanent barriers may be implemented at Mud and Salt Sloughs. Temporary barriers may be acoustic bubble screens or rock barriers such as used at the Head of Old River. Bubble screen barriers would not pose a hindrance to boat passage. Rock barriers would need to be portaged, which may be feasible for trailer-launched and hand-launched boats (e.g., canoes and kayaks) at Mud Slough, where staffing of the barrier may be possible. (The project proponents would collaborate with USFWS and DFG to support staffing of portages for trailer-launched boats as needed.) Only portaging of hand-launched boats may be possible at Salt Slough, because staffing of a portage for trailer-launched boats would likely not be feasible at this remote site. Alternatively, hunters may launch boats at the Salt Slough boat access area in the South Freitas unit, about 8 miles downstream of the mouth of the slough, on the east side of Highway 165, and navigate into the North Freitas hunt zone west of Highway 165. Permanent barriers (e.g., bottom-hinged gates) would have a similar impact on boat access to the slough as a temporary rock barrier.

The timing of when the barriers would be operational is also an important factor in determining potential conflicts with boat passage for hunters. Barriers to prevent adult fall-run Chinook salmon from entering Salt and Mud sloughs would need to be operational during October and November, when fall-run fish typically migrate in the San Joaquin system. This would partially overlap with the waterfowl hunting season, which runs from late October through January. Barriers to prevent adult spring-run Chinook salmon from entering Salt and Mud sloughs would need to be operational during spring and summer, when spring-run fish would be expected to migrate in the San Joaquin system. This period of operation would not overlap with the waterfowl hunting season, and so the barriers would not create a conflict with boat access to the sloughs.

In summary, there are several factors that would reduce the potential conflict of the seasonal barriers with hunters' boat access to the sloughs: 1) some types of temporary barriers (e.g., bubble curtains) would not conflict with boat access, 2) other types of temporary barriers and permanent barriers could potentially be portaged by trailer-launched and/or hand-launched boats, 3) boat access is available to Salt Slough downstream of the proposed barrier at the mouth of the slough, and 4) only barriers operated to prevent migrating adult fall-run Chinook salmon from straying would conflict with boat access and for only a portion of the waterfowl hunting season. It should also be noted that ample opportunities for waterfowl hunting in other units of the San Luis National Wildlife Refuge, and North Grasslands Wildlife Area would be unaffected. For these reasons, impacts to recreation would be less than significant. This additional analysis does not change any conclusions presented in the Draft PEIS/R. Text has not been revised.

DFGA-137: Text of page 5-31, lines 6-9 revised as recommended by commenter. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-138: The Draft PEIS/R presents substantial evidence for the fisheries analysis regarding competition, disease, altered flow patterns, water temperature, and floodplains. These factors are discussed on pages 5-10 through 5-22 of the Draft PEIS/R for existing conditions in the Restoration Area. Pages 5-47 through 5-56 of the Draft PEIS/R address the potential for these and other environmental conditions to affect existing fisheries. Impacts FSH-1, FSH-6, FSH-8, FSH-9, FSH-11, FSH-13, FSH-22, FSH-25 through FSH-31, and FSH-34 through FSH-39 in Section 5.4, "Environmental Consequences and Mitigation Measures," of the Draft PEIS/R discuss the potential for changes in these and/or related conditions to impact existing fisheries as a result of the No-Action Alternative and action alternatives. The lead agencies believe that the analyses and conclusions presented in the Draft PEIS/R, as modified in response to comments as shown in Chapter 4.0, "Errata," of this Final PEIS/R, are thorough, complete, and clearly presented.

DFGA-139: As discussed in detail in MCR-7, "Adequacy of Conservation Strategy," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, the Implementing Agencies elected to consolidate many avoidance, minimization, monitoring, and management measures into a comprehensive, consistent, and integrated strategy to minimize and avoid potential impacts to sensitive species and habitats. Because it is part of the project description associated with all action alternatives, the Conservation Strategy will be implemented as stated in this PEIS/R. Because it would be implemented as part of any action alternatives, the Conservation Strategy would minimize and avoid potential impacts to sensitive species and habitats so that mitigation measures would not be necessary. The Conservation Strategy was developed during extensive coordination with USFWS, NMFS, and DFG, with each regulatory agency contributing measures, text, and revisions before publication in the Draft PEIS/R. Further, the Conservation Strategy will be implemented in coordination with these agencies. In this manner, the Conservation Strategy is consistent with and enforceable under both NEPA and CEQA. For the reasons set forth above and in MCR-7, Reclamation and DWR do not believe that any changes to the PEIS/R related to the Conservation Strategy are necessary.

DFGA-140: Impacts are resource-specific, and are presented in the resource-specific chapters, Chapters 4.0 through 26.0. Within the impact discussion section within these chapters, when potentially significant impacts are identified in the text, appropriate mitigation measures are identified immediately following the impact description. Text has not been revised.

DFGA-141: Comment noted. Impacts are resource-specific, and are presented in the resource-specific chapters, Chapters 4.0 through 26.0. A table appears at the beginning of each impact discussion within these chapters, showing significance conclusions and differences among alternatives for each impact. These tables are presented as one combined table, Table ES-8, in the Executive Summary of the Draft PEIS/R (with a separate table presented for cumulative impacts, due to the nature of these impact descriptions). Text has not been revised.

DFGA-142: Text of page 6-1, lines 19 through 24, of the Draft PEIS/R, has been revised in response to comment removing redundant text. See Chapter 4.0, "Errata," of this Final PEIS/R.

DFGA-143: Conservation Measure DBC-1 applies to Delta button-celery, a State-listed endangered plant species. A number of measures in the Conservation Strategy, including DBC-1, apply to this species. Prior to project-level actions, such as releasing Interim or Restoration flows into the bypass system, which could potentially affect Delta button-celery, DBC-1 requires surveys for Delta button-celery in areas potentially affected (i.e., areas inundated by 1,500–2,500 cfs), and the development of a conservation plan in consultation with DFG. DBC-1 also requires remapping and recensus of occupied habitat to document impacts, if any, and guide implementation of conservation measures and other related aspects of the SJRRP. DBC-1 is one of three conservation measures specific to Delta button-celery. DBC-2 provides specific avoidance and minimization measures to be applied to projects, and DBC-3 addresses requirements for compensatory mitigation, if necessary. In addition, the avoidance, minimization, and mitigation measures contained in Conservation Measures PLANTS-1 and PLANTS-2 also would apply to Delta button-celery. The Conservation Strategy identifies which of these measures apply to the entire program and/or actions evaluated at the project level in the Draft PEIS/R (in the third column of Table 2-7). For example, DBC-1 applies to both program and project-level actions. The conservation plan developed as part of DBC-1 would be consistent with all five of these measures (DBC-1, DBC-2, DBC-3, PLANTS-1, and PLANTS-2), which articulate the avoidance, minimization, compensatory mitigation, and management that would occur to conserve Delta button-celery. For the reasons set forth above, Reclamation and DWR do not believe that any changes to the PEIS/R related to conservation measures for effects on Delta button-celery are necessary.

DFGA-144: In Chapter 6.0, "Biological Resources – Vegetation and Wildlife," of the Draft PEIS/R, Impacts VEG-4 and VEG-19 provide program- and project-level evaluations, respectively, of the potential for Settlement actions to affect sensitive plant species, including Delta button-celery. These impact discussions provide an evaluation of potential effects on Delta button-celery both without implementation of Conservation Measures DBC-1, DBC-2, and DBC-3 (see the Conservation Strategy, Table 2-7 of the

Draft PEIS/R), and with implementation of those conservation measures. This response summarizes those impact discussions. For more detailed discussion of potential effects, please see Impacts VEG-4 and VEG-19.

As discussed in Impact VEG-4, some actions evaluated at the program level in the Draft PEIS/R could cause direct impacts to sensitive plant species including Delta button-celery. If these actions could cause direct impacts to sensitive plant species, including Delta button-celery, Conservation Measure DBC-2 requires the State lead agency to coordinate with DFG to determine specific minimization and mitigation measures, and the identified measures may include obtaining an Incidental Take Permit pursuant to Fish and Game Code Section 2081. With implementation of DBC-2, Impact VEG-4 would be less than significant.

As discussed in Impact VEG-19, Interim and Restoration flows could benefit Delta button-celery by enhancing and creating suitable floodplain habitat. (Delta button-celery is a species of seasonally inundated floodplain habitats, and its habitat has been adversely affected by the construction and operation of Friant Dam and the associated levee, canal, and bypass systems.) However, operation of Friant Dam to release Interim and Restoration flows would increase the frequency and duration of spring and summer inundation in habitats currently occupied by Delta button-celery, which could adversely affect existing plants, and thus, the population. Conservation Measure DBC-1 would map habitat occupied by Delta button-celery prior to inundation by Interim and Restoration Flows, and monitor occupied habitat after inundation by Interim and Restoration Flows to determine the population trend in response to these flows. If the population has been adversely affected, minimization and mitigation measures would be developed in coordination with DFG as described by Conservation Measure DBC-3, which provides minimum requirements that these measures must satisfy. Measures identified in coordination with DFG may include the State lead agency obtaining an Incidental Take Permit pursuant to Fish and Game Code Section 2081 conjunction. Impact VEG-19 concluded that with implementation of Conservation Measures DBC-1 and DBC-3, potential impacts to Delta button-celery from operation of Friant Dam to release Interim and Restoration flows would be less than significant. Text has not been revised.

DFGA-145: As stated on page 6-70 of the Draft PEIS/R, some program-level actions, including construction and modification of facilities, and spawning gravel augmentation, could have small adverse effects on conservation plans. However, implementing project alternatives would not adversely affect adopted conservation plans. Project- and program-level actions would not substantially reduce the viability of target species, reduce habitat value or interfere with the management of conserved lands, or eliminate opportunities for conservation actions. Further, these actions would support the enhancement and restoration of biological resources along the San Joaquin River, which is consistent with the goals and objectives of all potentially affected Federal, State, regional, and local plans. As discussed in detail in MCR-7, “Adequacy of Conservation Strategy,” in Chapter 2.0, “Master Comment Responses,” of this Final PEIS/R, the Conservation Strategy was developed during extensive coordination with USFWS, NMFS, and DFG, with each regulatory agency contributing measures, text, and revisions before publication in the Draft PEIS/R. The Conservation Strategy includes specific

conservation goals and measures for species and communities (including avoidance, minimization, monitoring, and management measures) consistent with adopted recovery plans and similar or identical to the mitigation measures of numerous other water-related projects affecting the same or similar species. For the reasons set forth above and in MCR-7, Reclamation and DWR do not believe that any changes to the PEIS/R related to conservation plans are necessary.

DFGA-146: The Draft PEIS/R acknowledges that without implementation of the Conservation Strategy, operation of Friant Dam to release Interim and Restoration flows could potentially affect sensitive biological resources, including vernal pools and other wetlands, and sensitive plant and wildlife species (see the discussions of Impacts VEG-15 through VEG-25 in Chapter 6.0, "Biological Resources – Vegetation and Wildlife," of the Draft PEIS/R). The Conservation Strategy includes 21 conservation measures that would apply to the operation of Friant Dam to release Interim and Restoration flows and that include measurable and enforceable actions to reduce impacts, and that were developed in coordination with DFG, and many of which are comparable or identical to mitigation measures of other proposed and recently implemented water-related projects. As discussed in detail in MCR-7, "Adequacy of Conservation Strategy," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, the Conservation Strategy was developed during extensive coordination with USFWS, NMFS, and DFG, with each regulatory agency contributing measures, text, and revisions before publication in the Draft PEIS/R. In this manner, the Conservation Strategy is consistent with and enforceable under both NEPA and CEQA.

The Draft PEIS/R presents substantial evidence for the analysis of riparian vegetation response to the actions to release Interim and Restoration flows. This substantial evidence includes the scientific and other technical literature summarized in the Environmental Setting and Appendix L, "Biological Resources – Vegetation and Wildlife," of the Draft PEIS/R, and the modeling of riparian vegetation response to the operation of Friant Dam for releasing Interim and Restoration flows that is presented in Appendix N, "Geomorphology, Sediment Transport, and Vegetation Assessment," of the Draft PEIS/R. The additional analysis suggested in the comment would support the analysis presented in the PEIS/R; however, there is sufficient substantial evidence in the analyses of the Draft PEIS/R, and additional analysis would not alter the impact conclusions in the Draft PEIS/R. For the reasons set forth above and in MCR-7, Reclamation and DWR do not believe that any changes to the PEIS/R related to analysis of the project-level effects of operating Friant Dam to release Interim and Restoration flows are necessary.

DFGA-147: As discussed in response to comment DFGA-146, the Draft PEIS/R presents substantial evidence for the analyses of riparian vegetation response to the actions to release Interim and Restoration flows. This substantial evidence includes the scientific and other technical literature summarized in the Environmental Setting and Appendix L, "Biological Resources – Vegetation and Wildlife," of the Draft PEIS/R and the modeling of riparian vegetation response to the action to operate Friant Dam to release Interim and Restoration flows that is presented in Appendix N, "Geomorphology, Sediment Transport, and Vegetation Assessment," of the Draft PEIS/R. The additional analysis suggested in the comment would support the analysis presented in the PEIS/R; however,

there is sufficient substantial evidence in the analyses of the Draft PEIS/R, and additional analysis would not alter the impact conclusions in the Draft PEIS/R.

As noted in the comment, the anticipated structure and function of restored habitats are not guaranteed. That is, in part, the reason that Conservation Measures RHSNC-2 and INV 1, developed in coordination with DFG, are included in the Conservation Strategy (Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R). Conservation Measure RHSNC-2 entails the development and implementation (in coordination with DFG) of a Riparian Habitat Mitigation and Monitoring Plan for the SJRRP, and INV-1 would entail implementation of the Invasive Vegetation Monitoring and Management Plan (Appendix L, "Biological Resources – Vegetation and Wildlife," of the Draft PEIS/R) in conjunction with riparian monitoring and consistent with recommendations in Appendix D, "Fish and Wildlife Coordination Act Report," of this Final PEIS/R. These and other conservation measures included in the Conservation Strategy provide assurances that operation of Friant Dam to release Interim and Restoration flows, and implementation of the Settlement overall, would minimize or avoid impacts to sensitive habitats and species included in the conservation strategy. For the reasons set forth above, Reclamation and DWR do not believe that any changes to the PEIS/R related to analysis of the project-level effects of operating Friant Dam to release Interim and Restoration flows are necessary.

DFGA-148: As discussed in detail in MCR-7, "Adequacy of Conservation Strategy," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, the Conservation Strategy was developed during extensive coordination with USFWS, NMFS, and DFG, with each regulatory agency contributing measures, text, and revisions before publication in the Draft PEIS/R. The Conservation Strategy of the SJRRP contains a comprehensive, integrated set of conservation measures (developed in coordination with DFG) to avoid or minimize adverse effects on sensitive species, including activities with the potential to "take" State-listed species (see Conservation Strategy in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R). Many of these conservation measures are comparable or identical to mitigation measures of other proposed and recently implemented water-related projects. For State-listed species, these conservation measures would be implemented in coordination with DFG. Examples include Conservation Measures BAT-2, BRO-2, CTS-3, DBC-2 and DBC-3, FKR-3, GGS-2, PLANTS-2, RAPTOR-2, and SJKF-2.

The Implementing Agencies elected to consolidate many avoidance, minimization, monitoring, and management measures into a comprehensive, consistent, and integrated strategy to minimize and avoid potential impacts to sensitive species and habitats. Because it is part of the project description associated with all action alternatives, the Conservation Strategy will be implemented as described in the project description of this PEIS/R. The Conservation Strategy was developed during extensive coordination with USFWS, NMFS, and DFG, with each regulatory agency contributing measures, text, and revisions before publication in the Draft PEIS/R. Further, the Conservation Strategy will be implemented in coordination with these agencies. In this manner, the Conservation Strategy is consistent with and enforceable under both NEPA and CEQA. For the

reasons set forth above and in MCR-7, Reclamation and DWR do not believe that any changes to the PEIS/R related to analysis of effects on State-listed species are necessary.

DFGA-149: Comment is incorrect; section 2.4.1, "Project-Level Actions" does not describe program-level actions (referred to in the comment as programmatic-level), which will require subsequent analysis pursuant to NEPA and/or CEQA during subsequent site-specific studies. This section describes project-level action. Mitigation measures are identified for both project- and program-level actions, where appropriate. Mitigation measures are presented in their entirety for significant and potentially significant project-level impacts, in accordance with Section 15126.4 of the CEQA Guidelines, and are fully enforceable through permit conditions, agreements, or other legally binding instruments. For significant and potentially significant program-level actions, types of potential mitigation measures are identified. The differences in mitigation measures for project- and program-level impacts are described further in Chapter 3.0, "Considerations for Describing Affected Environment and Environmental Consequences." Text has not been revised.

DFGA-150: The action to operate the San Joaquin River Headgate for the purpose of conveying Interim or Restoration flows to Reach 4B1 during non-flood periods would require subsequent site-specific analysis pursuant to NEPA and/or CEQA because it is described and analyzed at a program level of detail in the PEIS/R. See Chapter 1.0, "Introduction," of the Draft PEIS/R, for a discussion of the project- and program-level analyses provided in the PEIS/R. Text has not been revised.

DFGA-151: As described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, trap and haul was included in all of the action alternatives, and the impacts were evaluated at a program level of detail. The Draft PEIS/R states that for all actions evaluated at a program level of detail, subsequent NEPA and/or CEQA analysis would be required (see page 1-10, lines 3 through 20, of the Draft PEIS/R). The permits and approvals that may be needed to implement the SJRRP, including any future trap and haul actions, if implemented, are described on page 1-11, in Table 1-3, and in Chapter 28.0, "Consultation, Coordination, and Compliance," of the Draft PEIS/R. As specific trap and haul actions are not known at this time, it is unknown what Federal and/or State ESA authorization for take of species, if any, would be needed. If take authorization is necessary, the appropriate permits and approvals would be obtained prior to implementing such program-level actions.

DFGA-152: As discussed in detail in MCR-7, "Adequacy of Conservation Strategy," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, the Conservation Strategy was developed during extensive coordination with USFWS, NMFS, and DFG, with each regulatory agency contributing measures, text, and revisions before publication in the Draft PEIS/R. The Implementing Agencies elected to consolidate many avoidance, minimization, monitoring, and management measures into a comprehensive, consistent, and integrated strategy to minimize and avoid potential impacts to sensitive species and habitats. Because it is part of the project description associated with all action alternatives, the Conservation Strategy will be implemented as described in the project description of the PEIS/R. The Conservation Strategy was developed during extensive

coordination with USFWS, NMFS, and DFG, with each regulatory agency contributing measures, text, and revisions before publication in the Draft PEIS/R. Further, the Conservation Strategy will be implemented in coordination with these agencies. In this manner, the Conservation Strategy is consistent with and enforceable under both NEPA and CEQA.

DFGA-153: As stated in Chapter 28.0, "Consultation, Coordination, and Compliance," of the Draft PEIS/R, Reclamation and DWR consulted early in the planning process with USACE regarding the Section 404 CWA compliance. It was determined that a Section 404 permit will not be required for actions described at the project-level in the Draft PEIS/R. However, Section 404 permits may be required for actions described at a program level.

Before initiating any program-level actions that could result in discharge into jurisdictional features, the project proponents for subsequent site-specific projects will apply for a CWA permit from USACE. USACE will evaluate the proposed action to determine whether it is the least environmentally damaging practicable alternative pursuant to Section 404(b)(1) Guidelines. This PEIS/R evaluates the environmental effects on jurisdictional features resulting from the discharge of dredged and fill material to support a Section 404(b)(1) analysis, although details specific to restoration and other actions would need to be submitted at the time of the permitting process, including wetland delineations prepared in accordance with USACE "Minimum Standards for Acceptance of Preliminary Wetland Delineations" as appropriate. USACE will determine whether the specific proposed action would be authorized under the Nationwide Permit Program or whether an individual permit would be applicable. Early and ongoing coordination with USACE, and the requirement to obtain permits from USACE before initiating any actions, demonstrates that Reclamation and DWR are committed to complying with the CWA. Reclamation, DWR, and USACE have been meeting regularly to discuss Section 404 compliance issues. Text has not been revised.

DFGA-154: Conservation Strategy measure VP-2, shown in Table 2-7 of the Draft PEIS/R, applies to ground-disturbing activities, which are program-level activities only, as shown in Table 2-2 of the Draft PEIS/R. Text has not been revised.

DFGA-155: Text in Executive Summary and Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R revised as recommended adding DFG for obtaining approval of biological monitors. Table ES-6 and Table 2-7 of the Draft PEIS/R revised in response to comment. See Chapter 4.0, "Errata," of the Draft PEIS/R.

DFGA-156: Comment noted. The Conservation Strategy does not override or replace requirements pursuant to ESA, Migratory Bird Treaty Act (MBTA), CESA, California Fish and Game Code, or other relevant laws and regulations, or the need for coordination with USFWS, NMFS, and DFG during Settlement implementation. See also response to comment DFGA-158.

DFGA-157: Comment noted. The Conservation Strategy does not override or replace requirements pursuant to ESA, MBTA, CESA, California Fish and Game Code, or other

relevant laws and regulations, or the need for coordination with USFWS, NMFS, and DFG during Settlement implementation. See also response to comment DFGA-158.

DFGA-158: The purpose of the Conservation Strategy is to minimize and avoid potential impacts to sensitive species and habitats. It does not override or replace requirements pursuant to ESA, MBTA, CESA, California Fish and Game Code, or other relevant laws and regulations, or the need for coordination with USFWS, NMFS, and DFG during Settlement implementation. The need for any project proponent to comply with ESA, MBTA, CESA, and California Fish and Game Code, including the potential need for further consultation and/or application for incidental take permits from one or more regulatory agencies for effects to special-status species, is described in Chapter 28.0, "Consultation, Coordination, and Compliance," of the Draft PEIS/R. This chapter also describes the California Fish and Game Code Sections 3511, 4700, 5050, and 5515 that prohibit DFG from authorizing take or possession of fully protected species. As stated on page 28-24, lines 22-23, "Reclamation and DWR are working closely with DFG to evaluate methods to avoid take of fully protected species." In addition, this chapter describes California Fish and Game Code Section 1602, including the need for project proponents to obtain a DFG Streambed Alteration Agreement for any project that would result in an impact on a river, stream, or lake. Text has not been revised.

DFGA-159: Comment noted. The Conservation Strategy does not override or replace requirements pursuant to ESA, MBTA, CESA, California Fish and Game Code, or other relevant laws and regulations, or the need for coordination with USFWS, NMFS, and DFG during Settlement implementation. See also response to comment DFGA-158.

DFGA-160: Comment noted. The Conservation Strategy does not override or replace requirements pursuant to ESA, MBTA, CESA, California Fish and Game Code, or other relevant laws and regulations, or the need for coordination with USFWS, NMFS, and DFG during Settlement implementation. See also response to comment DFGA-158.

DFGA-161: As described in measure EAGLE-1, if an active eagle's nest is found, project disturbance will not occur within ½ mile of the active nest site during the breeding season (typically December 30 to July 1) or any project disturbance if it is shown to disturb the nesting birds. A no-disturbance buffer will be established around the nest site for construction activities in consultation with USFWS and DFG, and will depend on ecological factors, including topography, surrounding vegetation, nest height, and distance to foraging habitat, as well as the type and magnitude of disturbance, and worker awareness training and biological monitoring will be conducted to ensure that avoidance measures are being implemented. Text has not been revised. See also response to comment DFGA-158.

DFGA-162: Text in Executive Summary and Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R has been revised as recommended citing Swainson's hawk survey protocol. Table ES-6 and Table 2-7 of the Draft PEIS/R revised in response to comment. See Chapter 4.0, "Errata," of the Draft PEIS/R.

DFGA-163: Comment noted. As described in the Executive Summary and Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, additional CEQA compliance documentation will be developed as applicable for relevant program-level actions, and foraging habitat compensation would be developed in coordination with DFG. Text has not been revised. See also response to comment DFGA-158.

DFGA-164: Removal of Swainson's hawk nest trees is not planned or anticipated after implementation of Conservation Measures SWH-1 and SWH-2. Additional CEQA compliance documentation will be developed as applicable for relevant program-level actions, and compensation mitigation would be developed in coordination with DFG. See also responses to comments DFGA-158 and DFGA-163.

DFGA-165: Text in Executive Summary and Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R has been revised as recommended updating dates for non-breeding general raptor period. Table ES-6 and Table 2-7 of the Draft PEIS/R revised in response to comment. See Chapter 4.0, "Errata," of the Draft PEIS/R.

DFGA-166: Comment noted. Text has not been revised.

DFGA-167: Text in Executive Summary and Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R has been revised as recommended citing the recommended Burrowing Owl Survey Protocol and Mitigation Guidelines. Table ES-6 and Table 2-7 of the Draft PEIS/R revised in response to comment. See Chapter 4.0, "Errata," of the Draft PEIS/R.

DFGA-168: Text in Executive Summary and Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R has been revised as recommended citing the Draft Staff Report on Burrowing Owl Mitigation. Table ES-6 and Table 2-7 of the Draft PEIS/R revised in response to comment. See Chapter 4.0, "Errata," of the Draft PEIS/R.

DFGA-169: Destruction of occupied burrows is not planned or anticipated after implementation of Conservation Measures BRO-1 and BRO-2. Conservation Measure BRO-2(b) describes what would occur in the eventuality that an occupied burrow is inadvertently destroyed. Text has not been revised.

DFGA-170: Text in Executive Summary and Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R has been revised as recommended describing roosting habitat for bat species. Table ES-6 and Table 2-7 of the Draft PEIS/R revised in response to comment. See Chapter 4.0, "Errata," of the Draft PEIS/R.

DFGA-171: Comment noted. The Conservation Strategy does not override or replace requirements pursuant to ESA, MBTA, CESA, California Fish and Game Code, or other relevant laws and regulations, or the need for coordination with USFWS, NMFS, and DFG during Settlement implementation. See also response to comment DFGA-158.

DFGA-172: Comment noted. As stated in Conservation Measure FKR-1(a), surveys will be conducted by a qualified biologist per USFWS and DFG survey protocols, which would include any permitting or approval requirements. Text has not been revised.

DFGA-173: Text in Executive Summary and Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R has been revised as recommended defining the breeding season for Fresno kangaroo rat. Table ES-6 and Table 2-7 of the Draft PEIS/R revised in response to comment. See Chapter 4.0, "Errata," of the Draft PEIS/R.

DFGA-174: The expected level of impact to this species is described in Chapter 6.0, "Biological Resources – Vegetation and Wildlife," of the Draft PEIS/R. Conservation Measures FKR-1 and FKR-2 are intended to avoid and minimize potential effects to Fresno kangaroo rat and to avoid disturbance to designated critical habitat. With implementation of these measures, impacts to this species and designated critical habitat would be less than significant. Conservation Measure FKR-3 describes what would occur in the eventuality that unanticipated impacts to designated critical habitat occur. The potential for program-level actions to impact this species or jeopardize the continued existence of the species will be analyzed at the project-specific level for subsequent site-specific actions. Text has not been revised.

DFGA-175: Text in Executive Summary and Chapter 2.0, "Description of Alternatives" of the Draft PEIS/R, has been revised as recommended adding the source for breeding season for San Joaquin kit fox. Table ES-6 and Table 2-7 of the Draft PEIS/R revised in response to comment. See Chapter 4.0, "Errata," of the Draft PEIS/R.

DFGA-176: Comment noted. The Conservation Strategy does not override or replace requirements pursuant to ESA, MBTA, CESA, California Fish and Game Code, or other relevant laws and regulations, or the need for coordination with USFWS, NMFS, and DFG during Settlement implementation. See also response to comment DFGA-158.

DFGA-177: Comment noted. The Conservation Strategy does not override or replace requirements pursuant to ESA, MBTA, CESA, California Fish and Game Code, or other relevant laws and regulations, or the need for coordination with USFWS, NMFS, and DFG during Settlement implementation. See also response to comment DFGA-158.

DFGA-178: Text in Table ES-6 in the Executive Summary and Table 2-7 in Chapter 2.0, "Description of Alternatives" of the Draft PEIS/R revised as recommended adding DFG as a regulatory agency under Conservation Measure WUS-2. See Chapter 4.0, "Errata," of this Final PEIS/R.

3.7.7 Department of Fish and Game Attachment B

DFGB

DFG Revisions: Chapter 28 Consultation, Coordination, and Compliance

California Environmental Quality Act
Prompted by the passage of NEPA in 1969, the CEQA was signed into law in 1970 as California's counterpart to NEPA. CEQA is a statute that requires State and local agencies to identify the significant environmental impact of their actions and avoid or mitigate those impacts, if feasible. The objectives of CEQA are to do all of the following:

- Disclose to decision-makers and the public the significant environmental effects of proposed activities.
- Identify ways to avoid or reduce environmental damage
- Prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures
- Disclose to the public reasons for agency approval of projects with significant environmental effects
- Foster interagency coordination in the review of projects
- Enhance public participation in the planning process

DFGB-1a

Depending on the potential impacts of a proposed project, environmental information is presenting in one of three CEQA documents: a Notice of Exemption, and Initial Study supporting either a Negative Declaration or Mitigated Negative Declaration, or an EIR.

As NEPA and CEQA lead agencies, respectively, Reclamation and DWR collaborated to prepare this joint PEIS/R. Project level actions are analyzed in this PEIS/R at a project-specific level. Program-related actions would require future, project-specific preparation of NEPA and CEQA compliance documentation before implementation. This document identifies anticipated and probable significant effects of the program and project-level actions, as well as feasible mitigation measures. This document also compares No-Action Alternative and action alternatives to allow evaluation of their relative environmental consequences.

Trustee agencies are state agencies that have jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California, per CEQA Guidelines section 15386. Trustee agencies use the CEQA process to identify and comment on projects that could impact resources under their jurisdiction. Pursuant to Fish and Game Code Section 1802, DFG has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species.

Responsible agencies are public agencies that propose to carry out or approve a project, for which a lead agency is preparing or has prepared an EIR or Negative Declaration (CEQA Guideline section 15381). CEQA documents provided by the lead agency should be written to allow responsible agencies to take subsequent discretionary actions subject to CEQA. DFG has been identified as a responsible agency that will have regulatory authority over natural resources that may be impacted under this Project. DFG has

DFGB-1a (con't)

regulatory authority over projects that could result in the "take" of any species by the State as threatened or endangered, pursuant to Fish and Game Code Section 2081. If the Project could result in the "take" of any species listed as threatened or endangered under CESA, DFG may need to issue an Incidental Take Permit. Additionally, DFG has regulatory authority over activities in the bed, bank, or channel of lakes, rivers, and streams, under Section 1602 of the California Fish and Game Code. If any portion of the CEQA documents (program/project-level) are invalidated as a result of litigation, DFG will not be able to utilize them for subsequent discretionary approvals that are subject to CEQA.

California Endangered Species Act

Pursuant to CESA, a permit from DFG is required for projects that could result in the take of a plant or animal species that is State-listed as threatened, endangered or as a candidate species. Under CESA, "take" is defined as to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill (California Fish and Game Code (FGC) § 86). Unlike the Federal ESA, the CESA definition of take does not include "harming" or "harassing."

A separate incidental permit or multiple Incidental Take Permits under Section 2081 of CESA will likely need to be obtained to implement project-level actions. The appropriate process for obtaining incidental take authorization under CESA is determined based on DFG recommendations. DFG will be relying on both program-level and project-level CEQA documents provided by the program as appropriate to issue Incidental Take Permits.

DFGB-1b

CESA permit issuance criteria require that the Project impacts to State-listed species for which "take" authorization would be needed, are minimized and fully mitigated. This means that the Project must not diminish the overall populations of State-listed species. In addition, projects are required to quantify and include the impacts of the permitted "take" of a State-listed species, together with all other impacts on the species that result from any act that would cause the proposed taking, per Title 14, CCR, Section 783.4.

Reclamation and DWR have involved DFG at the early stages of the planning to incorporate avoidance measures for State-listed species that may be affected. As described in this document, project proponents for subsequent site-specific projects may obtain a 2081 Incidental Take Permit prior to implementing project-level actions that would result in take of State-listed species.

FGC Sections 3503 and 3503.5 state that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, and that is unlawful to take, possess, or destroy any raptors (i.e. species in the orders *Falconiformes* and *Stringiformes*), including their nests or eggs. Typical violations of these codes include destruction of active nests resulting from removing vegetation in which the nests are located. Violations of Section 3503.5 could also include failure of active raptor nests resulting from disturbance of nesting pairs by nearby project construction. This statute does not provide for issuing any type of incidental take permit.

DFGB-1b (con't)

This document identifies program-level actions that would potentially disturb nesting birds. To comply with Sections 3503 and 3503.5, this PEIS/R described conservation strategies to avoid disturbing nesting birds. These measures include conducting preconstruction surveys, ceasing vegetation removal activities if the vegetation is occupied by active nests, and establishing environmentally sensitive areas around nesting birds to minimize construction disturbance of any nesting pair, and to avoid forced fledging. In addition to the measures stated above, the program will continue to consult with DFG on program and project activities.

DFGB-1c

California Fish and Game Code – Fully Protected Species
Projection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of California Fish and Game Code. These statutes prohibit take or possession of fully protected species. DFG is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species. DFG has informed non-federal agencies and private parties that they must avoid take of any fully protected species in carrying out projects.

Reclamation and DWR are working closely with DFG to evaluate methods to avoid take of fully protected species.

DFGB-1d

California Fish and Game Code Section 1602 – Streambed Alteration
All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by DFG under Section 1602 of the California Fish and Game Code. Under Section 1602, it is unlawful for any person, governmental agency, or public utility to do the following without first notifying DFG:

> *...substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake*

A stream is defined as a body of water that flows at least periodically or intermittently through a bed or channel that has banks and supports fish or other aquatic life. This definition included watercourses with a surface flow that supports or has supported riparian vegetation. DFG's jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife. A DFG Streambed Alteration Agreement must be obtained for any project that would result in an impact on a river, stream, or lake.

This combined PEIS/R identifies potential program-level actions that would require the alteration of stream features subject to Section 1602, will apply for a Streambed Alteration Agreement from DFG. Project-level actions detailed in this PEIS/R may require a Streambed Alteration Agreement. Issuance of Streambed Alteration

DFGB-1d (con't)

Agreements will rely on adequate impact analysis in program and project-level CEQA documents.

Responses to Comments from the Department of Fish and Game Attachment B

DFGB-1a: Text added to page 28-23, between lines 20 and 21, of the Draft PEIS/R, in response to the text provided in Department of Fish and Game Attachment B. See Chapter 4.0, "Errata," of this Draft PEIS/R.

DFGB-1b: Text of page 28-23, line 21, through page 28-24, line 14, of the Draft PEIS/R, revised in response to the text provided in Department of Fish and Game Attachment B. See Chapter 4.0, "Errata," of this Draft PEIS/R.

DFGB-1c: Text recommended in this comment is identical to the text of page 28-24, lines 15 through 23 of the Draft PEIS/R. Text has not been revised.

DFGB-1d: Text of page 28-24, line 24, through page 28-25, line 7, of the Draft PEIS/R, revised in response to the text provided in Department of Fish and Game Attachment B. See Chapter 4.0, "Errata," of this Draft PEIS/R.

3.7.8 San Joaquin River Conservancy

SJRC

700.55

SAN JOAQUIN RIVER CONSERVANCY
STATE OF CALIFORNIA

5469 E. Olive Avenue
Fresno, California 93727
Telephone (559) 253-7324
Fax (559) 456-3194
www.sjrc.ca.gov

Sent via email
September 21, 2011

Ms. Michelle Banonis
SJRRP Natural Resources Specialist
U.S. Bureau of Reclamation
2800 Cottage Way, MP-170
Sacramento CA 95825-1898

Ms. Fran Schulte
SJRRP Program Office
California Department of Water Resources,
South Central Region Office
3374 E. Shields Ave.
Fresno CA 93726

Dear Ms. Banonis and Ms. Schulte:

Comments on San Joaquin River Restoration Program (SJRRP) Draft Program EIS/EIR

The San Joaquin River Conservancy is a regionally governed state agency formed to implement and manage the San Joaquin River Parkway, a planned 22-mile regional natural and recreation area in the river-bottom extending from Friant Dam to Highway 99. The Conservancy's mission includes acquiring approximately 5,900 acres from willing sellers, operating and managing those lands for public recreation and education, and protecting, enhancing, and restoring riparian and floodplain habitat.

The Conservancy governing board adopted the San Joaquin River Parkway Master Plan and certified its programmatic Environmental Impact Report in 1997. The Parkway Master Plan provides goals, objectives, and design standards for appropriate public recreational uses, trail corridors, buffers, fishing and boating access, etc. on public Parkway lands. SJRC-1

The Parkway reach coincides with Reach 1a of the San Joaquin River Restoration Program. The Conservancy is the primary landowner within Reach 1a with fee title ownership of approximately 2,541 acres, and is actively negotiating to buy additional conservation lands. The Conservancy has provided maps of its lands to the SJRRP. Many of these properties were acquired after they were mined for gravel, and therefore are targeted for channel restoration and gravel pond isolation.

The Program EIS/EIR identifies potentially significant impacts to recreation, in particular recreational fishing, boating, and bicycle and pedestrian circulation. Further, Conservancy lands and Parkway plans will be directly affected by construction to isolate gravel ponds from the river channel, and other possible channel and floodplain modifications.

The Conservancy recommends the following additional mitigation measures to lessen these impacts, and in some cases increase the benefits of the SJRRP:

SJRC-1 cont'd

1. The San Joaquin River Conservancy and SJRRP are involved in on-going activities to coordinate projects on the San Joaquin River to achieve mutually beneficial goals. The SJRRP should ensure that professional coordination and technical expertise are available to those planning and developing the Parkway to ensure benefits are maximized from the public investment in fully integrated projects, and to ensure that inadvertent, avoidable costs are not incurred due to lack of coordination.

SJRC-2

2. Restoration improvements in the Parkway reach, and in particular on Conservancy and other public lands, should be designed to set the foundation for future Parkway projects consistent with the Parkway Master Plan. For example, the final configuration of restored lands should to the extent possible provide appropriate alignments, sites, and grades for future Parkway trails, fishing and boating access, and ancillary facilities such as staging areas and restrooms. SJRRP should avoid extensive habitat planting in locations planned for Parkway structures and facilities.

SJRC-3

3. The SJRRP should commit to assisting the Conservancy and public agencies involved in providing recreation and river access, with public information, education, management, and enforcement as necessary to prevent and minimize non-compliance with SJRRP-related prohibitions and controls on recreational fishing, and to address changes in boating opportunities and conditions.

SJRC-4

4. The SJRRP should commit to cooperatively enhancing or developing off-stream warm water fishing opportunities within the Parkway to partially offset impacts of the SJRRP on in-stream fishing. The Conservancy has several ponds that with a reasonable level of improvement and management, could help meet the demand.

SJRC-5

5. Where future project-specific studies require habitat conservation or enhancement as mitigation, the SJRRP should explore opportunities to meet the requirements by supporting Conservancy habitat enhancement and restoration projects or contributing toward Conservancy conservation land acquisitions. These partnerships could meet regulatory mitigation obligations cost-effectively, directly benefit the community, maximize habitat improvements by creating larger scale protected areas, and help to accomplish regional resource conservation and management objectives.

SJRC-6

The SJRRP in Reach 1a can be planned, designed, and implemented in cooperation with the Conservancy, its member agencies, and nonprofit partners in a manner that will enhance the benefits and reduce the costs that would be experienced if river restoration and the Parkway were developed in isolation of each other. We look forward to the opportunity to advance the San Joaquin River Parkway through partnership with the SJRRP.

Please contact me at (559) 253-7324 or email Melinda.Marks@sjrc.ca.gov if you need additional information.

Respectfully,

Melinda S. Marks
Executive Officer

Responses to Comments from San Joaquin River Conservancy

SJRC-1: Comment noted. The comment does not raise issues or concerns specific to the environmental analysis presented in the Draft PEIS/R. The lead agencies recognize and appreciate the careful consideration of the SJRRP and future of the San Joaquin River, as well as the valuable knowledge of the Restoration Area offered by SJRC and other state agencies and non-profit organizations active along the San Joaquin River. Reclamation and DWR recognize the need to work with these organizations to provide maximum benefits and minimize inefficiency during the implementation of both the San Joaquin River Parkway and the SJRRP. The Implementing Agencies also present information and collect feedback on past and future SJRRP activities through outreach activities, including public meetings of technical feedback work groups focused on technical issues including fisheries management, seepage and conveyance, and water management. The SJRC and other agencies and organizations are invited and welcome to attend and participate in these outreach activities. Text has not been revised.

SJRC-2: Comment noted. The action alternatives described in the Draft PEIS/R are defined broadly and include provisions for flexibility in implementation. Accordingly, action alternatives evaluated in the Draft PEIS/R address large-scale systemwide variations, with flexibility for different methods of implementation. None of the action alternatives preclude implementation in coordination with other restoration and conservation activities within the Restoration Area. As described in Chapter 21.0, "Recreation," of the Draft PEIS/R, the lead agencies are committed to implementing mitigation measures including coordination with agencies and organizations that provide recreation access, facilities, and services in each reach. See also response to comment SJRC-1.

SJRC-3: As described in Chapter 21.0, "Recreation," of the Draft PEIS/R, Reclamation is committed to implementing mitigation measures including coordination with agencies and organizations that provide recreation access, facilities, and services in each reach. Specifically, this would include the following public and nonprofit agencies and organizations: the SJRPCT; SJRC; Fresno County; PARCS Department; and DFG. The inclusion of this discussion does not change the analysis or conclusions of the Draft PEIS/R. Text has not been revised.

SJRC-4: Mitigation Measure REC-5, described in Chapter 21.0, "Recreation," of the Draft PEIS/R, would enhance remaining warm water fishing opportunities or create new opportunities in the Reach 1 vicinity. Specific actions to enhance warm water fishing opportunities would be developed in cooperation with SJRC, SJRPCT, DFG, Fresno County, and other agencies participating in management of the San Joaquin River Parkway, as described in Chapter 21.0 of the Draft PEIS/R. Enhancement actions could include improvements to facilities such as Sycamore Island Park (owned by SJRC and operated by a concessionaire) and Woodward Park (owned and operated by the City of Fresno) where warm water fishing opportunities exist and will remain. Creation of new opportunities could occur at existing ponds, including enhancing and stocking existing ponds, such as those within the River West – Fresno (Spano River Ranch) and River West – Madera (Proctor-Broadwell-Cobb property) San Joaquin River Parkway sites, for which plans for restoration and recreational access are being developed (City of Fresno

2011, Madera County 2011), or through developing new ponds in the vicinity of the parkway but in locations that would not create potential conflicts with Settlement goals. For more information related to this topic, see MCR-9, "Recreation Impacts and Kings River," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R.

SJRC-5: Comment noted. The need for habitat conservation or enhancement as mitigation for actions evaluated at a program level in the PEIS/R would be addressed in future site-specific environmental documentation and during the design efforts for each subsequent project. The lead agencies anticipate that the Riparian Habitat Mitigation and Monitoring Plan (see page 2-74 of the Draft PEIS/R) would document a net benefit in the acreage and/or ecological function of riparian and wetland habitats, and that this benefit would be applied to mitigation requirements resulting from site-specific impacts of some SJRRP actions. The lead agencies recognize and appreciate the careful consideration of the SJRRP and future of the San Joaquin River, as well as the valuable knowledge of the Restoration Area offered by the SJRC and other agencies and organizations active along the San Joaquin River. The Implementing Agencies have conducted and will continue to conduct extensive public and stakeholder outreach activities to engage and inform interested parties of SJRRP activities early in the scoping process and throughout the development of the PEIS/R, and into the future as SJRRP actions are implemented and monitored. Text has not been revised.

SJRC-6: The lead agencies recognize and appreciate the careful consideration of the SJRRP and future of the San Joaquin River, as well as the valuable knowledge of the Restoration Area offered by the SJRC and other state agencies and non-profit organizations active along the San Joaquin River. The SJRC and other agencies and organizations are invited and welcome to attend and participate in future SJRRP outreach and coordination activities.

3.7.9 State Water Resources Control Board

State Water Resources Control Board

September 21, 2011

Ms. Michelle Banonis
Natural Resources Specialist
Bureau of Reclamation
2800 Cottage Way, MP-170
Sacramento, CA 95825-1898

Dear Ms. Banonis

COMMENTS FOR THE DRAFT PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT FOR THE SAN JOAQUIN RIVER RESTORATION PROGRAM

The State Water Resources Control Board (State Water Board) staff appreciates the opportunity to review and provide comments on the draft Programmatic Environmental Impact Statement/Environmental Impact Report (PEIS/R) for the San Joaquin River Restoration Program (SJRRP). Comments on the draft PEIS/R were originally due June 21, 2011 but the review and comment period was extended through September 21, 2011.

Background
The SJRRP is a direct result of Settlement to a lawsuit (*NRDC, et al., v. Kirk Rodgers, et al.*) regarding providing sufficient fish habitat in the San Joaquin River (SJR) below Friant Dam near Fresno, California, by the United States Departments of the Interior and Commerce, the Natural Resources Defense Council, and the Friant Water Users Authority. The Settlement received federal court approval in October 2006. Federal legislation was re-introduced on January 4, 2007 to authorize federal agencies to implement the Settlement. The Settlement is based on two goals: to restore and maintain fish populations in "good condition" in the mainstem of the SJR below Friant Dam to the confluence of the Merced River, including naturally reproducing and self-sustaining populations of salmon and other fish; and to reduce or avoid adverse water supply impacts to all of the Friant Division long-term contractors that may result from the interim flows and restoration flows provided for in the Settlement. The draft PEIS/R analyzes and discloses the direct, indirect, and cumulative impacts of implementing the Stipulation of Settlement consistent with the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA), and identifies feasible mitigation measures to reduce, minimize, or avoid significant adverse impacts.

Comments
State Water Board staff would like to see the following additional information included in the PEIS/R to help us better understand the effects of the project:

SWRCB-1 • The modeling data used to evaluate groundwater and surface water impacts, with summarized results

SWRCB-2 • An evaluation of how shifting Millerton Reservoir releases from the previous flood control releases to interim flow releases may affect the Exchange Contractors and the San Luis & Delta-Mendota Water Authority

SWRCB-3 • The completed recapture and recirculation plan; if plan elements will be adaptively managed in the future dependent on instream restoration projects or off-channel improvements (such as installation of tile drains, etc.), the method for future revision of the plan should be provided

Please contact me at (916) 341-5305 or ccarr@waterboards.ca.gov, if you have any questions of would like to discuss this matter further.

Sincerely,

Chris Carr

Chris Carr, Environmental Scientist
Bay-Delta Unit

Responses to Comments from the State Water Resources Control Board

SWRCB-1: Surface water operations and water quality modeling output is provided in Appendix H, "Modeling," of the Draft PEIS/R. The results are summarized in Chapter 13.0, "Hydrology – Surface Water Supplies and Facilities Operations," and Chapter 14.0, "Hydrology – Surface Water Quality," of the Draft PEIS/R. Output from the regional groundwater impact analysis, using the Schmidt Tool and Mass Balance Tool, is presented in tables and figures in Chapter 12.0, "Hydrology – Groundwater," of the Draft PEIS/R, and in tables in the Groundwater Modeling – Near River Analysis Attachment to Appendix H of the Draft PEIS/R. The Schmidt Tool and Mass Balance Tool are both spreadsheet tools used in this analysis. The input parameters used in the spreadsheet tools for the regional groundwater impact analysis are also presented in Appendix H of the Draft PEIS/R. Chapter 12.0 of the Draft PEIS/R summarizes the results of groundwater modeling performed in support of the analyses presented in the Draft PEIS/R. Modeling methodology and other information relevant to the use of the numerical tools used to support the analyses presented in the Draft PEIS/R are provided in Appendix H. Text has not been revised.

SWRCB-2: Results of surface water operational modeling conducted in support of the analyses in the Draft PEIS/R show that the average annual volume of water exported from existing San Joaquin River and Delta facilities would be greater under all action alternatives than under the No-Action Alternative. This finding demonstrates that all or portions of the recaptured water volume would be available for recirculation without causing adverse effects to water supply allocations. Recirculation of recaptured water would be conducted consistent with Paragraph 16(a) of the Settlement and Section 10004(a)(4) of the Act, including provisions that recirculation shall not cause adverse impacts to any non-Friant Division south-of-Delta water service contractors. All water supply analyses and follow-on analyses (including groundwater, power and energy, and socioeconomics) presented in the Draft PEIS/R are based on these findings. The text has not been revised.

For additional information relevant to this comment, see MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R.

SWRCB-3: As described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, the recirculation of recaptured Interim and Restoration flows is evaluated at a program level only in the Draft PEIS/R. Because the specific plans for recirculation are not known at this time, it is too speculative to evaluate at a project level of detail in the Draft PEIS/R. The recirculation of Interim and Restoration flows would be subject to subsequent environmental review and would be evaluated under NEPA and CEQA, if applicable, prior to implementation of those actions. The current Recapture and Recirculation Plan would be updated as needed and project-level NEPA/CEQA compliance completed to reflect updates. The *Draft Recirculation of Recaptured Water Year 2012 SJRRP Interim Flows Environmental Assessment and Draft Finding of No Significant Impact* can be viewed at www.restoresjr.net. Text has not been revised.

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