3.8.16 Madera County Department of Engineering and General Services

MADE

RESOURCE MANAGEMENT AGENCY
ENGINEERING DEPARTMENT

2037 W. Cleveland Avenue
Madera, CA 93637-8720
(559) 675-7817
FAX (559) 675-7639
Kheng.Vang@co.madera.ca.gov

Ken Vang PE, County Engineer

June 24, 2011

Ms. Michelle Banonis
Reclamation
2800 Cottage Way, MP 170
Sacramento, CA 95825

RE: San Joaquin River Restoration Program DPEIS / EIR

Ms. Banonis,

MADE-1 Madera County, Department of Engineering and General Services, has reviewed the subject project and does not object to the proposed reports DPEIS / EIR dated April 2011.

Should you have any questions please contact us at 559-675-7817.

Sincerely,

Dario Dominguez
Engineering Department

cc:
File
Ken Vang PE, County Engineer
Ms. Fran Shulte, DWR (via email)

S:\Engineering\Development Review\SJRRP\DPEIS\EIR April 2011.doc

Page 1 of 1

Response to Comment from Madera County Department of Engineering and General Services

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

3.8.17 Semitropic Water Storage District

SEMI

1101 Central Avenue, P.O. Box Z, Wasco, CA 93280-0877

Telephone: (661) 758-5113 Bakersfield: (661) 327-7144
Facsimile: (661) 758-3219 E-mail: mail@semitropic.com
Website: www.semitropic.com

June 27, 2011

Ms. Michelle Banonis,
U.S. Bureau of Reclamation
2800 Cottage Way, MP-170
Sacramento, CA 95825

Re: Draft Program EIS/EIR
San Joaquin River Restoration Program

Dear Ms. Banonis,

SEMI-1a We realize that comments on the Referenced document were to be submitted by June 21, 2011.

SEMI-1b We submit this simply as a reminder that on June 16, 2011, Mr. David Mooney and Mr. Mario Manza from your Sacramento offices met with us at our office to discuss San Joaquin River Restoration issues. We presented some options where the Semitropic Water Banking Program is structured to provide conveyance and storage if needed to move water from the State Water Project to Millerton Lake in the Friant Unit.

SEMI-2 As an additional reminder, the Bureau conducted a study with funds provided by Semitropic in November 2007, entitled Semitropic Stored Water Recovery Unit Special Study Report in which on page C-10 of Appendix C also addressed San Joaquin River Restoration. Please also refer to Pages 4-5 and 5-1 regarding our Shafter-Wasco Intertie that is partially operational. A copy of the cover page of the report is attached for your reference.

SEMI-3 Furthermore, again in another report Semitropic provided $917,000 which the Bureau used to conduct another study addressing the merits of the Semitropic Banking Program, including additional analysis of possible Federal interests in the Semitropic Banking Program. We are not sure of the status of this study. We know that consultants Tully & Young out of Sacramento were retained by the Bureau. We are not sure, but it is our understanding that most of the work was or is still being done by Greg Young under the direction of Mr. Michael Jackson's office in Fresno. For the amount of money spent, this report should provide a substantial amount of information that should also be considered.

SEMI-4 We trust that Messers Mooney and Manza's input as well as the two aforementioned reports will be considered in developing alternatives in the San Joaquin River Restoration Report.

Sincerely yours,

Wilmar L. Boschman
General Manager

cc: Ms. Fran Schulte, Department of Water Resources

Responses to Comments from Semitropic Water Storage District

SEMI-1a: Comment noted. Text has not been revised.

SEMI-1b: Comment noted. The lead agencies appreciate the willingness of Semitropic WSD to meet with SJRRP staff to discuss opportunities related to SJRRP. Text has not been revised.

SEMI-2: Comment noted. The projects referred to by the commenter were considered and evaluated in formulating the alternatives for the Draft PEIS/R, specifically to develop groundwater recharge capacity assumptions about the Friant Division of the CVP. The Semitropic Stored Water Recovery Unit and the Shafter-Wasco Intertie are listed as potential groundwater banking projects in Table 2-2 on page 2-4 of the Paragraph 16(b) Actions Considered in Program Alternatives Attachment to Appendix G, "Plan Formulation," of the Draft PEIS/R. Text has not been revised.

SEMI-3: The projects referred to by the commenter were considered and evaluated in the Draft PEIS/R. The projects were used in part to develop groundwater recharge capacity assumptions about the Friant Division of the CVP. These capacity assumptions were modeled in CalSim-II simulations using different agricultural patterns for the Friant-Kern Canal and Madera Canal. For additional discussion of how information developed to date on these projects was used in development of the Draft PEIS/R and the alternatives evaluated therein, please refer to the Paragraph 16(b) Actions Considered in Program Alternatives Attachment to Appendix G, "Plan Formulation," of the Draft PEIS/R. Text has not been revised.

SEMI-4: This comment is substantially similar to comments SEMI-2 and SEMI-3. See responses to comments SEMI-2 and SEMI-3.

3.8.18 Stockton East Water District

SEWD

HERUM\CRABTREE
ATTORNEYS

Jeanne M. Zolezzi
jzolezzi@herumcrabtree.com

VIA EMAIL

September 21, 2011

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

Ms. Fran Schulte
SJRRP Program Office
Department of Water Resources
South Central Region Office
3374 E. Shields Avenue
Fresno, CA 93726
fschulte@water.ca.gov

Re: Stockton East Water District/San Joaquin River Restoration Program

Dear Ms. Banonis and Ms. Schulte:

These comments are submitted on behalf of the Stockton East Water District to the San Joaquin River Restoration Plan Draft Programmatic Environmental Impact Statement/ Report (DPEIS).

GENERAL COMMENTS

Restoration flows provide a real opportunity for the Friant Project to contribute to Central Valley Project (CVP) obligations at Vernalis, which heretofore have disproportionately burdened the New Melones Project and its CVP contractors. There is potential that restoration flows could decrease flows needed from New Melones to meet San Joaquin River flow and salinity requirements at Vernalis.

SEWD-1 The San Joaquin River Settlement Agreement directs that the implementation of the Settlement shall not result in the involuntary reduction of contract water allocations to CVP long-term contractors. Stockton East Water District is concerned that, as presently structured, recapture of restoration flows in the San Joaquin River upstream of Vernalis could result in the need for increased releases from New Melones, resulting in a possible reduction of contract water allocations to Stockton East Water District and Central San Joaquin Water Conservation District, CVP long-term contractors. The DPEIS does not address this issue specifically. Rather, the modeling assumes that New Melones will meet all Vernalis water quality requirements imposed by D 1641.

We realize that this is a programmatic document, and that before any recapture of restoration flows above Vernalis can take place additional site specific environmental

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SEWD-1 cont'd documentation must take place. Consequently, please note that the specific issue of the impact of recapture on New Melones releases must be addressed in any site specific CEQA and NEPA documentation undertaken for restoration flow recapture.

SPECIFIC COMMENTS

In addition, there are errors in the document that should be corrected:

SEWD-2

- Chapter 5 evaluates the impact on fishery resources in the three tributaries to the San Joaquin River – Merced, Tuolumne and Stanislaus rivers. First, any impact on Stanislaus River fisheries must be measured against the existing baseline conditions. The DPEIS does not base its evaluation on existing conditions, but instead, develops Table 5-11 of hypothetical flows that are not legally required, accurate or implemented today. For the Stanislaus River, it relies in part on the IFIM prepared for the Stanislaus River, but inaccurately identifies the flows from the IFIM. Correct flows from the IFIM are as follows:

  October 15 – December 31 – 300 cfs
  January 1 – February 15 – 150 cfs
  February 15 – October 15 – 200 cfs

  The IFIM does not recommend 2,000 cfs during the March 15 to June 30 timeframe, nor does 2,000 cfs appear in the OCAP Biological Opinion for this time period. The 2,000 cfs reference should be stricken from the Draft PEIS/R. It is important to note that flows in excess of 1,500 cfs are not allowed on the Stanislaus River during non-flood control operations because of the adverse impact to adjoining landowners on the river.

SEWD-3

- The DPEIS assumes that VAMP Flow requirements will be implemented throughout the Project. This is a flawed assumption as the San Joaquin River Agreement has expired and the VAMP Flow requirements are no longer being implemented.

SEWD-4

- Finally, on Page 5-97 lines 28-37, there is a discussion of existing conditions which assumes that there is a flow standard of 2,000 cfs. As discussed above this is inaccurate and this text in its entirety should be stricken from the DPEIS.

Very truly yours,

JEANNE M. ZOLEZZI
Attorney-at-Law

cc: Mr. Kevin Kauffman

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Responses to Comments from Stockton East Water District

SEWD-1: As described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, recapture of Interim or Restoration flows at existing facilities would occur only if doing so would not adversely affect downstream water quality or fisheries, consistent with the requirements of Paragraph 16(a)(1) of the Settlement. Recapture of Interim or Restoration flows in the San Joaquin River upstream from Vernalis is evaluated at a program level in the PEIS/R. All actions evaluated at a program level in the Draft PEIS/R would be subject to additional project-level analysis pursuant to NEPA and/or CEQA, if applicable, before their implementation. The program-level analyses in the PEIS/R demonstrate that, as compared to the No-Action Alternative, recapture of Interim or Restoration flows in the San Joaquin River upstream from Vernalis would not result in the need for increased releases from New Melones to meet water quality requirements at Vernalis, and would not result in an associated reduction of contract water allocations to Stockton East Water District or Central San Joaquin Water Conservation District. See results of CalSim-II simulations presented in Water Operations Modeling Output – CalSim Attachment to Appendix H, "Modeling," of the Draft PEIS/R. These results indicate that in most years, storage at New Melones Reservoir would be higher with the action alternatives in place, even with recapture upstream from Vernalis. Text has not been revised.

SEWD-2: 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 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 information contained in the NMFS 2009 Recovery Plan (NMFS 2009b). As described in Table 5-11 of the Draft PEIS/R, these flow criteria are flows assumed to provide maximum habitat for each life stage of Chinook salmon and Central Valley steelhead, and do not reflect a legal or regulatory requirement or regulation on flows. Text on page 5-61 of the Draft PEIS/R has been revised to include a note to Table 5-11, clarifying that the flows are identified for the purposes of analyses presented in the Draft PEIS/R, and do not reflect a legal or regulatory requirement or regulation on flows. See Chapter 4.0, "Errata," of this Final PEIS/R.

SEWD-3: Text of page 5-60, lines 11 through 20, of the Draft PEIS/R, has been revised in response to this comment to clarify that VAMP expired in 2011, but that a VAMP-like condition is expected to continue to be in place. The analyses and impact assessment presented in the Draft PEIS/R were completed using the best available modeling tools and information. The modeling tools used in the Draft PEIS/R analyses were selected because they are publicly available, have a knowledgeable user community, and are widely accepted for use in systemwide analysis of resources in the California Central Valley. The modeling assumptions, modeling analyses and results, and baseline conditions used to support the environmental analysis in the Draft PEIS/R, including assumptions regarding VAMP, were based on the best available information and

modeling tools at the time the Draft PEIS/R was prepared. Although VAMP expired in 2011, a VAMP-like condition is expected to continue to be in place. SWRCB indicates that VAMP experimental data will be used to create permanent objectives for the pulse flow period. It is assumed for purposes of analysis in the PEIS/R that new SWRCB objectives will maintain the same level of protection for fisheries as the current program or increase the level of protection, and that such protections will remain in place through 2030. Because considerable uncertainty remains as to the flows that will occur under future flow requirements in the San Joaquin River, the analyses include the continuation of VAMP as a surrogate for these requirements. Other recent changes in the regulations governing CVP and SWP operations in the Delta are assessed in Appendix C, "CVP/SWP Long-Term Operations Sensitivity Analysis," of this Final PEIS/R.

SEWD-4: This comment is substantially similar to comment SEWD-2. See response to comment SEWD-2.

3.8.19 San Joaquin Tributaries Association

O'Laughlin & Paris LLP

SJTA

Attorneys at Law

SENT VIA ELECTRONIC TRANSMISSION

September 21, 2011

Michelle Banonis
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peisrcomments@restoresjr.net
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RE: Comments of the San Joaquin Tributaries Association on the *San Joaquin River Restoration Program Draft Program Environmental Impact Statement/Report*

Dear Ms. Banonis & Ms. Schulte:

SJTA-1a The policy comments in this letter and the attached scientific comments on the San Joaquin River Restoration Program ("SJRRP") Draft Program Environmental Impact Statement/Report ("Draft PEIS/R") are submitted on behalf of the San Joaquin Tributaries Association, which is comprised of the Oakdale Irrigation District, South San Joaquin Irrigation District, Modesto Irrigation District, Turlock Irrigation District and Merced Irrigation District. We have also reviewed and incorporate herein the comments of the San Joaquin River Exchange Contractors Water Authority.

SJTA-1b **I. The Impacts On/To Reintroduced Spring-Run Chinook Salmon Must Be Analyzed Now**

The United States Bureau of Reclamation ("USBR") and the California Department of Water Resources ("DWR") are operating under the assumption that if the main stem of the San Joaquin River is reconstructed and restored, spring-run and fall-run Chinook salmon will return to the

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upper San Joaquin River. While this notion sounds promising, it is nothing more than wishful thinking, which is not analyzed nor evaluated in the Draft PEIS/R.

This Draft PEIS/R is required to assess the environmental consequences associated with the reintroduction of spring-run and fall-run Chinook salmon to the main stem of the San Joaquin River below Friant Dam to the confluence with the Merced River *before* specific decisions regarding the methods of achieving that goal are decided. (*See* Stanislaus Natural Heritage Project v. County of Stanislaus (1996) 48 Cal. App. 4th 182, 195; Cal. Pub. Res. Code § 21100(b); Cal. Code Regs. title 14, § 15002; 40 C.F.R. § 1502.2(f).) The impacts resulting from the reintroduction of Chinook salmon must be evaluated first in order to determine whether the reconstructed and restored main stem of the San Joaquin River will actually be able to support self-sustaining populations of Chinook salmon. (*See* Stanislaus Natural Heritage Project v. County of Stanislaus, *supra*, 48 Cal. App. 4th at 195; Cal. Pub. Res. Code § 21100(b); Cal. Code Regs. title 14, § 15002; 40 C.F.R. § 1502.2(f).)

SJTA-1b cont'd

The USBR and the DWR, however, are focusing so much on re-establishing the San Joaquin River that they have not addressed the sole reason for restoring the river in the first place, which is to "maintain fish populations in good condition . . . including naturally reproducing and self-sustaining populations of salmon and other fish." (Draft PEIS/R, p. 1-2.) Indeed, by segmenting various aspects of the entire program into separate and distinct elements that may be evaluated individually at a project level at a later time (Draft PEIS/R, pp. 1-10:3-5, 2-43:37-39), the USBR and DWR are in violation of the National Environmental Policy Act ("NEPA") and the California Environmental Quality Act ("CEQA"). (40 C.F.R. § 1508.25; 14 CA ADC § 15165.)

NEPA and CEQA prohibit the USBR and DWR from chopping the project into smaller bits, such that when standing alone, the river restoration projects may not present the full range and intensity of adverse impacts that may result from the inclusion of the reintroduction action into the entire project. (San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus (1994) 27 Cal. App. 4th 713, 730; Sierra Club v. Babbitt (1999) 69 F. Supp. 2d 1202, 1228-1230 (E.D. Cal.); 40 C.F.R. § 1508.25.) Thus, the USBR and DWR cannot overlook impacts of the connected actions and/or cumulative impacts by separately focusing on isolated parts of the whole, especially when none of the individual parts has their own independent utility. (San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus, *supra*, 27 Cal. App. 4th at 730; Sierra Club v. Babbitt, *supra*, 69 F. Supp. 2d at 1228-1230; 40 C.F.R. § 1508.25(a)(1) and (a)(2).)

SJTA-1c

Pursuant to NEPA, the river restoration actions and the reintroduction of spring-run Chinook salmon are connected actions such that they must be evaluated in the same impact statement because the river restoration actions are interdependent parts of the larger reintroduction action and depend on the reintroduction action for their justification. (See 40 CFR § 1508.25.) Absent the reintroduction of the spring-run Chinook salmon to the upper San Joaquin River action, none of the river restoration actions would need to be made.

SJTA-1d

Additionally, the river restoration actions and the reintroduction of spring-run Chinook salmon are cumulative actions under NEPA that must be discussed in the same impact statement because when viewed together, they may have cumulatively significant impacts. (Id.) As these river restoration actions are being undertaken so that spring-run Chinook salmon can be reintroduced, to merely evaluate the river restoration action by themselves without analyzing their impact on the reintroduced salmon would fail to fulfill NEPA's purpose, which is to provide public officials with an understanding of environmental consequences of their proposed actions so that they may decide whether or not to take such actions. (40 CFR § 1500.1.)

Similarly, pursuant to CEQA, because the individual river restoration elements are necessary precedents for the reintroduction action and USBR and DWR have already committed to the reintroduction action, the Draft PEIS/R must evaluate the impacts of the scope of the entire reintroduction action. (14 CA ADC § 15165.) Additionally, the incremental effects of the river restoration elements are significant when viewed in connection with the effects the of the reintroduction action, and therefore all cumulative impacts must be discussed in the Draft PEIS/R. (14 CA ADC §§ 15030, 15165.)

SJTA-1e

Additionally, the USBR and DWR cannot avoid or defer assessing the impacts to the spring-run Chinook salmon under the guise of a tiered EIR. (Stanislaus Natural Heritage Project v. County of Stanislaus, *supra*, 48 Cal. App. 4th at 199.) The USBR and DWR are not excused from complying with CEQA and preparing an environmental impact report evaluating all significant effects on the environment of the proposed project simply because they have decided to tier the environmental review process. (Stanislaus Natural Heritage Project v. County of Stanislaus, *supra*, 48 Cal. App. 4th at 197; Cal. Pub. Res. Code, § 21100.) The reintroduction of spring-run Chinook salmon is a reasonably foreseeable component of the program and its impacts cannot be deferred. (Laurel Heights Improvement Assn. v. Regents of University of California (1988) 47 Cal. 3d 376, 398-399; 40 CFR § 1508.7.) Certainly, the environmental consequences of reintroducing spring-run Chinook salmon would appear to be one of the most essential and general matters to be addressed in a first-tier EIR. (*See* Whitman v. Board of Supervisors (1979) 88 Cal. App. 3d 397, 414-415; Pub. Resources Code, § 21068.5.)

SJTA-2

Not only were the impacts of reintroducing spring-run Chinook salmon not evaluated as part of the current project in the Draft PEIS/R, but the USBR and DWR failed to include any evaluation of such impacts to the reintroduced spring-run Chinook salmon in the program level analysis. As the reintroduction of spring-run Chinook salmon has not been analyzed in the current Draft PEIS/R at either a project or program level, this entire environmental review process will have to be repeated because the reintroduction will be considered a later activity that will have effects that obviously have not been examined in the Draft PEIS/R and, thus, a new initial study will be required and possibly an additional EIR as well. (14 CA ADC § 15168.) However, by already implementing the first part of the project approved in the current EIR, money will have been spent and the river will have been altered. If the fish are determined in this later EIR to not be able to survive in the San Joaquin River, even with the river reconstructed, then the entire river reconstruction efforts made up to that time will have been nothing more than a waste of time and money.

SJTA-2 cont'd To defer any analysis whatsoever of the impacts of restoring the main stem of the San Joaquin River on the experimental reintroduced spring-run Chinook salmon until after the implementation of Phase I of the restoration project puts the cart before the horse.

II. The Impacts to Fully Protected Raptors of Significant Forage Habitat Modification Must Be Assessed in the Draft PEIS/R

The white-tailed kite is a fully protected species under California state law (Cal. Fish & G. Code § 3511(b)(12)) and is known to occur in suitable habitat in Lost Lake Park in Friant, California, and likely occurs in suitable habitat in the Restoration Area. (Draft PEIS/R, Appendix L, Biological Resources – Vegetation and Wildlife ("Appendix L") Special Status Species Tables, Table 6-6, p. 12.) Pursuant to California state law and policy, the white-tailed kite may not be taken or possessed at any time (Cal. Fish & G. Code § 3511), and its habitat must be conserved, protected, restored and enhanced. (Cal. Fish & G. Code § 2052.) Habitat protection is vitally important to the continued existence of the white-tailed kite as one of the primary threats to the white-tailed kite is habitat loss. (Draft PEIS/R, Appendix L, Species Accounts, p. 3-30.)

The Draft PEIS/R asserts that the potential for adverse effects from construction, modification of facilities and other restoration projects on white-tailed kite in the Restoration Area is considered high given the rarity of the species and the potential magnitude of the effects. (Draft PEIS/R, Table 6-6., p. 6-66.) Such adverse effects caused by disturbance from the construction of setback levees, bypass structures, haul and access roads, and staging areas from the augmentation of spawning gravels or from other ground-disturbing activities potentially will result in the loss of trees and shrubs occupied by nesting white-tailed kites, if construction occurs during the breeding season. (Draft PEIS/R, Table 6-6., p. 6-66.)

SJTA-3 Although these adverse impacts could critically harm the white-tailed kite by significantly modifying and possibly reducing its habitat, the Draft PEIS/R assures that these potential adverse effects will be avoided and minimized by conservation measures contained in the Conservation Strategy. (Draft PEIS/R, Appendix L, Special Status Species Tables, Table 6-6, p. 12.) These conservation measures consist of conducting construction activities outside the typical breeding season, not disturbing active nests if found in the project footprint area, and replacing native trees that are removed during project activities. Draft PEIS/R, Table 2-7, Conservation Measures for Biological Resources That May Be Affected by Settlement Actions, p. 2-67.)

Although the conservation measures identified in the Conservation Strategy are expected to avoid, minimize, or compensate for potential adverse effects on the white-tailed kite, because they merely focus on avoiding nests during breeding season and planting replacement trees, such measures fail to fully analyze the potential impacts that the substantial habitat modification/habitat loss could have on the white-tailed kite. Specifically, the impacts to the white-tailed kite due to significant modifications or loss in foraging habitat have not been studied, evaluated, or, where appropriate, mitigated. (*See* Cal. Fish & G. Code § 2053 ["state agencies should not approve projects as proposed which would jeopardize the continued

existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat . . . if there are reasonable and prudent alternatives available"].)

SJTA-3 cont'd The Draft PEIS/R must include a discussion of the impacts that significant modification to the foraging habitat, which includes herbaceous lowlands with minimal shrub and tree growth in wetlands and grasslands (Appendix L, Species Accounts, p. 3-29.), will have on the white-tailed kite. Additionally, the Draft PEIS/R must evaluate how habitat modification actions will affect the highly variable populations of small rodents on which the white-tailed kite primarily feeds. (Id. at p. 3-30.) Moreover, given that white tailed kites mostly forage within a mile of nests when eggs or young are present (Id. at p. 3-30.), impacts of construction activities significantly modifying such area outside of the breeding season must also be evaluated.

III. The Draft PEIS/R Must Include National Marine Fisheries Service's Public Draft Recovery Plan as a Reference

SJTA-4 National Marine Fisheries Service's Public Draft Recovery Plan for the Evolutionarily Significant Units of Sacramento River winter-run Chinook Salmon and Central Valley spring-run Chinook Salmon and the Distinct Population Segment of Central Valley Steelhead (Sacramento Protected Resources Division, October 2009) must be included in its entirety as a reference in the Draft PEIS/R. This document was referred to and cited in United States Fish and Wildlife Service's 10(a)1(A), Enhancement of Species Permit Application for the Reintroduction of Central Valley Spring-Run Chinook Salmon into the San Joaquin River to identify the "Goals of the Conservation Program." Additionally, it has been cited in the Federal Energy Regulatory Commission proceeding presently occurring on the Merced and Tuolumne Rivers. As the sole purpose of the restoration of the San Joaquin River is to reintroduce the populations of Chinook salmon, the Recovery Plan for how the reintroduction is to be done needs to be included as a source in the environmental document evaluating the impacts of the reintroduction program.

Very truly yours,
O'LAUGHLIN & PARIS LLP

TIM O'LAUGHLIN, Attorneys for the
San Joaquin Tributaries Association

TO/tb
Attachments: FISHBIO Comments
cc: San Joaquin Tributaries Association

MEMORANDUM

Comments pertaining to the United States Bureau of Reclamation and the California Department of Water Resources' April 22, 2011, *Draft Program Environmental Impact Statement/Environmental Impact Report for the San Joaquin River Restoration Program*

TO: Tim O'Laughlin

FROM: Shaara Ainsley, Michele Palmer, and Andrea Fuller

DATE: September 21, 2011

SJTA-5 This memorandum presents our comments on the *Draft Program Environmental Impact Statement/Environmental Impact Report (*Draft PEIS/R*) for the San Joaquin River Restoration Program (*SJRRP*)* prepared jointly by the United States Bureau of Reclamation (Reclamation) and the California Department of Water Resources (DWR). The Draft PEIS/R was prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) to evaluate the direct, indirect and cumulative impacts of implementation of the SJRRP by Reclamation, DWR, U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), the California Department of Fish and Game (DFG). Comments on the Draft PEIS/R were originally due June 21, 2011 but the review period was extended through September 21, 2011.

Summary

1. IMPACTS ASSOCIATED WITH RESTORATION AREA HABITAT CONDITIONS WERE INCOMPLETELY ADDRESSED; RECOMMEND FURTHER ANALYSIS

- Existing conditions in the San Joaquin River Restoration Area and areas downstream are not suitable and will not support the experimental population in ''good condition'' until all habitat restoration actions are completed. Even after restoration is complete, it will be difficult or impossible to create suitable conditions for a naturally reproducing and self-sustaining population of spring-run Chinook salmon.

2. IMPACTS ASSOCIATED WITH SPRING-RUN/FALL-RUN INTERACTIONS WERE INCOMPLETELY ADDRESSED; RECOMMEND FURTHER ANALYSIS

SJTA-6

- The PEIS/EIR did not adequately address the possibility that adult fall-run Chinook salmon may stray upstream into the Restoration Area and compete with or hybridize with adult spring-run of the experimental population.

SJTA-7

- Returning re-introduced spring-run salmon are likely to stray into the San Joaquin River tributaries, where they may spawn in what is presently fall-run spawning habitat, leading to superimposition and further exacerbating the recent decline in the SJR fall-run Chinook population.

SJTA-8

- The Draft PEIS/R concludes that the impacts of hybridization will be less than significant based on minimal holding habitat; however, no data was presented to support this assertion; recommend further analysis.

SJTA-9

- The Draft PEIS/R does not provide sufficient evidence that competition will be reduced in response to an increase in flows associated the Restoration Project.

3. TEMPERATURE IMPACTS WERE INCOMPLETELY ADDRESSED; RECOMMEND FURTHER ANALYSIS

SJTA-10

- The impact assessment of the effects of water temperature on fisheries is poorly described, and the conclusion that impacts will be "less than significant" is not supported by figures and tables attached to Appendix H.

SJTA-11

- The cold water pool in Millerton Lake may be insufficient to provide the prescribed summer and fall flow releases, and to meet the defined criteria for spring-run Chinook salmon holding, spawning, and incubation.

SJTA-12

- The possibility has not been adequately addressed that high water temperatures, in combination with other factors such as poor survival through the Delta and in the ocean, may entirely preclude establishing a viable spring-run salmon population.

SJTA-13

- According to the USEPA and DFG, the lower SJR downstream of the Merced River confluence is temperature impaired, and therefore a limiting factor, for fall-run Chinook salmon smoltification and migration (USEPA 2010); the SJRRP restoration flows may reduce the ability to meet USEPA temperature criteria in the San Joaquin River downstream of the Merced River confluence, negatively impacting EFH in the SJR tributaries.

4. POTENTIAL IMPACTS FROM NON-NATIVE FISH SPECIES WERE INCOMPLETELY ADDRESSED; RECOMMEND FURTHER ANALYSIS AND CONSIDERATION OF PRE-REINTRODUCTION PREDATOR CONTROL STRATEGIES

SJTA-14

- Non-native predators, extant in the SJR, will predate juveniles from the experimental population and their progeny and on other native fishes — the SJRRP should consider identifying/quantifying predators and implementing predator control strategies before introducing eggs and juveniles from the spring-run experimental population.

2

SJTA-15
- Because of the small size of the experimental populations, the Draft PEIS/R needs to also address predation by native species, especially on eggs, that may be exacerbated if other prey items are not available in the Restoration Area.

SJTA-16
- The Draft PEIS/R is inconsistent regarding potential changes in non-native fish and predator distributions and densities within the Restoration Area, but in all cases the report concludes that the effects will be "less than significant and beneficial."

SJTA-17
- If not predated prior to exiting the Restoration Area, juveniles from the experimental population and their progeny will be susceptible to high rates of predation in the lower SJR and Delta.

5. ENTRAINMENT IMPACTS WERE INCOMPLETELY ADDRESSED; RECOMMEND FURTHER ANALYSIS

SJTA-18
- Changes in diversions and entrainment in the San Joaquin River between the Merced River and the Delta will expose fall-run Chinook salmon from the tributaries to increased entrainment risk.

6. DISEASE IMPACTS WERE INCOMPLETELY ADDRESSED; RECOMMEND FURTHER ANALYSIS

SJTA-19
- Fall-run salmon populations in the lower San Joaquin River are already experiencing declines for multiple reasons—introduction and spread of new hatchery-borne disease into San Joaquin River basin Chinook salmon populations could lead to direct mortality or reduced fecundity that could further impede efforts to restore the populations.

7. POTENTIAL IMPACTS OF PROGRAM ALTERNATIVES ON FALL-RUN CHINOOK SALMON WERE INCOMPLETELY ADDRESSED; RECOMMEND FURTHER ANALYSIS

SJTA-20
- The Draft PEIS/R generally concludes that the various action alternatives will have no impact or less than significant impact on the San Joaquin River fall-run Chinook salmon. However, reintroduction of spring-run Chinook salmon to the San Joaquin River, as well as SJRRP restoration flows, may negatively affect fall-run Chinook salmon (FRCS) populations and FRCS Essential Fish Habitat (EFH) in the SJR and its tributaries.

8. POTENTIAL IMPACTS OF PROGRAM ALTERNATIVES ON CENTRAL VALLEY STEELHEAD WERE INCOMPLETELY ADDRESSED; RECOMMEND FURTHER ANALYSIS

SJTA-21
- The Draft PEIS/R did not adequately consider effects of the Restoration Actions on federally threatened Central Valley steelhead in the SJR.

SJTA-22
- The Draft PEIS/R examined the potential effects to fall-run Chinook salmon from hybridization resulting from reintroduction of spring-run to the Restoration Area

SJTA-22 cont'd

(Impact FSH-10); however, despite their discussion of the potential hybridization of *O. mykiss* populations, this was not an impact examined under Project-Level Impacts and Mitigation Measures.

9. CONSERVATION MEASURES ARE VAGUE AND DO NOT PROVIDE ENOUGH DETAILS TO BE EFFECTIVE

SJTA-23

- There are several examples of vaguely worded conservation measures, which do not provide enough detail regarding how they are expected to avoid, minimize, and/or compensate for associated impacts. Additionally, the various list of actions within each Conservation Measure taken together do not provide a cohesive strategy for reducing impacts to a less than significant level.

10. FLOW CRITERIA USED TO DETERMINE IMPACTS TO TRIBUTARY FISH ARE INCORRECT, INAPPROPRIATE, AND INADEQUATELY REFERENCED

SJTA-24

Comments pertaining to the United States Bureau of Reclamation and the California Department of Water Resources' April 22, 2011, *Draft Program Environmental Impact Statement/Environmental Impact Report for the San Joaquin River Restoration Program*

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SJTA-25

INTRODUCTION

On April 22, 2011, the United States Bureau of Reclamation (Reclamation) issued a notice of availability (NOA) of the Draft Program Environmental Impact Statement/Environmental Impact Report (Draft PEIS/R) and Public Hearings for San Joaquin River Restoration Program (SJRRP)(76 FR 22724). According to the NOA,

> the Draft PEIS/R provides broad direction for a wide range of possible future project-level actions while allowing the opportunity for flexibility to respond to changing needs.

The Draft PEIS/R was prepared to evaluate the direct, indirect and cumulative impacts of implementation of the SJRRP by Reclamation, California Department of Water Resources (DWR), U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and California Department of Fish and Game (DFG)(collectively referred to as the "Implementing Agencies"). Together these Implementing Agencies are responsible for the fulfillment of the Stipulation of Settlement in *NRDC et al. v. Kirk Rodgers et al.* (Settlement) consistent with the San Joaquin River Restoration Settlement Act. The Draft PEIS/R was prepared pursuant to the requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). Reclamation (lead agency for NEPA) and DWR (lead agency for CEQA) initiated the process in August 2007.

SJTA-25
cont'd

The two primary goals of the Settlement are:

> **Restoration Goal**—To restore and maintain fish populations in ''good condition'' in the mainstem 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.
>
> **Water Management Goal**—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.

The Restoration Area is considered the main stem of the San Joaquin River below Friant Dam to the confluence of the Merced River and is separated in the five distinct reaches. However, the Draft PEIS/R study area includes other areas potentially affected by Settlement actions (76 FR 22724), including

> the San Joaquin River, from Millerton Reservoir to the Sacramento-San Joaquin Delta, and the water service areas of the CVP and State Water Project, including the Friant Division.

The Draft PEIS/R is required to consider a reasonable range of alternatives and seven alternatives were evaluated, a no-action alternative and six action alternatives (with various combinations of flow in Reach 4B1 and water recapture locations). All action alternatives include: release of interim and restoration flows, minimizing increases in

flood risk in the Restoration Area, routing of flows, establishing a recovered water account and program, some form of recapture of interim and restoration flow, and additional program-level actions, such as the re-introduction of spring-run Chinook salmon. Draft PEIS/R Alternatives (Executive Summary, page 19) include the following:

- No-Action Alternative
- Alternative A1: Reach 4B1 at 475 cfs, Delta Recapture
- Alternative A2: Reach 4B1 at 4,500 cfs, Delta Recapture
- Alternative B1: Reach 4B1 at 475 cfs, San Joaquin River Recapture
- Alternative B2: Reach 4B1 at 4,500 cfs, San Joaquin River Recapture
- Alternative C1: Reach 4B1 at 475 cfs, New Pumping Plant Recapture
- Alternative C2: Reach 4B1 at 4,500 cfs, New Pumping Plant Recapture

SJTA-25 cont'd

According to the Draft PEIS/R, most impacts were determined to be 'less than significant', 'beneficial' or 'no impact' under all seven alternatives due to expected implementation of various conservation measures. The assessment determined that the only impacts of the Alternatives with "potential to result in an incremental contribution to a significant Cumulative Impact" with regards to fisheries resources was the "potential direct mortality or reduced fecundity of wild fall-run Chinook salmon in the San Joaquin River tributaries resulting from disease outbreak" (Executive Summary, Table ES-9).

The following "Comments" section contains issue statements regarding key points that were not adequately addressed, or not considered, within the Draft PEIS/R regarding Biological Resources – Fisheries. Supporting information follows each issue statement, but is not all-inclusive.

COMMENTS

1. IMPACTS ASSOCIATED WITH RESTORATION AREA HABITAT CONDITIONS WERE INCOMPLETELY ADDRESSED; RECOMMEND FURTHER ANALYSIS

The PEIS/EIR did not adequately address impacts associated with the existing or future habitat conditions in the Restoration Area on donor or reintroduced spring-run Chinook salmon.

SJTA-5 cont'd

Existing conditions in the San Joaquin River Restoration Area and areas downstream are not suitable and will not support the experimental population in "good condition" until all habitat restoration actions are completed. Even after restoration is complete, it will be difficult or impossible to create suitable conditions for a naturally reproducing and self-sustaining population of spring-run Chinook salmon.

Prior to construction of Friant Dam, spring-run would hold over-summer and spawn upstream of the current dam site, while fall-run generally spawned lower in the mainstem. Thus, the reintroduced spring-run population will be expected to spawn in a

reach that historically supported fall-run spawning (McBain and Trush 2002). In addition, under all alternatives examined, the spawning reach (Reach 1A) will be more degraded than it was during historic fall-run use (Greimann and Godaire 2011, page 5-9):

> [b]ecause the system will not be restored to pre-dam flows, *many of the side channels, flood channels, and extensive unvegetated gravel bars that existed in 1939 are not recoverable* because they are most likely more elevated above the current active channel and would require much larger releases than those in the proposed flow regime. Channel width will also not reach the extent of 1939. Other features have been obliterated by gravel pits or other development in the floodplain and are not recoverable. [emphasis added]

SJTA-5 cont'd

Under these circumstances, the Restoration Area will not support the experimental population until restoration actions are completed. Even after restoration, it will be difficult to create suitable conditions for spring-run Chinook salmon in this reach. Particularly in light of the fact that there are notable differences between salmonid habitat in those tributaries that currently support spring-run populations (i.e., Mill, Deer, and Butte creeks) and habitat in the Restoration Area, such as relatively pristine /minimally degraded versus highly degraded conditions, gradient differences, etc. The problems associated with existing and future habitat is corroborated by NMFS (2009, page 120), which states that the experimental population is

> likely to be conservation-reliant, particularly in the near-term (five to ten generations)[, because] it seems highly unlikely that enough habitat can be restored, particularly in the near-term, such that the spring-run Chinook salmon ESU could be expected to persist without appropriate conservation management.

Therefore, to protect the donor and experimental populations, analyses should be conducted to indicate the potential impacts to reintroduced spring-run from existing and future habitat conditions, as well as impacts to the donor population; and conservation measures should be developed to identify that reintroduction will not be allowed until all San Joaquin Restoration Actions are completed and studies demonstrate that reintroduced fish can be supported under restored conditions.

2. IMPACTS ASSOCIATED WITH SPRING-RUN/FALL-RUN INTERACTIONS WERE INCOMPLETELY ADDRESSED; RECOMMEND FURTHER ANALYSIS

SJTA-6 cont'd

The PEIS/EIR did not adequately address impacts associated with spring-run/fall-run interactions in the Restoration Area or in the tributaries.

The PEIS/EIR did not adequately address the possibility that adult fall-run Chinook salmon may stray upstream into the Restoration Area and compete with or hybridize with adult spring-run of the experimental population.

The Restoration and Interim flows were designed, in part, to facilitate the up-migration of adult Chinook salmon during their spawning runs. Thus, while allowing spring-run to migrate into the lower SJR, the flows may also attract stray fall-run Chinook that may interfere with the experimental population Chinook. The various alternatives in the Draft PEIS/R (page 5-62, lines 33-36) include the

> potential for continued operation of the temporary fish barrier at Hills Ferry near the Merced River confluence to seasonally restrict access by fall-run Chinook to the San Joaquin River in the Restoration Area.

However, this barrier was demonstrated to be ineffective during the 2010 spawning season, when fish that were confirmed to be fall-run Chinook salmon were observed past Hills Ferry Barrier (SJRRP 2011b, a). Since the Draft PEIS/R does not consider the effects of the Restoration Actions on the experimental population, it does not address the issue of superimposition by fall-run Chinook that manage to get around the Hills Ferry Barrier, or the potential for hybridization to occur between late spawning spring-run and early spawning fall-run Chinook.

SJTA-6 cont'd

The potential for competition over spawning habitat between fall-run and stray spring-run was, however, addressed for the tributaries (page 5-63, lines 7-27). The Draft PEIS/R concluded (page 5-63, lines 19-23) that

> it is unlikely that superimposition of fall-run Chinook salmon redds by reintroduced spring-run Chinook salmon would occur in the Merced, Tuolumne, or Stanislaus rivers because spring-run Chinook salmon spawn before most fall-run, and the peak spawning periods of the two runs have a short duration overlap.

The converse is precisely the concern for the experimental spring-run population if the fall-run are able to pass the Hills Ferry Barrier. Since fall-run will be spawning after the peak of spring-run spawning, superimposition may occur resulting in a reduction in the number of viable spring-run redds. Given the problems with the Hills Ferry Barrier in 2010, the PEIS/EIR should more thoroughly address the possibility that San Joaquin River fall-run Chinook salmon may stray up into the Restoration Area and compete with or spawn with adult spring-run of the experimental population and limit restoration potential.

Returning re-introduced spring-run salmon are likely to stray into the San Joaquin River tributaries, where they may spawn in what is presently fall-run spawning habitat, leading to superimposition and further exacerbating the recent decline in the SJR fall-run Chinook population.

SJTA-7 cont'd

Given the current and considerable rates of straying in the San Joaquin River basin (discussed further below), it is expected that returning spring-run salmon will likely stray into the tributaries. The spring-run may spawn in what is presently fall-run spawning habitat, leading to superimposition of redds and further exacerbating the recent decline in

the SJR fall-run population. This type of spatial overlap has been documented for spring-run on the mainstem Sacramento River (DFG 1998, Section V., page 16):

> Some spring-run Chinook salmon may persist between RBDD and Keswick Dam in the Sacramento River, although there is evidence that a portion of the spring run estimated to have passed upstream of RBDD are hybrids of spring run and fall run. . . Even though there is physical habitat available to spring run, spring run depend on spatial isolation to prevent competition and hybridization with fall run. . . since fall run use the same spawning riffles as spring run, later spawners may be displacing the redds of earlier spawners during nest construction.

SJTA-7 cont'd

The Draft PEIS/R (page 5-63, lines 19-27) recognizes the potential for increased competition for Chinook salmon spawning habitat in the tributaries, acknowledging that superimposition is already a concern in these rivers, but concludes:

> [h]owever, it is unlikely that superimposition of fall-run Chinook salmon redds by reintroduced spring-run Chinook salmon would occur in the Merced, Tuolumne, or Stanislaus rivers because spring-run Chinook salmon spawn before most fall-run, and the peak spawning periods of the two runs have a short duration overlap (see Appendix K, "Biological Resources – Fisheries"). Furthermore, recent research indicates that redd superimposition is currently unlikely to limit adult Chinook salmon recruitment in these San Joaquin River tributaries because many more fry are produced at high densities of spawners than can be sustained by the available rearing habitat (Mesick and Marston 2007).

Mesick and Marston (2007) do not discuss in their paper the fact that high rates of redd superimposition have been observed in the Stanislaus River during multiple years regardless of the number of returning spawners and superimposition has been documented in the Tuolumne River even at relatively low escapement levels (i.e., 6,300 adults in 1988 and 1,300 adults in 1989; Stillwater Sciences and TRTAC 2006), which indicates that superimposition of early fall-run spawners could occur.

The Draft PEIS/R concludes that the impacts of hybridization will be less than significant based on minimal holding habitat; however, no data was presented to support this assertion; recommend further analysis.

SJTA-8 cont'd

The potential for introduced spring-run to hybridize with current populations of fall-run Chinook in the basin is a significant concern, since this may compromise the remaining genetic integrity of the already depressed natural populations of San Joaquin River fall-run Chinook, as well as the experimental population. Studies suggest that loss of rearing and spawning habitat already may limit juvenile Chinook salmon production in the lower Stanislaus River (SRFG 2004) and restoration of instream and riparian habitat are priority actions on this tributary (AFRP 2001). Thus, any competition and hybridization with spring-run may have severe consequences for the fall-run salmon in the SJR tributaries.

Stray hatchery fish are already common in the SJR tributaries. High rates of straying of ad-clipped fish (likely hatchery origin) were observed during the 2010 adult migration season at the Stanislaus River weir (25.0% of adult in-river returns as of 2/7/11) and the Tuolumne River weir (32.7% of adult in-river as of 11/30/10) (FISHBIO 2011). The observed numbers of ad-clipped fish suggest that substantial straying of hatchery fish already occurs in the SJR tributaries.

Spring-run Chinook in Butte Creek generally spawn between late-September and early November with a peak in early October (SJRRP 2010d). Fall-run Chinook spawning in the San Joaquin River tributaries is generally later, but overlapping. For example, in recent years fall-run on the Stanislaus River have spawned between late-September and December with redds appearing in early to mid-October and peak spawning occurring in mid- to late-November (Guignard 2005, 2006, 2007, 2008). Despite the differences in spawning peaks, the distributions coincide enough that there is ample opportunity for inter-breeding between runs.

According to the Hatchery and Genetic Management Plan (SJRRP 2010f, pages 34-35), Feather River Hatchery spring-run fish show some genotypic and phenotypic characteristics of fall-run fish, indicating the potential consequence of hybridization, as follows:

SJTA-8 cont'd

> . . . the Feather River spring-run has significant historical and ongoing hybridization with fall-run Chinook, although the Feather River Hatchery (FRH) is taking steps to create a more genetically isolated spring-run. Genetic analysis suggests that the remaining spring-run fish are heavily introgressed with fall-run genes (Garza et al. 2008), to the point that it is called a genetically fall-run fish (Id.). Given that the Feather River spring-run Chinook salmon are not genotypically distinguishable as a spring-run fish in the same way that Butte and Mill/Deer salmon are, it may more accurately be described as a spring-running fish, not necessarily a spring-run Chinook salmon.

The effects to fall-run Chinook salmon from hybridization resulting from reintroduction of spring-run Chinook salmon to the Restoration Area (Impact FSH-10) was considered *"Less Than Significant"* for all alternatives. The Draft PEIS/R (page 5-74, lines 16-21) acknowledges that the reintroduction "could result in compromised genetic integrity and fitness of wild fall-run Chinook salmon stocks in the Merced, Tuolumne, and Stanislaus rivers if interbreeding between wild and hatchery fish occurred" and further stated that the overlap in spawn timing indicated that "there is potential for some degree of hybridization between the two runs". However, the Draft PEIS/R (page 5-74, lines 12-15) states that

> because holding habitat is minimal for spring-run Chinook salmon in the San Joaquin River tributaries, the likelihood of genetic introgression is

> substantially reduced. Additionally, fall-run Chinook are already considered genetically compromised.

Nonetheless, no evidence was presented to support the assertion that holding habitat is "minimal" for spring-run Chinook salmon in tributaries. Considering the limited holding habitat that is available on the San Joaquin River within the Restoration Area, the PEIS/EIR should quantitatively assess the holding habitat and compare it with what is available on the tributaries, in order to support their statement.

In contrast to the statement made in the Draft PEIS/R, above, in recent years adult Chinook salmon have been observed passing the Stanislaus River weir in May and June (Anderson et al. 2007; FISHBIO 2010a,b), and holding in pools during the summer, which is consistent with the phenotypic behavior of spring-run Chinook (Kennedy and Cannon 2002, 2005, DFG unpublished as cited in SJRRP 2010d). In 2000, DFG staff deployed gill nets at a deep pool in Buttonbush Recreation Area (RM 48) between June 29 and August 25th. Of the 28 fish caught during sampling, five had coded wire tags (CWT) that indentified them as stray fall-run fish released into the Delta from the Feather River Hatchery. These findings highlight two key points regarding the potential impact of hybridization in the tributaries: 1) stray hatchery Chinook have been observed over-summering in the Stanislaus River, thus, there is holding habitat; and 2) despite attempts to keep spring and fall-run chinook from interbreeding at the Feather River Hatchery, fall-run fish are showing phenotypic characteristics of spring-run.

SJTA-8 cont'd

Furthermore, the Draft PEIS/R (page 5-74, lines 24-26) states that

> a stock selection plan is being drafted by the Fisheries Management Work Group, along with a Genetics Management Plan, to help minimize potential genetic impacts to salmonids in the San Joaquin River and its tributaries,

but does not describe how the stock selection will be conducted in a way that will minimize the impacts. By stating (page 5-74, lines 14-15) that "fall-run Chinook are already considered genetically compromised," the Draft PEIS/R marginalizes the importance of maintaining the genetic integrity between fall and spring-run Chinook for the sake of genetic diversity in both populations. The Central Valley fall-run Chinook are considered genetically homogenized (Williamson and May 2005), in part due to the long history of hatchery production and off-site releases. Williamson and May (2005) did not observe genetic separation of populations, even between the Sacramento and San Joaquin Basin, indicating that extensive gene flow has lead to the spatial and temporal homogenization of the genetic diversity, which has almost certainly constrained the ability of the fall-run Chinook salmon to respond to environmental variability (Moyle et al. 2008). However, by marginalizing the potential for introgression between runs, the Draft PEIS/R is ignoring an issue that has plagued spring-run Chinook in the Feather River basin. Although steps are being taken to prevent fall-run from entering the Restoration Area, stray spring-run can still facilitate this introgression. It is likely that the offspring of a spring-run salmon from the experimental population that strays into a tributary and reproduces with a fall-run salmon will return to the Restoration Area as a

SJTA-8 cont'd

'spring-run' and spawn with spring-run from the experimental population, thus harming the genetic integrity of the experimental population as well.

The Draft PEIS/R does not provide sufficient evidence that competition will be reduced in response to an increase in flows associated the Restoration Project.

For assessing potential competition impacts, the Draft PEIS/R (page 5-59, lines 8-14) indicates that increased competition for habitat in the lower San Joaquin River (between the Merced and the Delta) is doubtful due to the increase in habitat that will likely occur at the higher restoration flows, as follows:

> The predicted flow increases in the San Joaquin River from the Merced River confluence to the Delta resulting from the release of both Interim and Restoration flows would increase the amount of instream habitat available to the representative species, and could reduce interspecific (between species) and intraspecific (within species) competition, especially during spring, when modeled flow increases are largest (Appendix H, "Modeling") and migrating juvenile fall-run Chinook salmon and steelhead are most abundant in this section of the river.

SJTA-9 cont'd

However, the Draft PEIS/R does not provide sufficient evidence that an increase in flows will result in an increase in preferred rearing and migrating habitat between the Merced River confluence and the Delta. A recent assessment of potential floodplain habitat in the SJR downstream of the Merced River showed progressively less floodplain inundation in the downstream direction over a stream flow range of 1,000-25,000 cfs (Figures 9-11 in Campbell et al. 2010). At a flow of 16,000 cfs, which represents approximate bank-full flow in the SJR downstream of the Stanislaus River and 2-3X the bank-full flow between the Merced and Stanislaus rivers, the total estimated amount of inundated floodplain is 9,851 acres consisting of 6,885 acres between the Tuolumne and Merced rivers, 1,980 acres between the Tuolumne and Stanislaus Rivers, and 986 acres from the Stanislaus River downstream to Mossdale (Campbell et al. 2010). In the Stanislaus to Mossdale reach (17 river miles), the extent of inundated floodplain only exceeds 2,000 acres at the maximum modeled flow of 25,000 cfs.

Although the range of alternative flows are not specified in the Draft Report, 60% of unimpaired flows will exceed 10,000 cfs under many wet years, but proposed release flows during dry years will likely be much lower. The cbec analysis (Campbell et al. 2010) shows that virtually no floodplain is inundated at flows <5,000 cfs; whereas, further gain in floodplain acreage declines above 15,000 cfs (Figure 14 in Campbell et al. 2010). Much of the inundated floodplain habitat at intermediate flows are associated with oxbow features, many of which appear to retain water year-round and are known to be predatory fish habitat.

Because the lower SJR is more constrained by elevated valley topography than is the Sacramento River (TBI 1998), the estimates of floodplain inundation conducted by cbec (Campbell et al. 2010) may suggest relatively greater habitat for outmigrating salmon

than is actually available because inundation areas are likely to be deeper and swifter than those preferred by salmon.

SJTA-9 cont'd

Since habitat restoration on the San Joaquin River is scheduled to occur after the re-introduction of spring-run, this means that sufficient quantities of suitable rearing habitat will not be available in the Restoration Area. Given the likelihood for insufficient food resources in the Restoration Area (SJRRP 2010c), there is a greater potential for reintroduced juvenile spring-run Chinook salmon to disperse downstream into the lower San Joaquin River or the lower tributaries for rearing, particularly considering that similar non-natal rearing strategies by juvenile spring-run Chinook salmon have been documented in the Sacramento River basin (Maslin et al. 1997). Since both spring and fall-run Chinook in the San Joaquin River and tributaries may occupy similar habitats during rearing and outmigration, there is likely to be competition for limited food resources, which contrasts with the determination made in the Draft PEIS/R.

3. TEMPERATURE IMPACTS WERE INCOMPLETELY ADDRESSED; RECOMMEND FURTHER ANALYSIS

The impact assessment of the effects of water temperature on fisheries is poorly described, and the conclusion that impacts will be "less than significant" is not supported by figures and tables attached to Appendix H.

The "Water Temperature and Quality" topic, under the "Impact Assessment Methodology" section of the Draft PEIS/R (page 5–51, lines 25-32) states that,

> Potential impacts of changes in water temperature on fish in the Restoration Area were evaluated using modeled water temperature data for each Restoration water year type from the SJR5Q river temperature model (Appendix H, "Modeling"). . . *Modeled mean period water temperatures for each water year type were compared to information on fish distribution and water temperature suitability for each fish life stage*. (emphasis added)

SJTA-10 cont'd

This description of the assessment process is vague and brief, and is lacking important details. No unit of measurement is provided for the "*modeled mean period*" temperatures mentioned in the quote above; thus, it is not clear if the period refers to mean weekly, daily or monthly temperatures. Additionally, it is unclear, but presumably the quote refers to the fish species preferences provided in the Draft PEIS/R Attachment *Fish Species Water Temperature Suitability*. Based on this vague information, it is difficult to review the report's conclusions. Also, for "Program-level Impacts and Mitigation Measures" (section 5.4.3), the Draft PEIS/R vaguely concludes that the actions "could have short- or long-term effects on water temperatures in the Restoration Area associated with construction or operation" (Impact FSH-1, Alternatives A1 and A2). There is no description regarding what type of effects these might be; a programmatic level assessment of impacts is not provided. For "Project-level Impacts and Mitigation Measures" (section 5.4.4), some of the aforementioned model results are discussed in

reference to "Changes in Water Temperatures and Dissolved Oxygen Concentrations in the San Joaquin River Between Friant Dam and the Merced River Impact" (FSH-22, Alternatives A1 Through C2), as follows:

> 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 A through C2 than under the No-Action Alternative (modeled average water temperature at the SR 41 and Gravelly Ford) (see Appendix H, "Modeling"). 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). . .Water temperatures in Reaches 4 and 5 would be 1 to 2°F lower than 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) (see Appendix 32 H, "Modeling").

SJTA-10 cont'd

> Under a 2005 LOD, water temperatures in Reaches 1 and 2 during spring are already below representative special-status fish species preferences, and the further reduction in water temperatures anticipated under the action alternatives would not provide additional benefits in these reaches. However, during the warmest summer months (July and August) in all reaches, decreased water temperatures under the action alternatives would be beneficial. (page 5-90)

The Draft PEIS/R uses this limited, two paragraph description to conclude that the "Interim and Restoration flows have the potential to reduce water temperatures in the San Joaquin River from Friant Dam to the Merced River most of the time. The effects of water temperature changes on fisheries would be **less than significant**." However, this assessment of the impacts of temperatures inappropriately uses mean monthly water temperatures combined across all years to assess impacts on fisheries. Although several pages of figures and tables in an attachment to Appendix H present results of water temperature modeling in a more acceptable form, this attachment was not made available online (received via postal mail after request to Reclamation) and there is no discussion of these results. The absence of discussion of the model results, and the fact that the conclusion is not at all supported by detailed modeling results hidden in the unposted attachment to Appendix H, gives the appearance that this information was intentionally concealed.

The Draft PEIS/R defines suitable water temperatures as "those which do not cause or contribute to acute or chronic stresses that would significantly reduce survival or reproductive success of the assessment species" (page 5-51). In order to assess the effects of temperature on fish species, it is vital to have an appropriate metric by which chronic (sub-lethal) and acute (lethal) temperature exposures are measured, and typically the seven-day average daily maximum temperature is used for this purpose. While it is

understood why modeled daily average temperatures would be used instead of daily maximums given the uncertainty in precisely modeling daily maximums, the report appears to have inappropriately averaged daily water temperatures for each month and across years, yielding monthly values as a metric to assess impacts on fishes. No discussion of the observed range or variation about the mean is provided.

The report attempts to justify the use of mean temperatures by stating that "[s]ince different life stages require different temperatures, the mean temperature during the period is of importance in using the data in the fisheries analysis." This approach makes no sense and there is a very simple way to account for the requirements of the different species and lifestages using species-specific lifestage timing and defined suitability criteria. For instance, the ability to meet the temperature requirements of spring-run Chinook salmon is of particular interest. Figure 2-5 (pg. 2-18) of the draft report describes timing for all lifestages of spring-run Chinook salmon, with adult migration and holding approximately February-June, spawning and incubation during August-February, and rearing and outmigration year-round. Adult migration and holding is the least temperature sensitive lifestage with the criterion defined in the report as ≤66°F. Since this criterion is higher than for more temperature sensitive lifestages, the impacts analysis can focus on the remaining lifestages recognizing that adult migration and holding requirements will be met by temperatures that satisfy requirements of other lifestages. Incubation is the most temperature sensitive lifestage, and is therefore the controlling factor with regard to temperature requirements during August-February. During the remainder of the year (i.e., March-July), the temperature requirements for rearing and outmigration are controlling. Representative species should be evaluated separately, or at minimum, impacts to cold-water versus warm-water species should be considered.

SJTA-10 cont'd

Using this information, in conjunction with exceedance plots of mean daily temperatures that were provided in the attachment to Appendix H, provides a more appropriate basis for analysis of impacts. Review of the exceedance plots of temperatures for the San Joaquin River under the Existing Level – Alternative A Condition during critical months of the spawning and incubation period reveals that more than 90% of the modeled daily average temperatures at Friant Dam during November exceeded the 55°F suitability criteria defined in the report (Figures 1 and 2). This is a significant impact to spring-run Chinook salmon as all incubating eggs deposited during the spawning period would be affected. Further, the spawning and incubation reach extends downstream of Friant Dam and temperatures quickly warm with distance from the Dam, therefore this represents the "best" of the unsuitable conditions available in the reach. Exceedance plots showing future conditions are warmer. Clearly, water temperatures will pose a significant impact to spring-run Chinook salmon, and this issue has not been adequately addressed by the Draft PEIS/R.

The cold water pool in Millerton Lake may be insufficient to provide the prescribed summer and fall flow releases, and to meet the defined criteria for spring-run Chinook salmon holding, spawning, and incubation.

SJTA-11 cont'd

Exhibit A of the SJRRP Fishery Management Plan (SJRRP 2010c, page 5-4) concludes that the limited cold-water pool is a potential limiting factor for spring-run Chinook salmon:

> The volume of the cold water pool in Millerton Lake may be insufficient to provide the prescribed summer and fall flow releases and maintain suitable water temperatures for holding adult spring-run Chinook salmon during the summer (target less than 70°F (21°C)) and incubating salmon eggs during the fall (target less than 58°F (14°C)).

SJTA-11 cont'd

The target of less than 58°F for incubating salmon eggs that was used in the SJRRP Fishery Management Plan is warmer than the temperature criteria define in the Draft PEIS/R which should heighten this concern. Conclusions from Exhibit A are supported by the results of the SRJ5Q Temperature Simulations (Figures 1 through 6), which found that more than 90% of the modeled daily average temperatures at release from Millerton Lake (Friant Dam) during November exceeded the 55°F suitability criteria defined in the report. While, the exact timing of spawning in the future experimental population is unknown, spring-run Chinook in Butte Creek generally spawn between late-September and early November with a peak in early October (SJRRP 2010d). Therefore, all incubating eggs deposited during the spawning period would be affected by temperature exceedances in November. Further, these temperatures represent the coolest conditions near the top of the spawning reach, which extends another 8.5 miles downstream, and water temperatures increase with distance below the dam due to the influence of ambient air temperatures.

The possibility has not been adequately addressed that high water temperatures, in combination with other factors such as poor survival through the Delta and in the ocean, may entirely preclude establishing a viable spring-run salmon population.

SJTA-12 cont'd

Although the PEIS/EIR states that decreased water temperatures (in the spring) under the action alternatives would be beneficial, this does not mean that conditions will be suitable for the experimental population throughout its lifecycle, particularly during important and population limiting lifestages (i.e., incubation). As noted above, modeled temperatures reveal that temperatures for spring-run incubation during the fall will be much warmer than the criteria defined by the Draft PEIS/R. These conditions will substantially limit spring-run Chinook salmon abundance, and the few, if any, survivors to emergence would then be subject to poor survival through the Delta and potentially poor survival in the ocean. Fall-run Chinook salmon abundance in the San Joaquin Basin is not limited by water temperatures during incubation, yet they have struggled to persist due largely to poor Delta survival and, in some years, poor ocean conditions.

SJTA-13 cont'd

According to the USEPA and DFG, the lower SJR downstream of the Merced River confluence is temperature impaired, and therefore a limiting factor, for fall-run Chinook salmon smoltification and migration (USEPA 2010); the SJRRP restoration flows may reduce the ability to meet USEPA temperature criteria in the

San Joaquin River downstream of the Merced River confluence, negatively impacting EFH in the SJR tributaries.

Interim and Restoration flows will reduce the ability to meet USEPA temperature criteria in the 303d listed segment of the San Joaquin River downstream of the Merced River confluence (SJRGA 2007). However, the Draft PEIS/R concludes that the impacts of changes in water temperatures in the San Joaquin River between the Merced River and the Delta for Alternatives B1 and B2 and C1 and C2 (Impact FSH-13) would be "**less than significant**":

> It is possible that *cool water inputs to the mainstem San Joaquin River from the tributary rivers would be affected by the withdrawal of water that would occur at new pumping infrastructure, potentially resulting in downstream increases in water temperature during non-summer months*, compared with the current condition. However, this potential impact *would be minimized by mixing cool water from the tributary rivers with flows in the mainstem San Joaquin River, including Interim and Restoration flows from the Restoration Area*. (page 5-75, lines 40-43 and 5-76, lines1-3; emphasis added)

SJTA-13 cont'd

This statement is ambiguous, and the potential impact and reason for the "less than significant" determination should be more clearly stated. First, the report provides the exact same paragraph for both Alternatives B and C, despite the differences between Alternatives. Under Alternatives B1 and B2, the PEIS/EIR should be examining the impacts that would occur associated with recapture of water at *existing* pumping facilities (not *new* pumping facilities as indicated by the paragraph). In contrast, Under Alternatives C1 and C2, the document should be examining the impacts of recapture at *existing* facilities *plus additional impacts* associated with the constructing and operating *new* pumping infrastructure to recapture water (either through expansion of existing pumping plants, or the construction of a new pumping plant somewhere on the San Joaquin River below the confluence of the Merced River). It appears that the paragraph for Alternative C1 and C2 was just copied and pasted and the impacts were incorrectly assumed to be identical.

Second, it is inaccurate to say that *inputs* to the main stem SJR from the tributaries would be affected by withdrawal at the new pumping facilities. The withdrawal of water would be occurring in the main stem and thus, it cannot affect cool water *inputs* from the tributaries, only the resulting mixed water (i.e. tributary inputs mixed with Restoration or Interim flows). Inputs from the tributaries would remain unchanged, but withdrawals of mixed and/or unmixed waters may alter resulting conditions in the lower SJR. Unless, the Draft PEIS/R is stating that due to the effects of the pumping facilities on the main stem, a larger *quantity of input* from the cooler tributaries may be required to meet certain regulations. If this was the intention of the statement, it was not clear.

Third, there is no mention in this section of how temperatures might be affected by the location of water withdrawals. In the Draft PEIS/R Executive Summary (page 57), Figure

ES-10 ("Flow routing and water recapture under Alternative C1") indicates that there is no single water withdrawal location selected. It is possible that temperatures in the lower SJR will be different if the bulk of the water is withdrawn near the Merced confluence (after only one tributary inflow) compared with the main stem near the Stanislaus (after all three tributary inflows).

The statement appears to presume that the Interim and Restoration flows will be cool, thus 'minimizing impacts'. In contrast, water temperature modeling conducted by AD Consultants (SJRGA 2007) indicates that although the SJRRP flows will add more water in this reach, the travel time is such that when the new water reaches the Merced River confluence, it approaches equilibrium with ambient temperature. The Draft PEIS/R (page 5-98, lines 25-30) states that their modeling indicates water coming out of Reach 5 will have little effect on temps immediately downstream:

> The SJR5Q water temperature model simulated effects of the action alternatives on water temperatures in the San Joaquin River from Friant Dam to immediately downstream from the confluence with the Merced River. Modeling results indicate that Alternatives A1 through C2 would have little effect on water temperatures at the location immediately downstream from the confluence with the Merced River.

SJTA-13 cont'd

Even though it is anticipated that the water temperature at the confluence of the Merced and San Joaquin Rivers will be the same with and without the anticipated SJRRP flows, this does not imply that water temperatures downstream of the Merced River confluence will be the same due to differences in the volume of water. The existing San Joaquin Basin temperature model that was used to model water temperatures through the Restoration Area extends downstream of the Merced River confluence, and this readily available tool should be used to model water temperatures under the project alternatives.

The SJRRP flows themselves are of such a large volume that it will take a greater volume of water from the Merced River to reduce temperatures at the confluence. Given the storage capacity of Lake McClure, the releases necessary to reduce temperatures at the confluence can only be made for limited duration before exhausting the available water supply. These high water temperatures may affect the survival of both the existing populations of fall-run Chinook salmon and the experimental spring-run. Actions should not be taken that could potentially exacerbate recent declines of FRCS, particularly declines within the San Joaquin basin, which may result in the need to list FRCS as threatened or endangered under the ESA. Thus, the Draft PEIS/R should assess the affects of the greater input of warm water from the San Joaquin River main stem at the confluence of the Merced on the ability of tributaries to meet water temperature requirements at Vernalis.

4. POTENTIAL IMPACTS FROM NON-NATIVE FISH SPECIES WERE INCOMPLETELY ADDRESSED; RECOMMEND FURTHER ANALYSIS AND CONSIDERATION OF PRE-REINTRODUCTION PREDATOR CONTROL STRATEGIES

Non-native predators, extant in the SJR, will predate juveniles from the experimental population and their progeny and on other native fishes — the SJRRP should consider identifying/quantifying predators and implementing predator control strategies before introducing eggs and juveniles from the spring-run experimental population.

According to the Draft PEIS/R (Reclamation and DWR 2011a; page 5-15, lines 5-6), "a recent, comprehensive evaluation of aquatic habitat in the Restoration Area has not been performed;" however, is the best science available demonstrates that non-native piscivorous fishes are present throughout the Restoration Area (McBain and Trush Inc. 2002, SJRRP 2010c). Non-native predators present in, or moving into, the Restoration Area include largemouth bass, smallmouth bass, green sunfish, warmouth, black crappie, and striped bass (McBain and Trush Inc. 2002).

SJTA-14 cont'd

Largemouth bass. Largemouth bass are known to be a 'keystone predator' due to their flexible foraging strategies, size and gape, 'voracious' appetite, and tolerance for a wide variety of environmental conditions (Moyle 2002). During Fish and Game electrofishing surveys of the Restoration Area, largemouth were common in the lower reaches and found upstream as far as Reach 1B (SJRRP 2010c). Although largemouth bass predation on salmonids in the Sacramento- San Joaquin Delta is rare (Nobriga and Feyrer 2007, Baxter et al. 2010), there is evidence for predation in the tributaries. Deep pits created during gravel mining (which are present in Reach 1 of the Restoration Area) provide ideal habitat, with low water velocities, warm water, and aquatic vegetation (McBain and Trush Inc. 2002). On the Tuolumne River, a diet study of largemouth bass found in mining pit habitats revealed that they do predate upon outmigrating juvenile Chinook salmon, especially hatchery fish (EA Engineering Science and Technology 1992b; as cited in McBain and Trush 2002).

Smallmouth bass. Smallmouth bass feed on insects, crustaceans amphibians and other fishes; they may compete with native species (e.g., hardheads) for food resources such as crayfish (Moyle 2002). In the Tuolumne River, they were also found to prey on outmigrating Chinook salmon in the pool habitat created by gravel mining (EA Engineering Science and Technology 1992b; as cited in McBain and Trush 2002). Smallmouth bass are present in the Restoration Area, and as a more stream-oriented fish that prefers cooler waters than most other non-natives species (Brown 2000), they may become more common in Reach 1 with summer restoration flows.

Striped bass. Since the 1960s, various studies have shown that striped bass in the Sacramento-San Joaquin Delta and tributary rivers eat salmon (Stevens 1966, Thomas 1967, Pickard et al. 1982, Edwards 1997, Tucker et al. 1998, Merz 2003, Nobriga and

Feyrer 2007). Additional evidence suggests that predation in the tributaries may reduce the number of outmigrating juvenile salmon before they even make it to the Delta (Jager et al. 1997, Demko et al. 1998), because the narrow and relatively shallow channels concentrate the fish (Hanson 2009). At an abundance of roughly one (1) million adult striped bass, there is an estimated 9% chance of an individual juvenile Chinook salmon being predated upon in the Sacramento River (Lindley and Mohr 2003). Predation on salmonids appears to be patchy—both seasonally and spatially, with higher levels of predation documented in the spring—in areas of anthropogenic influence, such as near water diversion structures and dams (Stevens 1961, Gingras 1997, Tucker et al. 1998, Merz 2003, Clark et al. 2009). Striped bass are highly mobile and are often recorded in the spring passing upstream of fish counting weirs on SJR tributaries (FISHBIO a, c). In recent years it has become clear that predation by striped bass may significantly limit salmon recovery efforts. The NMFS draft recovery plan (2009) for Chinook and Central Valley steelhead stated that "predation on juveniles from all populations rearing and migrating through the Sacramento River and Delta" is one of the most important stressors. Considering the numerous water diversion structures and areas of anthropogenic influence that occur in the Restoration Area, predation by striped bass should be a concern.

SJTA-14
cont'd

Other bass species. In recent years, both spotted bass and redeye bass have invaded the Delta. Spotted bass were common in the lower reaches of the Restoration Area according to Fish and Game electrofishing surveys (SJRRP 2010c). Redeye bass populations, which may also be present in the Restoration Area, now dominate the fish fauna of the Cosumnes River basin, where it has had a substantial effect on shaping the current species assemblage (Moyle et al. 2003). McBain and Trush (2002, page 7-78) caution that the

> [c]reation of holding pools or other types of spring and fall Chinook salmon habitat may improve habitat conditions for redeye bass. . . Redeye bass, if established in the San Joaquin River, could become important predators of native fishes.

The Draft PEIS/R (Reclamation and DWR 2011a; page 2-46, lines 34-37) recognizes the implications of these predator populations and indicates that

> Additional actions not identified in the Settlement could be necessary to prevent aquatic predation of juvenile salmonids. ***Additional potential actions to prevent aquatic predation of juvenile salmonids could include capturing and removing nonnative aquatic predatory species*** (emphasis added).

Thus, it is recommended that the SJRRP consider identifying/quantifying predators and implementing predator control strategies before introducing eggs and juveniles of the spring-run experimental population.

SJTA-14 cont'd

Furthermore, it is clear from the Draft PEIS/R (Reclamation and DWR 2011a; page 5-73, lines 19-21) that the gravel pits in Reach 1 expose native fish and experimental fish to increased predation, which states:

> [i]mproved instream and floodplain habitat conditions and isolating or filling gravel pits in Reach 1 would likely reduce largemouth bass populations and subsequently decrease predation on representative special-status fish species..

However, filling or isolating gravel pits is stipulated in Paragraph 11(b)(3) of the settlement as a "Phase 2 action," to be completed by December 31, 2016 (Reclamation and DWR 2011a; page 2-37). The presence of gravel pits could expose the first four years of outmigrating smolts to unnecessarily (i.e., avoidable) high levels of predation from the non-native species known to occupy those habitats. Since this stipulation is "based on their relative potential for reducing juvenile salmon mortality" (Reclamation and DWR 2011a; page 2-42, lines 36-37) high priority gravel pits should be filled before juvenile salmon reintroduction scheduled to occur in 2012.

Because of the small size of the experimental populations, the Draft PEIS/R needs to also address predation by native species, especially on eggs, that may be exacerbated if other prey items are not available in the Restoration Area.

Before anthropogenic changes altered the ecosystem, potential predators of juvenile salmonids were Sacramento perch, rainbow trout and Sacramento pikeminnow. Also, sculpin may have fed on both salmon eggs and fry (McBain and Trush 2002). Though not their primary prey, resident rainbow trout and juvenile steelhead may predate juvenile salmonids (SJRRP 2010c). The Sacramento perch no longer exists in their native range in the SJR, but other native predators do. **Most importantly, native predators such as pikeminnow and sculpins have been implicated as important predators in the case of re-introductions and hatchery releases as reported below.**

SJTA-15 cont'd

Sacramento pikeminnow. Sacramento pikeminnow were historically the main predator in the Sacramento-San Joaquin system. They are opportunists that feed on aquatic insects, crayfish and fishes (Moyle 2002). **Although pikeminnow predate salmon in the region, in rivers they "do not appear to be significant predators of salmon and trout except under highly localized seasonal, or unusual circumstances that are often related either to the design of dams and diversions or to poorly planned releases of hatchery smolts"** (Brown and Moyle 1981). Sacramento pikeminnow are known to predate juvenile salmon below Redd Bluff Diversion Dam, primarily during the "gates-in" period when fish passing over the dam are disoriented (Tucker et al. 1998). None of the electrofishing studies conducted in the Tuolumne and Stanislaus Rivers identified pikeminnow as predators of juvenile Chinook salmon (SJRRP 2010c). Since adult pikeminnows are smaller than adult striped bass they may consume fewer salmon per capita (Hanson 2009). Additionally, large pikeminnows have a low metabolic rate and feed infrequently (Vondracek 1987), possibly reducing their ability to negatively impact juvenile salmonid populations (Moyle 2002). However, the report states that "Gravel pits have also converted what was historically lotic habitat to lentic habitat, which may

provide habitat for Sacramento pikeminnow" (Reclamation and DWR 2011a, page 5-16, lines 31-33).

Sculpin Prickly and riffle sculpins are native species currently and historically present in the Restoration Area. These species are part of the "rainbow trout assemblage" occupying swift waters in cooler, high gradient habitats. Sculpins are benthic predators and may occasionally consume salmon or trout eggs, although there is controversy regarding the extent to which they can limit salmonid populations (Moyle 1977, McBain and Trush 2002, Moyle 2002). The susceptibility of salmonid eggs to predation depends on many factors, including the size of the sculpins, the size of the spawning gravel and the environmental characteristics of the spawning habitat (Moyle 1977, Palm et al. 2009). A recent study of the predation rate of European sculpin on Atlantic salmon eggs in northern Sweden found that predation rate was dependent on substrate size (Palm et al. 2009), with higher predation (83%) in the large substrate (62mm/2.4in) and low predation (2-3%) in the smaller substrates (13mm/0.5in to 37mm/1.5in). In some systems, such as lakes in Alaska, where the natural gravel is large and there are few fines, sculpin can place significant predation pressure on salmonid eggs. Foote and Brown (1998) estimate that 16% of the sockeye eggs laid during a spawning event in Iliamna Lake, Alaska may have been consumed by sculpins.

SJTA-15 cont'd

It has been suggested that salmonid eggs in natural gravels of the San Joaquin Basin are protected from sculpin predation "because the interstitial spaces in the gravel are too small for predators to reach the egg pockets. Sculpin and crayfish are capable of penetrating deeply into streambeds to feed on salmon eggs and alevins, but only where the gravel is coarse and free of fine sediments (McLarney 1964, Phillips and Claire 1966, Vyverberg 2004, pers. comm.)" (SJRRP 2010c). Notably, a comparison of the diet of prickly sculpin and juvenile Chinook on the Mokelumne River (Jan-Jun in 1998 and 1999) did not find any Chinook eggs in sculpin stomachs, but sculpin eggs were encountered infrequently in Chinook stomachs (Merz 2002). However, it is important to note that no sampling took place during the majority of the Chinook spawning period (fall). Additionally, eggs consumed by sculpin may be those that were not properly buried during spawning or dug up during redd construction (Moyle 1977). Given the continuing debate over sculpin predation on salmonid eggs, if spawning gravel will be added as part of the restoration effort, consideration should be given to potential predation and the substrate size limits for native sculpin (Palm et al. 2009).

The Draft PEIS/R (Reclamation and DWR 2011b, page 2-11, lines 21-22) states that "Although they [riffle sculpins] generally do not interact with salmonids because of niche separation, they will occasionally prey upon one another." Sculpin may occasionally consume salmonid fry (Moyle 1977, Tabor et al. 1998); however, results of studies on fry predation can be affected by the methods used to collect the fish (Moyle 1977, Tomaro 2006). Relevant to the current situation on the SJR, Ward et al. (2008) examined the impacts of native fishes on the reintroduction of Atlantic salmon to streams in the Northeastern United States. Sculpin were found to consume hatchery Atlantic salmon fry, and may have consumed up to 20% of the stocked fry within hours of stocking. Additionally, the density of young-of-the-year salmon survivors was negatively

correlated with sculpin density. Ward et al. (2008, page 150), in agreement with Moyle (1977), concluded that

> **[t]he effects of sculpins on salmonids are probably most severe for population reintroductions or for populations already suppressed by other factors, as sculpins regularly coexist with healthy salmonid populations** [emphasis added].

SJTA-15 cont'd

This is an important consideration for the re-introduction of spring-run Chinook salmon to the Restoration Area.

O. mykiss. Resident rainbow trout and juvenile steelhead primarily feed on terrestrial and aquatic invertebrates (Moyle 2002), but may predate on juvenile salmonids (SJRRP 2010c). The Draft Restoration Strategies for the SJR (Stillwater Sciences 2003, page 3.3-2) suggested that restoration of a steelhead population to the lower river should only occur once Chinook populations are "well-established and can tolerate the additional predation pressures." Whether or not they predate upon Chinook, the presence of large trout or steelhead may affect the habitat selection of Chinook fry and smolts.

The Draft PEIS/R is inconsistent regarding potential changes in non-native fish and predator distributions and densities within the Restoration Area, but in all cases the report concludes that the effects will be "less than significant and beneficial."

The over-arching inconsistency in the Draft PEIS/R with regards to impacts on non-native fishes is concerning "predators" and "warm-water game fish." The section on "Biological Resources – Fisheries" (Chapter 5) addresses the issue of 'predation' and changes in distribution or populations of non-native predators (such as largemouth bass, smallmouth bass and striped bass). However, Chapter 21 (Recreation) addresses the issue of 'warm-water angling opportunities' for sportfish such as largemouth bass, sunfish, and catfish. In general, the Draft PEIS/R concludes that the presence of predators will decrease due to restoration actions, but the populations of warm-water game fish will increase. This contradiction is discussed below in more detail in reference to the specific impacts listed in the report.

SJTA-16 cont'd

The PEIS/EIR asserts that changes in predation levels in the San Joaquin River between Friant Dam and the Merced River (Impact FSH-27) would be "***Less Than Significant and Beneficial***" under all alternatives for representative special-status species, thus no mitigation is proposed. In support for this conclusion, the report (Reclamation and DWR 2011a; page 5-95, lines 8-13) states that,

> The release of Interim and Restoration flows would result in increases in the quantity, quality, and velocity of water downstream from Friant Dam, and *generally reduce water temperatures*, especially in Reach 1. This would *shift habitat conditions away from the warmer and slower water habitat favored by nonnative predators* and increase habitat suitability for

> native species, *in effect, moving nonnative predatory fish farther downstream*. (emphasis added)

Although the interim flows will generally improve water quality and quantity in Reach 1, no evidence was provided to indicate that these changes will shift and reduce predator populations. The Draft PEIS/R is vague on how far "downstream" this expected shift will occur; however, the shift would presumably be far enough to have a beneficial impact for fry and rearing juveniles. No citations were provided as the basis for this conclusion that increased flow and decreased temperatures will "shift predator populations"; however, this may be based on work by Marchetti and Moyle (2001), who evaluated native and non-native fish populations in Putah Creek. Marchetti and Moyle's (2001, page 537) study concluded that

> [d]ry years shifted the environmental conditions favoring nonnative assemblages upstream and wet years shifted environmental conditions to those favoring native assemblages downstream.

Putah Creek is a very different system and flow regime. Marchetti and Moyle (2001) compared fish population structure and distribution during drought years (when the lower stream was often dry due to riparian pumping) to those during wetter years when the stream did not go dry. Thus, extrapolating their conclusions to the Restoration Area in the San Joaquin River system where conditions will be less extreme is not reasonable or relevant.

SJTA-16 cont'd

Furthermore, the Draft PEIS/R makes additional statements indicating that predation in the Restoration Area could potentially *increase* rather than decrease. The report states that "[r]emoving or modifying barriers that restrict fish movement would increase access to available habitat in all reaches of the Restoration Area, particularly for migratory species such as Sacramento splittail and striped bass" (Reclamation and DWR 2011a; page 5-72). Striped bass are a known predator of juvenile Chinook salmon and other native species and they have been recorded migrating up the San Joaquin tributaries during the spring when juvenile salmon are outmigrating (FISHBIO 2010 a, c). According to Table 1 of the "Species Life History Timing" section of the Draft PEIS/R, striped bass currently spawn in Reaches 2, 3 and 5 and black bass spawn in Reaches 1, 2, 3 and 5 between March and June (Reclamation and DWR 2011c), thus there is potential by increasing access, that the Alternative actions are also increasing access to spawning habitat. As a result of their improved access to "all reaches of the Restoration Area", the distribution, and potentially the population, of predators will be <u>increased</u> in the area between Friant Dam and the Merced confluence, rather than decreased. Additionally, striped bass and Sacramento pikeminnow are known to consume outmigrating salmon in localized areas of anthropogenic influence, such as near water diversion structures and dams (Stevens 1963, Gingras 1997, Tucker et al. 1998, Merz 2003, Clark et al. 2009). Consequently, the Draft PEIS/R cautions that "[c]hanges in predator success due to increased abundance and vulnerability of prey may occur at newly constructed or altered diversion intakes or passage structures" (Reclamation and DWR 2011a; page 5-26, lines 13-14).

Predation on juvenile salmonids, including the experimental population and their progeny, can be exacerbated further by poor existing conditions in the SJR. As part of the development of the SJRRP fish management plan, a proof-of concept Ecosystem Diagnosis and Treatment (EDT) model was used to perform a preliminary diagnosis on the condition of the ecosystem (SJRRP 2010e). The model results indicated that the three primary factors limiting spring-run Chinook salmon recovery in the Restoration Area were: 1) maximum temperature, 2) quantity of key habitat, and 3) predation. These factors are not independent – an increase in temperature may stress juvenile salmonids making them more susceptible to predation, and may increase the metabolic rate of predators, increasing predation rates. Lack of rearing habitat may also increase the likelihood of predation. When a similar analysis was conducted for just the spawning reach (Reach A1 Friant Dam to Highway 41 bridge), results indicated that predation is considered an "extreme" negative change from historic conditions in terms of a decrease in productivity for several life stages (spawning, pre-spawning holding, fry colonizing, 1-age transient rearing and Age-1 migrants).

SJTA-16 cont'd

Reaches 1, 2A, 3, and 5 of the Restoration Area contain 'warm-water game fish species' and are popular recreational fishing areas. In contrast to the statements made regarding the anticipated changes in predation levels in the San Joaquin River between Friant Dam and the Merced River (Impact FSH-27), the Draft PEIS/R section on Recreation (Reclamation and DWR 2011a; page 21-54, lines 18-21) states that populations of warm-water game fish species, such as several varieties of sunfish, crappie, black bass, and catfish,

> *would be expected to increase in reaches where they now exist* and to move from upstream reaches into Reaches 2B and 4, where they are now absent. These *increases in warm-water fish populations would enhance warm-water sportfishing opportunities* in all reaches.

The Draft PEIS/R determined that due to the resulting "enhanced and expanded opportunities for warm-water sportfishing on the river in the Restoration Area" the impact of Alternatives A1 through C2 on warm-water fishing opportunities in the Restoration Area (REC-14) would be "*Less Than Significant and Beneficial*".

Given that predation was considered a primary factor limiting spring-run Chinook salmon recovery in the Restoration Area (SJRRP 2010e), and warm-water game fish such as largemouth bass were considered by the Draft PEIS/R to be non-native predators of concern (page 5-73), it is contradictory to state that predation will be "*Less Than Significant and Beneficial*" under all alternatives for representative special-status species, and yet under all alternatives there would also be a "*Less Than Significant and Beneficial*" impact on warm-water sportfishing opportunities in all reaches. Since the experimental population of spring-run Chinook will be present in all reaches during some portion of their life stage (e.g., incubation, rearing), they will be susceptible to predation in all reaches. Enhancement of warm-water sportfish in any reach will consequently increase predation pressures on native fishes.

According to the Draft PEIS/R (page 2-42, lines 35-42),

> Paragraph 11(b)(3) of the Settlement stipulates filling and/or isolating the highest priority gravel pits in Reach 1, based on their relative potential for reducing juvenile salmon mortality. . . Gravel pits could contribute to juvenile salmon mortality through effects on water temperatures and by providing habitat for predator species such as largemouth bass. A project-specific technical study would be necessary to identify the highest priority pits; therefore, this action has a potential range of actions, including no modifications, filling or isolating some or all pits, and regarding the floodplain to fill pits.

SJTA-16 cont'd

The Draft PEIS/R recognizes that this action could limit warm-water fishing opportunities in the Restoration Area (Impact REC – 5), and that as a consequence of isolating gravel pits from the river, "[f[ish populations may decline or may be eliminated over the longer-term if conditions for fish deteriorate" (Reclamation and DWR 2011a, page 21-36, lines 7-8). Because of the potential for substantial impacts on the warm-water angling at Sycamore Island Park, the Draft PEIS/R determined that this action would have *"Potentially significant"* impacts. As a consequence, mitigation was proposed (Reclamation and DWR 2011a, page 21-36, line 16-18) to "[e]nhance warm-water fishing access and fish populations in the vicinity of the San Joaquin River Below Friant Dam." The report discussed potential actions for mitigation, briefly acknowledging that this mitigation is at odds with the larger restoration goal of reintroducing spring-run salmon (Reclamation and DWR 2011a, page 21-36, lines 27-29), as follows:

> [c]reation of new opportunities could occur through development of new ponds in the vicinity of the parkway but in locations that would not create potential conflicts with Settlement goals.

It is important to recognize these "potential conflicts" and emphasize mitigation actions that will in no way have the potential to increase predation on salmonids and other native fish species in Reach 1. Furthermore, it is not necessarily a bad thing that fish populations may decline or be eliminated, especially in ponds close to the river, since rare flood flows may rejoin the pond and river, re-establishing the predators in Reach 1. The Draft PEIS/R has already acknowledged that additional potential actions may need to be taken to prevent aquatic predation of juvenile salmonids, including capturing and removing nonnative aquatic predatory species.

If not predated prior to exiting the Restoration Area, juveniles from the experimental population and their progeny will be susceptible to high rates of predation in the lower SJR and Delta.

SJTA-17 cont'd

The Draft PEIS/R incorrectly assumes higher inflows into the Delta will reduce predation by "displacing" non-native species, and shifting the distributions of native species. High predation losses at the State Water Project (SWP) are particularly detrimental to SJR

salmon populations because over 50% of juvenile salmon from the San Joaquin travel through Old River on their way to the ocean, exposing them to predation at Clifton Court Forebay (CCF) and causing substantially reduced survival. Predation rates in CCF are as high as 66-99% of salmon smolts (Gingras 1997, Kimmerer and Brown 2006). Striped bass are generally associated with the bulk of predation in CCF since their estimated populations have ranged between 30,000 and 905,000 (Healey 1997, Cohen and Moyle 2004); however, studies indicate that six additional invasive predators occur in the CCF (i.e., white catfish, black crappie, largemouth bass, smallmouth bass, spotted bass, redeye bass) with white catfish being the most numerous, having estimated populations of 67,000 to 246,000 (Kano 1990). Yoshiyama et al. (1998, page 502) noted that

> [S]uch heavy predation, if it extends over large portions of the Delta and lower rivers, may call into question current plans to restore striped bass to the levels of previous decades, particularly if the numerical restoration goal for striped bass (2.5 to 3 million adults; USFWS 1995; CALFED 1997) is more than double the number of all naturally produced Central Valley Chinook salmon (990,000 adults, all runs combined; USFWS 1995).

SJTA-17 cont'd

In 2005, Hanson conducted a pilot investigation of predation on acoustically tagged steelhead ranging from 221-275mm, and estimated that 22 of 30 (73%) were predated (Kimmerer and Brown 2006).

According to the Draft PEIS/R (Reclamation and DWR 2011a, page 5-104, lines 2-5),

> Alternatives A1 through C2 are *expected to result in lower average fish predation rates on many Delta fish species* because the alternatives would produce flow patterns that would help to keep fish from the south Delta where predation rates are high

Thus, Impact FSH-36 (Alternatives A1 Through C2) would be '***Less Than Significant and Beneficial.***' Following this statement, the report explains that predation is "higher for most fishes in the south Delta than in other parts of the Delta" and describes why the South Delta has such high rates of predation. However, the report goes on to say that "Alternatives A1 through C2 are predicted to increase the ratio of San Joaquin River inflow to reverse flows in Old and Middle rivers, which could lead to fish population distributions that have fewer fish in the south Delta." However, predatory fish such as striped bass are highly migratory and are found throughout the Delta and tributaries; it is unlikely that an increase in spring flows alone at Vernalis, ranging between 150 cfs in Critical Low years to 4,000 cfs in Above Normal and Wet years (Figure 2-5 on page 2-18 of the Draft PEIS/R), is going to substantially change their distribution. Vogel (2010) found that striped bass in the Delta can move considerable distances in a matter of a few days. There is also evidence that striped bass in the Delta are positively associated with higher river flows (Feyrer and Healey 2003). Furthermore, the Draft PEIS/R states that the added flows will not have a substantial affect on turbidity or temperature in the South Delta. Therefore, striped bass are not necessarily deterred by higher flows and this statement is unsubstantiated.

SJTA-17 cont'd

In contrast to the statements made regarding the anticipated changes in predation levels in south Delta (Impact FSH-36), the Draft PEIS/R (Reclamation and DWR 2011a, page 21-55) asserts that impacts on warm-water and cold-water fishing opportunities in the Delta (Impact REC-16) would be "*Less Than Significant and Beneficial*" since,

> [w]ith Interim and Restoration flows and associated improvements in water quality, *game fish populations would be expected to increase* in the Delta, *and in the south Delta waterways in particular* (emphasis added).

Since predators such as striped bass and black bass are included in the "warm-water game fish" group, REC-16 is at odds with what was stated previously regarding predation and with the restoration goals.

Recent San Joaquin Basin Vernalis Adaptive Management Plan (VAMP) studies support high predation rates on Chinook salmon in the lower San Joaquin River and South Delta. Salmon were detected by a combination of receivers including mobile tracking and stationary detections. Mobile tracking found that 20% of released fish (n=192) were potentially consumed by predators at three "hotspots" located near Stockton Treatment Plant (n=116), just upstream of the Tracy Fish Facility trash racks (n=57), and at the head of Old River flow split downstream of Mossdale (n=19). Stationary detections indicated an average 45% loss, potentially attributable to predation, which does not account for losses at the largest "hotspot" at Stockton Treatment Plant, nor in the greater Delta past Stockton and Hwy 4. In 2008 and 2009, it became apparent that the issue of predation could greatly affect the estimates of smolt survival through the South and Central Delta. First, some tagged smolts were showing 'predator-like behaviors', which lead researchers to believe that these tags were actually predators that had consumed the tagged smolts (SJRGA 2009, Vogel 2010). An increase in the number of "warm-water game fish" in the south Delta waterways would increase predation pressure on the outmigrating juvenile fall-run Chinook from San Joaquin River tributaries, and spring-run experimental juveniles. Thus, the level of significance for FSH-36 (Changes in Predation Levels in the Delta) should be "*Potentially Significant*" rather than "*Less Than Significant and Beneficial.*"

Likewise, the Draft PEIS/R (page 21-55, lines 4-8) asserts that

> [w]ith Interim and Restoration flows and associated improvements in water quality, *warm-water game fish populations would be expected to increase in the San Joaquin River between the Merced River and the Delta.* These increases in warm-water fish populations would enhance warm-water sportfishing opportunities (emphasis added).

Thus the report concludes that the restoration actions would have a "*Less Than Significant and Beneficial*" impact on recreational fishing in that region (Impact REC-15). Changes in predation levels between the Merced River and the Delta was apparently not considered as an impact (or at least was not assigned an impact number). Given that

warm-water game fish populations are expected to increase in this region, the effect of this increase should be assessed when considering predation on outmigrating fall-run Chinook salmon from the tributaries. In Table 5-7 "Environmental Conditions for Each Representative Fish Species in San Joaquin River from Merced River to Delta" (page 5-50), "Predation" is not selected for either Fall-run Chinook or Central Valley Steelhead. This should be marked "Applicable to species' distribution in the assessment area". Furthermore, the changes in predation levels between the Merced River and the Delta should be considered as an impact with "*Potentially Significant*" consequences to fall-run Chinook and Central Valley steelhead from San Joaquin River tributaries, both "representative special-status species" considered in the assessment, and the spring-run experimental population.

SJTA-17 cont'd

5. ENTRAINMENT IMPACTS WERE INCOMPLETELY ADDRESSED; RECOMMEND FURTHER ANALYSIS

Changes in diversions and entrainment in the San Joaquin River between the Merced River and the Delta will expose fall-run Chinook salmon from the tributaries to increased entrainment risk.

A few alternatives involve recapturing Interim and Restoration flows on the San Joaquin River between the Merced River and the Delta. Action Alternatives B1, B2, C1 and C2 would use existing facilities on the San Joaquin River, and Alternatives C1 and C2 include the construction and operation of a new pumping infrastructure on the river. For both scenarios the impacts (Impact FSH-12) were determined to be "**less than significant**" on fisheries resources. In the case of Alternatives B1 and B2(Reclamation and DWR 2011a, page 5-75, lines 7-11 and 24-31).

SJTA-18 cont'd

> [i]ncreased pumping at these locations may *increase the potential for entrainment of juveniles* of representative fish species into the pumps and canals, resulting in losses because of mortality, or displacement from suitable habitat. Additionally, it *could reduce attraction flow for fall-run Chinook salmon and Central Valley steelhead to the tributaries. . .* Migratory species found in the San Joaquin River downstream from the Merced River, *including Sacramento splittail, fall-run Chinook salmon, Central Valley steelhead, and striped bass*, are particularly vulnerable to the effects of pumping and diversions. . . Increased pumping rates at existing facilities in the San Joaquin River under Alternatives B1 and B2 *would potentially increase the numbers of fall-run Chinook salmon and steelhead lost to predation at pumping infrastructure.* (emphasis added)

The Draft PEIS/R (Reclamation and DWR 2011a, page 5-75, lines 12-15); however, concludes that since,

> All diversion facilities would be operated in accordance with existing operating criteria, prevailing and relevant laws, regulations, BOs, and court orders in place

at the time the program-level actions were performed. This impact would be less than significant.

Although the facilities would be operated under the existing criteria, it is important to recognize that this action will expose fall-run Chinook salmon from the tributaries to increased entrainment risk, above the No-Action alternative.

Under Alternatives C1 and C2, the Draft PEIS/R (page 5-76, lines 15-19) states that:

SJTA-18 cont'd

> This impact would be similar to, but greater than, Impact FSH-12 under Alternatives B1 and B2, because potential diversions would be greater under Alternatives C1 and C2, resulting in greater potential for related fish mortalities.

Despite the greater potential for mortality of migratory species such as Sacramento splittail, fall-run Chinook salmon, Central Valley steelhead, and striped bass, the Draft PEIS/R concludes that the impacts of these additional entrainments are would be less than significant. This is based on the same argument that "All 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 was performed." Although the new facility would include a fish screen "consistent with NMFS and DFG standards to reduce entrainment and predation," the new facilities will still be increasing entrainment and predation related mortalities for fall-run Chinook from the SJR tributaries.

6. DISEASE IMPACTS WERE INCOMPLETELY ADDRESSED; RECOMMEND FURTHER ANALYSIS

Fall-run salmon populations in the lower San Joaquin River are already experiencing declines for multiple reasons—introduction and spread of new hatchery-borne disease into San Joaquin River basin Chinook salmon populations could lead to direct mortality or reduced fecundity that could further impede efforts to restore the populations.

SJTA-19 cont'd

The Draft PEIS/R states that reintroduced spring-run Chinook salmon, which may include or be supplemented by fish from an out-of-basin hatchery, could stray into the Merced, Tuolumne, and Stanislaus rivers and increase the potential for the introduction and spread of hatchery-borne disease into San Joaquin River basin Chinook salmon populations (Impact FSH-11). However, the Draft PEIS/R (page 5-74, lines 36-37) concludes that

> [i]mplementing conservation measure SRCS-1 ["Avoid and minimize loss of habitat and individuals due to the implementation of the SJRRP"] in the Conservation Strategy would *reduce this impact to less than significant*" (emphasis added).

In contrast, the Cumulative Impact section (Chapter 26, page 26-40, lines 31-41) that states:

> [d]isease organisms could also be carried by brood stock from sources in the Sacramento River basin or by hatchery fish used to supplement the reintroduced spring-run Chinook salmon population. Such a disease outbreak could lead to direct mortality or reduced fecundity among wild fall-run Chinook salmon in the major San Joaquin River tributaries. Wild fall-run Chinook salmon in the major San Joaquin River tributaries have already experienced a significant cumulative impact from past and present projects alone. ***Direct mortality or reduced fecundity resulting from such an outbreak would be considered a potentially cumulatively considerable incremental contribution to this overall significant cumulative impact on wild fall-run Chinook salmon in the San Joaquin River tributaries.*** This potential cumulative impact would be ***potentially significant and unavoidable***" (emphasis added).

SJTA-19 cont'd

Given that the Draft PEIS/R (page 26-41, lines 32-35) lists "the potential direct mortality or reduced fecundity of wild fall-run Chinook salmon in the San Joaquin River tributaries resulting from a disease outbreak" as the only "potentially significant and unavoidable cumulative impact" on the fisheries resource out of all the action alternatives it should be addressed more thoroughly in the section on Fisheries Impacts (FSH-11). The section concludes (page 5-74, lines 36-37) that "Implementing conservation measure SRCS-1 in the Conservation Strategy would reduce this impact to less than significant;" however, Conservation Measure SRCS-1 is vaguely written and it is unclear how implementing this conservation measure will reduce impacts to less than significant. According to Table ES-6 ("Conservation Measures for Biological Resources That May Be Affected by Settlement Actions"), the description of SRCS-1 is:

> a) The SJRRP will be operated in such a way 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.
> b) SJRRP actions shall be performed in accordance with the Experimental Population 4(d) rule, as it is developed, and where applicable (Executive Summary, page 44).

Thus, there do not appear to be any measures that would "guide development of action-specific conservation strategies" (Executive Summary, page 29), as was the intention of the development of management measures within the Conservation Strategy. While this definition of a 'Conservation Measure' is in itself vague, it is obvious that more clearly defined Conservation Measures are needed before concluding that impacts will actually be reduced to less than significant.

7. POTENTIAL IMPACTS OF PROGRAM ALTERNATIVES ON FALL-RUN CHINOOK SALMON WERE INCOMPLETELY ADDRESSED; RECOMMEND FURTHER ANALYSIS

SJTA-20 cont'd

The Draft PEIS/R generally concludes that the various action alternatives will have no impact or less than significant impact on the San Joaquin River fall-run Chinook salmon. However, reintroduction of spring-run Chinook salmon to the San Joaquin River, as well as SJRRP restoration flows, may negatively affect fall-run Chinook salmon (FRCS) populations and FRCS Essential Fish Habitat (EFH) in the SJR and its tributaries.

Potential effects of the project on FRCS and FRCS EFH include:

- Habitat - adult straying into non-natal tributaries (superimposition and/or hybridization potential); rearing in non-natal tributaries; water quality in lower SJR when the upper SJR is connected (see comments #2 and 3)
- Water temperature - restoration flows may increase water temperatures in the San Joaquin River below the Merced River confluence (see comments # 2)
- Food – competition for resources in the lower SJR and in non-natal tributaries (see comments # 3)

8. POTENTIAL IMPACTS OF PROGRAM ALTERNATIVES ON CENTRAL VALLEY STEELHEAD WERE INCOMPLETELY ADDRESSED; RECOMMEND FURTHER ANALYSIS

The Draft PEIS/R did not adequately consider effects of the Restoration Actions on federally threatened Central Valley steelhead in the SJR.

The Executive Summary of the Draft PEIS/R lists a few Conservation Measures that will be taken to avoid or minimize loss of habitat and risk of take of Central Valley steelhead (CVS-1 & CVS-2). In addition to the usual spill prevention and construction monitoring procedures, these measures include:

SJTA-21 cont'd

1. Impacts to habitat conditions (i.e., changes in flows potentially resulting in decreased flows in the tributaries, increases in temperature, increases in pollutant concentration, change in recirculation/recapture rates and methods, decrease in floodplain connectivity, removal of riparian vegetation, decreased in quality rearing habitat, etc.) must be analyzed in consultation with NMFS
2. The Hills Ferry Barrier will be operated and maintained to exclude Central Valley steelhead from the Restoration Area during construction activities and until suitable habitat conditions are restored
3. The San Joaquin River channel shall be designed to decrease or eliminate predator holding habitat, in coordination with NMFS (page 43)

As discussed above in section six on disease, the Conservation Measures were developed to "guide development of action-specific conservation strategies" (Executive Summary, page 29). However, the measures are too vague to guide action-specific strategies, and do

SJTA-21 cont'd

not address potential effects on threatened Central Valley steelhead in the San Joaquin River tributaries. The Restoration Actions could impact threatened Central Valley steelhead, and fish habitat in the SJR is already severely limited and the quantity and quality of food resources unknown. The addition of spring-run juveniles, which are known to rear in neighboring tributaries, may compete with *O. mykiss* for habitat and other resources within the lower San Joaquin River and tributaries. Furthermore, restoration flows may also impact threatened Central Valley steelhead. As mentioned previously, the USEPA and DFG consider the lower San Joaquin River downstream of the Merced River confluence to be temperature impaired for steelhead smoltification and migration, and for reasons discussed above, restoration flows will make it more difficult to achieve the temperatures recommended by the USEPA and DFG.

SJTA-22 cont'd

The Draft PEIS/R examined the potential effects to fall-run Chinook salmon from hybridization resulting from reintroduction of spring-run to the Restoration Area (Impact FSH-10); however, despite their discussion of the potential hybridization of *O. mykiss* populations, this was not an impact examined under Project-Level Impacts and Mitigation Measures.

The Draft PEIS/R (page 5-12, lines 24-26) recognizes that

> [h]ybridization can pose a potentially serious conservation problem through loss of distinct, native, or potentially adaptive genetic components or lineages,

and yet this 'serious problem' is inadequately addressed by the report. Under the Restoration flows, rainbow trout populations in Reach 1 of the Restoration Area, which are supplemented by hatchery production, may migrate downstream into the lower San Joaquin River tributaries (i.e., Merced, Tuolumne, Stanislaus). Previously, this hatchery supplemented *O. mykiss* population did not have regular access to the lower San Joaquin River and ocean, thus they were considered distinct from the Central Valley steelhead (Draft PEIS/R page 5-61, lines 13-14 to page 5-62, lines 1-2). With consistent access to the ocean and the rest of the Central Valley, these rainbow trout may stray and interbreed with steelhead populations.

Hybridization of *O. mykiss* populations is listed in the Draft PEIS/R (page 5-49, Table 5-6) as an "Environmental Condition" in the San Joaquin River from Friant Dam to Merced River. With regard to this issue, the Draft PEIS/R (page 5–62, lines 9-14) states:

> [h]owever, the rainbow trout currently stocked in the major reservoirs, and upstream from the reservoirs on the Merced, Tuolumne, and Stanislaus rivers, are also of hatchery origin and have been documented to hybridize with steelhead in the rivers below the dams. Zimmerman et al. (2008) found that the lower Tuolumne and Stanislaus rivers are already dominated by resident rainbow trout progeny.[1]

[1] The document cited, Zimmerman et al. (2008), is a report to Fish and Game, rather than the more commonly cited, peer-reviewed manuscript, Zimmerman et al. (2009).

SJTA-22 cont'd

This discussion of the potential hybridization in the Draft PEIS/R is misleading. It appears to imply that since the dominant life history form of *O. mykiss* in the San Joaquin River Basin is resident trout, it would not matter if the hatchery origin rainbow trout population interbreeds with the 'naturally producing' *O. mykiss* in the San Joaquin River tributaries. This conclusion incorrectly assumes that the life history strategy of Central Valley *O. mykiss* (i.e., whether or not an *O. mykiss* is an anadromous steelhead or a resident rainbow trout) is fully genetically determined; thus, dismissing any potential negative effects of interbreeding resident populations. Rather, the expression of the life history strategy results from a complex interaction between genetic variation and environmental conditions that affect growth rates, freshwater survival, and emigrant survival; thus, rather than thinking of the species as either resident or anadromous, managers should consider that *O. mykiss* "express a multitude of different, independent life histories" (Satterthwaite et al. 2010, page 236). The dominance of rainbow trout below dams in the San Joaquin River basin may have more to do with the environmental conditions rather than any genetic contribution from stray hatchery trout. Because rainbow trout can produce steelhead and steelhead can produce rainbow trout (Zimmerman et al. 2009), the life history strategy of the populations is not directly relevant to the 'serious conservation problem' associated with interbreeding of the populations. The problems arise from the loss of genetic diversity due to interbreeding with hatchery-produced fish, which is known to genetically homogenize salmonid populations and decrease population resiliency. Lindley et al. (2007, page 21) recommend minimizing straying from hatcheries to natural spawning areas, cautioning that "[e]ven low levels of straying from hatchery populations to wild ones works against the goal of maximizing diversity within ESUs and populations."

Additionally, no citations are provided to support the statement that rainbow trout of hatchery origin from above the dams "have been documented to hybridize with steelhead in the rivers below the dams" (page 5-62, lines 11-12). Garza and Pearse (2008) examined the population structure of *O. mykiss* in the Central Valley and found that all naturally-spawned populations within the Central Valley basin were closely related; however, they concluded that this may have been due to pre-dam shared ancestry, migration over or above the dams, or some combination. The study (Garza and Pearse 2008, page 21) also found that hatchery rainbow trout were entering Nimbus hatchery and concluded that the

> [i]ntegration of these trout into steelhead production is likely to have a number of detrimental effects, because of their reduced genetic variation, genetic predisposition against anadromy and past hatchery selection pressures.

Although the Draft PEIS/R (page 5-63, lines 2-6) acknowledges that

> no data are currently available to support a quantitative analysis of the potential impacts of hybridization or hatchery influence on fall-run Chinook salmon or Central Valley steelhead in the San Joaquin River,

SJTA-22 cont'd

given concerns for the Central Valley steelhead, the Draft PEIS/R should still examine the potential effects on tributary populations of *O. mykiss* due to interbreeding with the hatchery origin trout previously released into the Restoration Area.

9. CONSERVATION MEASURES ARE VAGUE AND DO NOT PROVIDE ENOUGH DETAILS TO BE EFFECTIVE

There are several examples of vaguely worded conservation measures, which do not provide enough detail regarding how they are expected to avoid, minimize, and/or compensate for associated impacts. Additionally, the various list of actions within each Conservation Measure taken together do not provide a cohesive strategy for reducing impacts to a less than significant level.

Conservation measures are actions that will be implemented to avoid, minimize, and/or compensate for individual impacts. There are several examples of vaguely worded conservation measures, which do not provide enough detail regarding how they are expected to avoid, minimize, and/or compensate for associated impacts:

- CVS-1a and EFH-1a:"Impacts to habitat conditions (i.e., changes in flows potentially resulting in decreased flows in the tributaries, increases in temperature, increases in pollutant concentration, change in recirculation/recapture rates and methods, decrease in floodplain connectivity, removal of riparian vegetation, decreased in quality rearing habitat, etc.) must be analyzed in consultation with NMFS. (page 2-76, Table 2-7; page 2-78, Table 2-7)

SJTA-23 cont'd

- CVS-1b and EFH-1b: "The Hills Ferry Barrier will be operated and maintained to exclude Central Valley steelhead from the Restoration Area during construction activities and until suitable habitat conditions are restored." (page 2-76, Table 2-7; page 2-78, Table 2-7)
- CVS-1c and EFH-1c: "Maintenance of conservation measures will be conducted to the extent necessary to ensure that the overall long-term habitat effects of the project are positive." (page 2-76, Table 2-7; page 2-78, Table 2-7)
- CVS-1i: "The San Joaquin River channel shall be designed to decrease or eliminate predator holding habitat, in coordination with NMFS." (page 2-76. Table 2-7)
- EFH-1i: "The bottom topography of the San Joaquin River channel will be designed to decrease or eliminate predator holding habitat (page 2-78, Table 2-7)

The first co-conservation measures on this list (CVS-1a and EFH-1a) appears to be a vague, catch-all to indicate that any impacts to the salmonid habitat will be examined through a future consultation process. However, the purpose of the PEIS/EIR is to evaluate all potential impacts at the Program or Project level so future analysis cannot be considered a conservation strategy that will avoid, minimize, and/or compensate for associated impacts. The second co-conservation measures (CVS-1b and EFH-1b) regarding the Hills Ferry Barrier was developed to avoid incidental take of stray salmonids from the San Joaquin River basin during construction and until "suitable habitat conditions are restored." However, "suitable habitat conditions" are not described

or defined, and thus it is not clear at what point the barrier will be operated to allow Pacific salmonids to pass. Presumably, the experimental population will need to get beyond the barrier in order to naturally spawn in the Restoration Area. Furthermore, it is clear from the fall-run Chinook passage incident last fall, discussed previously, that the barrier is not 100% effective in preventing fish from migrating upstream. The objective and meaning of the third co-conservation measures (CVS-1c and EFH-1c) are unclear. The last two measures (CVS-1i and EFH-1i) are presumably referring to the San Joaquin River channel within the Restoration Area, and the plans in Phase 2 to fill or isolate gravel pits, but further details regarding what constitutes "predator holding habitat" would be informative.

Furthermore, these vague measures are then broadly applied to various potential impacts to reduced them to "less than significant" impacts. The Draft PEIS/R does not, however, clarify which aspects of which measures pertain to the specific impacts discussed. For example the Draft PEIS/R (page 5-70, lines 5-9) states that, "[i]ndividual program-level actions could have short- or long-term effects on water temperatures in the Restoration Area associated with construction or operation." However, impacts will be 'less than significant' because various special-status fish conservation measures (i.e. PL-1, CVS-1, CVS-2, EFH-1, and EFH-2) will be implemented to prevent potential adverse effects. As stated above, the conservation measures cited (e.g. EFH-1) are groups of somewhat unrelated and vague actions. None of these measures directly address the effects of program-level actions on water temperatures, thus it is unclear which of these measures will prevent adverse effects according to the Draft PEIS/R.

SJTA-23 cont'd

There are several instances in the Program Level assessment of the Fisheries section in which the Draft PEIS/R broadly concluded that the impact would be less than significant because "implementing special-status fish conservation measures PL-1, CVS-1, CVS-2, EFH-1, and EFH-2 in the Conservation Strategy would offset potential adverse effects on special-status fish species", these include: Impact FSH-1, Alternatives A1 and A2 (page 5-70, lines 6-9), Impact FSH-2, Alternatives A1 and A2 (page 5-70, lines 19-22), Impact FSH-3, Alternatives A1 and A2 (Page 5-70, lines 27-30), Impact FSH-5, Alternatives A1 and A2 (page 5-71, lines 30-32), Impact FSH-8, Alternatives A1 and A2 (page5-73, lines 16-18), Impact FSH-14, Alternatives C1 and C2 (Page 5-77, lines 2-5). In all of these instances, further details should be provided in the Draft PEIS/R regarding which specific measures will be used to address a particular impact and how they are expected to reduce effects.

10. FLOW CRITERIA USED TO DETERMINE IMPACTS TO TRIBUTARY FISH ARE INCORRECT, INAPPROPRIATE, AND INADEQUATELY REFERENCED

SJTA-24 cont'd

According to Draft PEIS/R (page 5-60, lines 3-4), flows on the tributaries are predominantly controlled by the Vernalis Water Quality Control Standard, the VAMP, and local tributary operations. However, the VAMP will expire in 2011 and this change needs to be reflected in the flow schedules used in the Draft PEIS/R. In the absence of VAMP, Reclamation is responsible for meeting the requirements of D-1641 until the SWRCB adopts new flow objectives.

SJTA-24 cont'd

Also, according to Draft PEIS/R (page 5-60, lines 33-36 and page 5-61, lines 1-2 and associated table),

> 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 [flows identified in Table 5-11].

However, it is unclear from both the text on page 5-60 and Table 5-11 what the criteria are, how they were used to assess impacts, and why these criteria were used instead of the existing operational criteria for each tributary (i.e., NMFS OCAP BiOp on the Stanislaus River, and FERC minimum flow schedules for the Tuolumne and Merced rivers). Additionally, the flows provided in Table 5-11 are inadequately referenced, thus making it difficult to locate the exact source of the flow value. For example, flows for the Tuolumne River steelhead "are based on the Stanislaus River Instream Flow Incremental Methodology report, and from results of the California Department of Fish and Game Chinook model." If the CDFG "Chinook model" refers to the Salmon Survival Model (DFG 2005, updated in 2009), then flows attributed to that model should be not be used for the assessment. The CDFG Salmon Survival Model has consistently been found to be inadequate; the statistical basis of the model is not sound and thus, any recommendations based on this model do not represent the best available science. For further information regarding issues related to the Salmon Survival model see Demko et al. (2010). Furthermore, it is unclear where values were derived for Stanislaus River Chinook and steelhead incubation/fry rearing and juvenile migration, because they do not correspond to the referenced Stanislaus River Instream Flow Incremental Methodology report or the 2009 Operations Criteria and Plan Biological Opinion– below-normal year.

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FIGURES

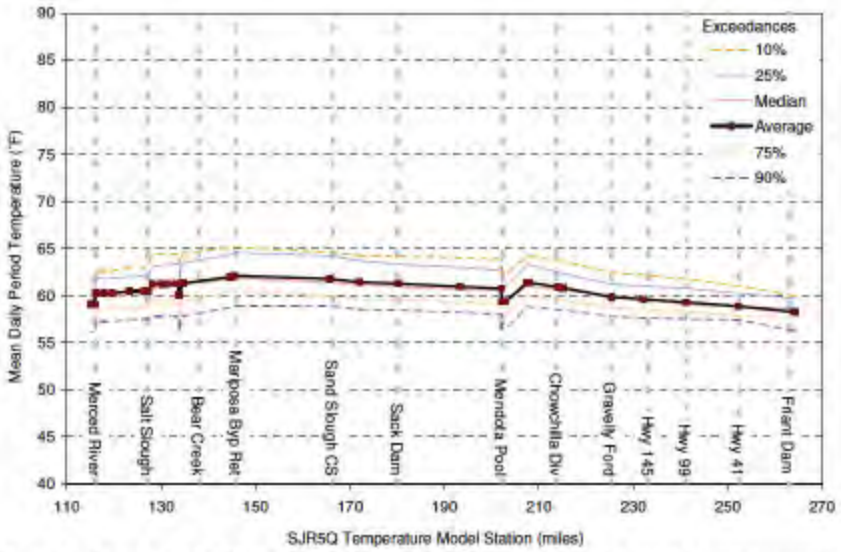

Figure 1. San Joaquin River temperature profile of mean daily period temperatures (F) simulated by the SRJ5Q model for the period of November 1-11th under existing (2005) levels of development and Alternative A conditions. This is Figure 43 in the attachment to Appendix H.

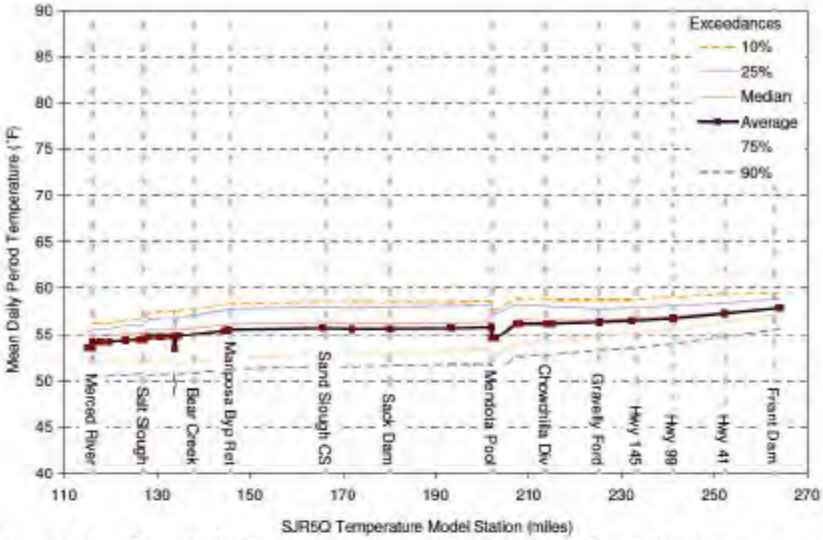

Figure 2. San Joaquin River temperature profile of mean daily period temperatures (F) simulated by the SRJ5Q model for the period of November 12-30th under existing (2005) levels of development and Alternative A conditions. This is Figure 44 in the attachment to Appendix H.

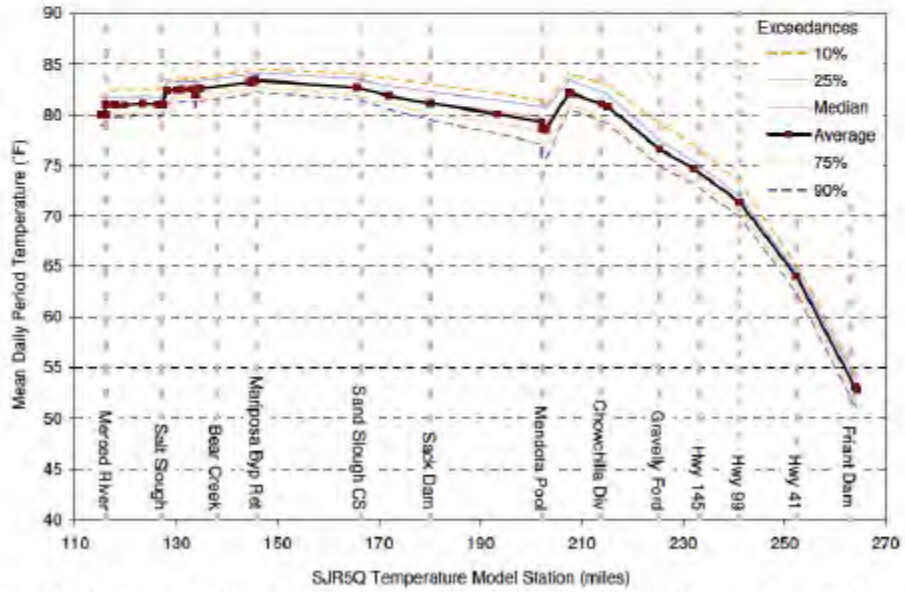

Figure 3. San Joaquin River temperature profile of mean daily period temperatures (F) simulated by the SRJ5Q model for the period of August 1-31th under existing (2005) levels of development and Alternative A conditions. This is Figure 40 in the attachment to Appendix H.

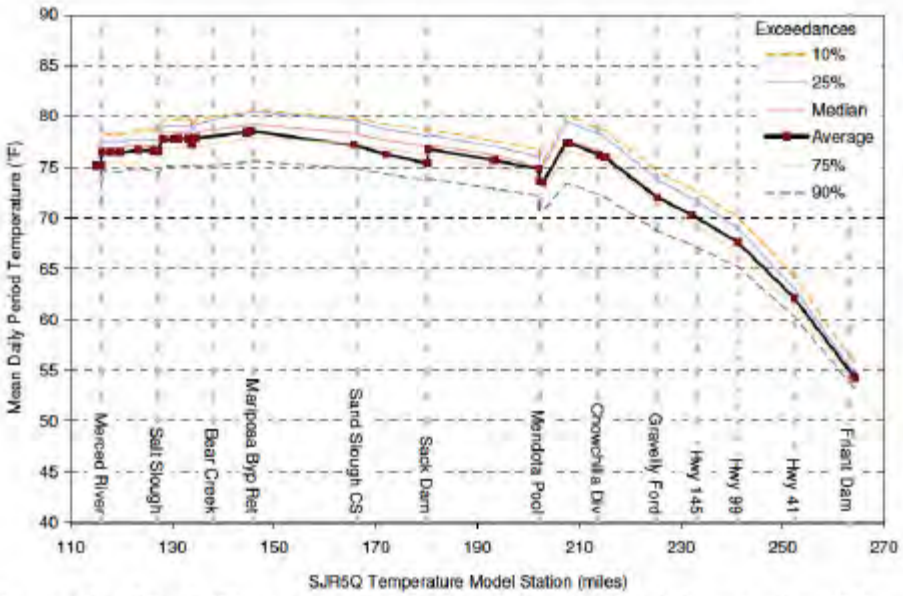

Figure 4. San Joaquin River temperature profile of mean daily period temperatures (F) simulated by the SRJ5Q model for the period of September 1-30th under existing (2005) levels of development and Alternative A conditions. This is Figure 41 in the attachment to Appendix H.

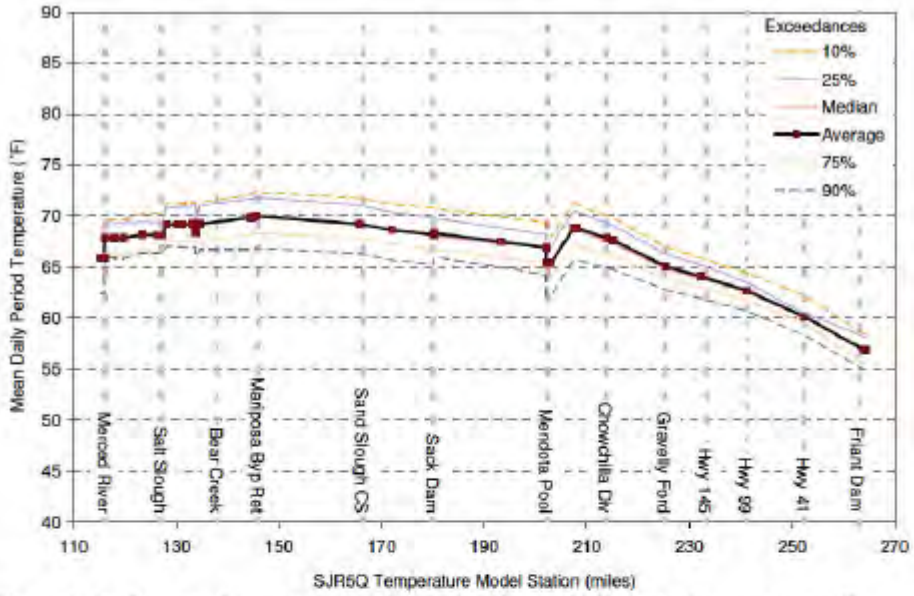

Figure 5. San Joaquin River temperature profile of mean daily period temperatures (F) simulated by the SRJ5Q model for the period of October 1-30th under existing (2005) levels of development and Alternative A conditions. This is Figure 42 in the attachment to Appendix H.

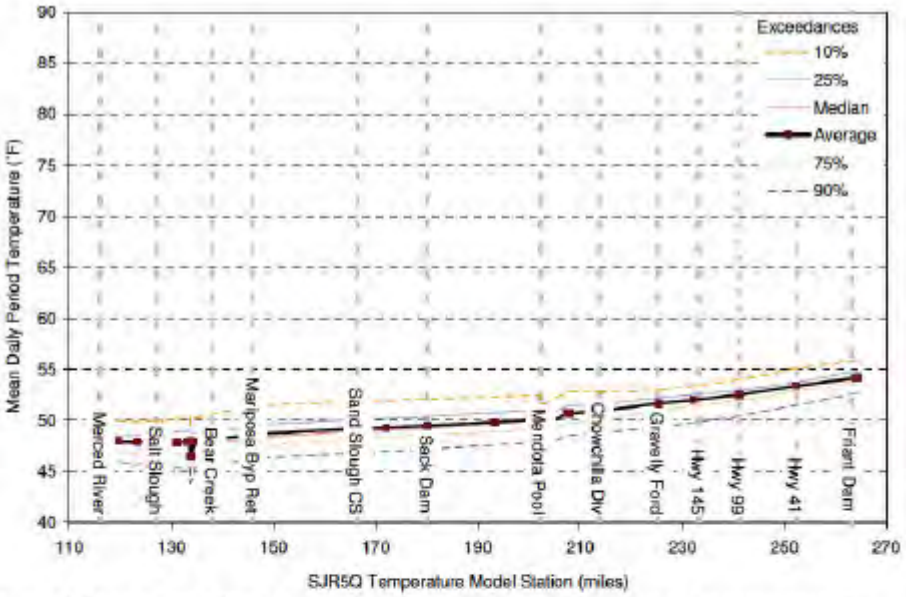

Figure 6. San Joaquin River temperature profile of mean daily period temperatures (F) simulated by the SRJ5Q model for the period of December 1-31st under existing (2005) levels of development and Alternative A conditions. This is Figure 45 in the attachment to Appendix H.

Responses to Comments from San Joaquin Tributaries Association

SJTA-1a: Comment noted. The San Joaquin River Exchange Contractors Water Authority and San Joaquin River Resource Management Coalition comments and responses are shown in Section 3.8, "Regional and Local Government Comments and Responses," of this Final PEIS/R. See responses to comments EC1-1 to EC1-352n in Section 3.8 of this Final PEIS/R.

SJTA-1b: The commenter raises two topics with regards to reintroduced Chinook salmon between Friant Dam and the Merced River which the commenter states must be evaluated. These include: (1) the environmental consequences of reintroduction, and (2) the potential for a "reconstructed and restored" San Joaquin River to support self-sustaining population of Chinook salmon.

Concerning the first topic, the Draft PEIS/R presents a complete evaluation of the environmental consequences of reintroduction of Chinook salmon to the Restoration Area. As described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, the Chinook salmon reintroduction is included in all of the action alternatives. The Draft PEIS/R presents a program-level evaluation of the potential impacts of Chinook salmon reintroduction, including the cumulative impacts of reintroduction and all other actions described as part of the action alternatives in Chapter 2.0 of the Draft PEIS/R on all resource areas included in the Draft PEIS/R (see Chapters 4.0 through 26.0 of the Draft PEIS/R). 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. 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).

With regards to the second topic, 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 likely efficacy of Settlement actions in achieving the Restoration or Water Management goals, and does not evaluate the feasibility of the Settlement or the interactions of individual Settlement actions on other Settlement actions. Accordingly, the likelihood for the action alternatives as described to support self-sustaining population of Chinook salmon is not evaluated in the PEIS/R. Such evaluations could be undertaken in a feasibility study but, as described in MCR-1, a feasibility study on implementation of the Settlement consistent with the Act was not required before, or as a condition of, Settlement implementation.

The Implementing Agencies recognize the unprecedented nature of the SJRRP, and acknowledge that flexibility in implementation of the Settlement is necessary to ultimately achieve the Restoration and Water Management goals. In consideration of this necessary and anticipated flexibility, the SJRRP management process involves a broad range of strategies to guide implementation of the Settlement consistent with the Act and incorporates a continuously growing set of data and scientific information. The Interim Flow program, initiated in 2009, will contribute substantially to the set of historical data by facilitating collection of information regarding flow; water temperature; fish behavior

and needs; habitat response and other biological effects; geomorphologic effects; seepage; and water recirculation, recapture, and reuse opportunities. Guidelines for the monitoring and management of the SJRRP in support of achieving the Restoration and Water Management goals are set forth in many documents developed to date, and continue to be reviewed and refined in part through the development and publication of SJRRP annual planning and reporting documents, including the Monitoring and Analysis Plan and the Annual Technical Report. The Annual Technical Report describes data collected during the preceding year, presents the results of analyses performed using those data, and identifies information needs. The Monitoring and Analysis Plan uses those data to identify needed studies, monitoring network changes and analytical tool development for the following year. For the reasons set forth above and in MCR-1, no changes to the PEIS/R are necessary. See MCR-1 for additional information relevant to this comment.

SJTA-1c: 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 in 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. 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 potential direct, indirect, and cumulative impacts of the whole of the SJRRP on the environment at a program level 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 the 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.

A list of the SJRRP components that were evaluated at a project level was provided on page 1-11 of the Draft PEISR; this list does not include project-level evaluation of salmon reintroduction. Reclamation and DWR agree that all program-level actions presented in the PEIS/R, including reintroduction of salmon, would require additional analysis pursuant to NEPA and CEQA during subsequent, site-specific studies. 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 likely efficacy of Settlement actions in achieving the Restoration or Water Management goals, and does not evaluate the feasibility of the Settlement or the interactions of individual Settlement actions on other Settlement actions. Accordingly, the likelihood for the action alternatives as described to support self-sustaining population of Chinook salmon is not evaluated in the PEIS/R. Such evaluations could be undertaken in a feasibility study but, as described in MCR-1, a feasibility study on implementation of the Settlement consistent with the Act was not required before, or as a condition of, Settlement implementation.

The Implementing Agencies recognize the unprecedented nature of the SJRRP, and acknowledge that flexibility in implementation of the Settlement is necessary to ultimately achieve the Restoration and Water Management goals. In consideration of this necessary and anticipated flexibility, the SJRRP management process involves a broad range of strategies to guide implementation of the Settlement consistent with the Act and incorporates a continuously growing set of data and scientific information. The Interim Flow program, initiated in 2009, will contribute substantially to the set of historical data by facilitating collection of information regarding flow; water temperature; fish behavior and needs; habitat response and other biological effects; geomorphologic effects; seepage; and water recirculation, recapture, and reuse opportunities. Guidelines for the monitoring and management of the SJRRP in support of achieving the Restoration and Water Management goals are set forth in many documents developed to date, and continue to be reviewed and refined in part through the development and publication of SJRRP annual planning and reporting documents, including the Monitoring and Analysis Plan and the Annual Technical Report. The Annual Technical Report describes data collected during the preceding year, presents the results of analyses performed using those data, and identifies information needs. The Monitoring and Analysis Plan uses those data to identify needed studies, monitoring network changes and analytical tool development for the following year.

For the reasons set forth above and in MCR-1 and MCR-4 in Chapter 2.0 of this Final PEIS/R, no changes to the PEIS/R are necessary. See MCR-1 and MCR-4 for additional information relevant to this comment.

SJTA-1d: This comment is substantially similar to comments SJTA-1b and SJTA-1c. See responses to comments SJTA-1b and SJTA-1c.

SJTA-1e: This comment is substantially similar to comment SJTA-1b. See response to SJTA-1b.

SJTA-2: The actions that have been undertaken prior to the completion of this Final PEIS/R and associated decision documents have independent utility, while also potentially serving as essential first steps that contribute to the implementation of the Settlement. None of the actions taken to date, such as release of Interim Flows, data collection, and monitoring, commit the Implementing Agencies to undertaking any other part of the SJRRP; they are independent actions that benefit SJRRP if it is approved, as well as benefiting other programs, such as DWR's NULE Project. While the respective lead agencies have not sought to exempt the actions completed prior to the completion of the PEIS/R from NEPA or CEQA, these actions do not represent approval, adoption, or funding of the SJRRP, and also do not commit the Implementing Agencies to any further actions. The data are being applied to several programs unrelated to the SJRRP, such as NULE. Moreover, the environmental impacts of these already completed actions were considered in their respective NEPA and CEQA documents in the context of all other environmental effects resulting from all other actions in the PEIS/R, to the degree they could be without undue speculation, as well as cumulatively with past, present, and reasonably foreseeable future projects.

As described in MCR-1, "Analysis of Program Feasibility, Potential to Achieve Restoration and Water Management Goals," in Chapter 2.0 of this Final PEIS/R, 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. Accordingly, the PEIS/R does not address the potential benefits or impacts of the action alternatives on reintroduced spring-run and fall-run Chinook salmon. The Draft PEIS/R evaluates the potential impacts of reintroducing Chinook salmon on existing populations of fall-run Chinook salmon and other fishes 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, in Chapter 5.0, "Biological Resources – Fisheries," of the Draft PEIS/R. Potential impacts of reintroduction on existing populations include hybridization between reintroduced spring-run Chinook salmon and existing fall-run Chinook salmon populations, and the potential for reintroduced Chinook salmon to serve as disease sources. These potential impacts are described on page 5-74 of the Draft PEIS/R. Similarly, the Draft PEIS/R evaluates the potential impacts of reintroducing Chinook salmon on other resources topics in Chapters 4.0 through 26.0.

All reasonably foreseeable SJRRP actions at the time of public scoping are included in the project description and analyzed in the PEIS/R, including reintroduction of Chinook salmon. Further, all actions completed prior to the completion of the PEIS/R, but which are considered to be part of the overall SJRRP, are also included in all action alternatives evaluated in the PEIS/R along with all anticipated actions necessary for implementation of the Settlement. The program-level analysis presented in the PEIS/R addresses the full range of effects of implementing the Settlement, including the project-level actions evaluated in detail in the PEIS/R, as well as cumulative impacts. This approach provides necessary flexibility to respond to changing needs and conditions. Most importantly, the "whole of the action" and potential environmental effects thereof, are evaluated in their entirety in the PEIS/R. Further, to the degree feasible without undue speculation, the remaining SJRRP actions were considered by lead agencies in the NEPA and CEQA

documents that have been prepared for the few data-gathering actions completed prior to the SJRRP's ROD and certification.

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. For the reasons set forth above and in MCR-4, the approach taken in the PEIS/R meets the requirements of NEPA and CEQA.

SJTA-3: Impacts to white-tailed kite are included in Chapter 6.0, "Biological Resources – Vegetation and Wildlife," of the Draft PEIS/R, as part of Impact VEG-5 and Impact VEG-20 discussions. For bird species, these impact discussions focused on effects to nests and nesting habitat because of the greater potential for take, and because for many species, including white-tailed kite, impacts to nesting habitat have greater potential for effects to these populations because of the limited availability of nesting habitat in the San Joaquin Valley relative to foraging habitat.

Although the primary foraging habitat for white-tailed kite is often characterized as grasslands and meadows/wetlands, agricultural lands including row and field crops, grain crops, fallowed cropland, irrigated pasture, and hayfields, provide high quality foraging habitat seasonally or year-round (DFG 2005). Settlement Implementation would likely convert part of an existing corridor of high moderate to high quality foraging habitat along the San Joaquin River and the bypasses to a matrix of nonhabitat (e.g., open water), nesting habitat (e.g., riparian woodland or forest), and foraging habitat from low to high quality (e.g., riparian scrub and seasonal wetland). The landscape surrounding this corridor would largely remain in agricultural uses, much of it providing high quality foraging habitat. Consequently, the availability of foraging habitat (and the total prey base) along the San Joaquin River and bypass system would not be substantially impacted and the extent of nesting habitat could be substantially increased. There would not be a significant adverse effect to white-tailed kite as a result of impacts to foraging habitat or rodent populations resulting from implementation of the SJRRP. The inclusion of this discussion does not change the analysis or conclusions of the Draft PEIS/R. Text has not been revised.

SJTA-4: Section 1502.21 of the CEQ Regulations states that, "Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described. No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment." State CEQA Guidelines, section 15148, states, "Preparation of EIRs is dependent upon information from many sources, including engineering project reports and many scientific documents relating to environmental features. These documents should be cited but not included in the EIR." Accordingly, the NMFS 2009 Draft Recovery Plan (2009b) is cited in Chapter 5.0, "Biological Resources – Fisheries," and Appendix E, "Fisheries Management Plan," of the Draft PEIS/R, and is included as a reference in the PEIS/R and the Administrative Record. The NMFS 2009 Draft Recovery Plan is not attached or

appended to the Draft PEIS/R, but is publicly available online at <http://swr.nmfs.noaa.gov/recovery/centralvalleyplan.htm>. Text has not been revised.

SJTA-5: 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 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. Accordingly, the PEIS/R does not present benefits or impacts of the SJRRP to reintroduced spring-run Chinook salmon. The Implementing Agencies recognize the unprecedented nature of the SJRRP, and acknowledge that flexibility in implementation of the Settlement is necessary to ultimately achieve the Restoration and Water Management goals. In consideration of this necessary and anticipated flexibility, the SJRRP management process involves a broad range of strategies to guide implementation of the Settlement consistent with the Act, and incorporates a continuously growing set of data and scientific information. In particular Appendix E, "Fisheries Management Plan," of the Draft PEIS/R describes the framework for addressing specific actions related to fisheries. See MCR-1 in Chapter 2.0 of this Final PEIS/R for additional information relevant to this comment.

Paragraph 11 of the Settlement includes a series of channel and structural improvement projects. Paragraph 9 of the Settlement states that "the Parties [to the Settlement] agree that the channel and structural improvements listed in Paragraph 11 are necessary to fully achieve the Restoration Goal." The Settlement calls for the initial projects, Phase 1, to be completed by December 31, 2013, and for the Phase 2 projects to be completed by December 31, 2016. The Settlement does not specify that the Phase 1 and Phase 2 projects need to be completed prior to the reintroduction of Chinook salmon. Rather, the Settlement envisioned that both spring-run and fall-run Chinook would be reintroduced prior to the completion of the Phase 1 and Phase 2 projects, as presented in the Settlement's milestone dates.

As described in more detail in MCR-2, "SJRRP Funding Availability, Sources, and Cost Estimates," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, the Settling Parties and Implementing Agencies have recently developed a Third-Party working draft *Framework for Implementation* (SJRRP 2012b). 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 is realistic and achievable, and is different from the schedule contained in the Settlement. 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. See MCR-2 in Chapter 2.0 of this Final PEIS/R for additional information related to this comment.

SJTA-6: The commenter raises concerns regarding the potential for straying and for hybridization to occur between existing fall-run Chinook salmon and reintroduced spring-run Chinook salmon in the Restoration Area as well as in the San Joaquin River tributaries.

The action alternatives include program-level actions to minimize the potential for redd superimposition or hybridization between reintroduced spring-run and fall-run in the Restoration Area, as described on page 2-44 of the Draft PEIS/R. 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. Chapter 28.0, "Consultation, Coordination, and Communication," of the Draft PEIS/R 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.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 the Settlement, the likely efficacy of Settlement actions in achieving the Restoration or Water Management goals, or the interactions of individual Settlement actions on other Settlement actions. Accordingly, because active reintroduction of spring-run and active or passive (through straying) reintroduction of fall-run Chinook salmon are included as actions under all alternatives, the potential for hybridization to occur between these reintroduced populations within the Restoration Area is not addressed in the PEIS/R; these interactions will be evaluated at a project level during subsequent site-specific studies of reintroduction. The PEIS/R does evaluate the potential impacts associated with hybridization between reintroduced spring-run Chinook salmon and existing fall-run Chinook salmon populations on the San Joaquin River tributaries (see Impact FSH-10 on page 5-74 of the Draft PEIS/R), as the commenter notes.

As described in FSH-10 on page 5-74, lines 16-18 of the Draft PEIS/R, hybridization may occur under the action alternatives. However, because the overlap in spawn timing is minimal, there would likely be less hybridization occurring between the two runs, and spring-run Chinook salmon redds in the tributaries could be destroyed through superimposition, reducing the likelihood of returning adult migrants in following years. Because the impact is identified as less than significant, no mitigation is identified, consistent with the approach to describing environmental consequences in Chapter 3.0, "Considerations for Describing the Affected Environment and Environmental Consequences," of the Draft PEIS/R.

The Implementing Agencies recognize the unprecedented nature of the SJRRP, and acknowledge that flexibility in implementation of the Settlement is necessary to ultimately achieve the Restoration and Water Management goals. In consideration of this necessary and anticipated flexibility, the SJRRP management process involves a broad range of strategies to guide implementation of the Settlement consistent with the Act and incorporates a continuously growing set of data and scientific information. In particular 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 of reintroduced spring-run and fall-run Chinook salmon. This includes Action I3 (page 5-38), Action L2 (page 5-43), and Action M1 (page 5-44). Additionally, guidelines and measures to protect genetic integrity of the runs are included as part of the *Hatchery and Genetics Management Plan* (SJRRP 2010a), and the 10(a)(1)(A) permitting process.

Text from the *Hatchery and Genetics Management Plan*, page 60 includes:

> *Finally, returning adults are likely to stray into other San Joaquin River tributaries, where they may interbreed with other Chinook salmon. The small numbers of spring-run Chinook salmon in the San Joaquin River tributaries, and the lack of genetic analysis on them, makes analysis of potential genetic effects very difficult. The hatchery will be employing conservation hatchery protocols to reduce domestication selection, and the salmon will be in the hatchery at some point in their lives for one or a maximum of two generations, so there may be some reduction in fitness relative to the wild population (Reisenbichler and McIntyre 1977; Leider et al. 1990, Sekino et al. 2002; Araki et al. 2007).*

Text from 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), page 5-3 includes:

> *NMFS does not anticipate negative, direct, or indirect impacts to listed fish during the experimental population designation period because of the practices identified in the HGMP which include methods and monitoring to protect the genetic integrity and to minimize hatchery influence. Thus there will be no cumulative adverse effects if experimental population salmon naturally stray to existing populations.*

See MCR-1 in Chapter 2.0 of this Final PEIS/R for additional information relevant to this comment.

SJTA-7: As described in FSH-10 on page 5-74, lines 16-18 of the Draft PEIS/R, hybridization may occur under the action alternatives. However, because the overlap in spawn timing is minimal, there would likely be less hybridization occurring between the two runs, and spring-run Chinook salmon redds in the tributaries could be destroyed

through superimposition, reducing the likelihood of returning adult migrants in following years. Because the impact is identified as less than significant, no mitigation is identified, consistent with the approach to describing environmental consequences in Chapter 3.0, "Considerations for Describing the Affected Environment and Environmental Consequences," of the Draft PEIS/R.

Related information regarding segregation between fall-run and spring-run Chinook salmon in the Restoration Area can be found in Appendix E, "Fisheries Management Plan," of the Draft PEIS/R, including Action I3 (page 5-38), Action L2 (page 5-43), and Action M1 (page 5-44). Additionally, the Fisheries Management Work Group developed the *Stock Selection Strategy: Spring-Run Chinook Salmon* (SJRRP 2010b), along with the *Hatchery and Genetics Management Plan* (SJRRP 2010a), to help minimize potential genetic impacts to salmonids in the San Joaquin River and its tributaries. The commenter states that the reference to Mesick and Marston (2007) is cited incorrectly in the PEIS/R. Page 5-63, lines 23-27, of the Draft PEIS/R, has been revised to clarify that Mesick and Marston do not discuss redd superimposition as an unlikely limiting factor, but that redd superimposition could be considered an unlikely liming factor because of the findings from Mesick and Marston. See revision in Chapter 4.0, "Errata," of this Final PEIS/R.

SJTA-8: The commenter raises two concerns: (1) that introgression between fall-run Chinook salmon and spring-run Chinook salmon could compromise the genetic integrity of fall-run Chinook salmon in the tributaries, and (2) that there is holding habitat in the San Joaquin River tributaries. There are minor genetic differences between fall-run Chinook salmon throughout the Central Valley (Garza et al. 2004). As the commenter notes, hatchery fish originating from outside the San Joaquin River tend to stray to the San Joaquin River tributaries; this includes Sacramento Basin and Mokelumne River hatchery fish planted in the San Francisco Bay (Mesick 2009 and 2010). As described in FSH-10 on page 5-74, lines 16-18 of the Draft PEIS/R, hybridization may occur under the action alternatives. However, because the overlap in spawn timing is minimal, there would likely be less hybridization occurring between the two runs, and spring-run Chinook salmon redds in the tributaries could be destroyed through superimposition, reducing the likelihood of returning adult migrants in following years. Additionally, fall-run Chinook salmon on the tributaries are genetically compromised. Because the impact is identified as less than significant, no mitigation is identified, consistent with the approach to describing environmental consequences in Chapter 3.0, "Considerations for Describing the Affected Environment and Environmental Consequences," of the Draft PEIS/R. Related information regarding segregation between fall-run and spring-run Chinook salmon in the Restoration Area can be found in the Fisheries Management Plan (Appendix E of the Draft PEIS/R), specifically Action I3 (page 5-38), Action L2 (page 5-43), and Action M1 (page 5-44). Additionally, the Fisheries Management Work Group developed the *Stock Selection Strategy: Spring-Run Chinook Salmon* (SJRRP 2010b), along with the *Hatchery and Genetics Management Plan* (SJRRP 2010a), to help minimize potential genetic impacts to salmonids in the San Joaquin River and its tributaries.

Text from the *Hatchery and Genetics Management Plan* (SJRRP 2010a), page 60 includes:

> *Finally, returning adults are likely to stray into other San Joaquin River tributaries, where they may interbreed with other Chinook salmon. The small numbers of spring-run Chinook salmon in the San Joaquin River tributaries, and the lack of genetic analysis on them, makes analysis of potential genetic effects very difficult. The hatchery will be employing conservation hatchery protocols to reduce domestication selection, and the salmon will be in the hatchery at some point in their lives for one or a maximum of two generations, so there may be some reduction in fitness relative to the wild population (Reisenbichler and McIntyre 1977; Leider et al. 1990, Sekino et al. 2002; Araki et al. 2007).*

Text from 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), page 5-3 includes:

> *NMFS does not anticipate negative, direct, or indirect impacts to listed fish during the experimental population designation period because of the practices identified in the HGMP which include methods and monitoring to protect the genetic integrity and to minimize hatchery influence. Thus there will be no cumulative adverse effects if experimental population salmon naturally stray to existing populations.*

Therefore, if fall-run Chinook salmon were to be reintroduced from any Central Valley source, any impacts from potential hybridization would be minor and less than significant.

Additionally, the action alternatives include actions to minimize the potential for redd superimposition or hybridization between reintroduced spring-run and fall-run pursuant to Paragraph 12 of the Settlement, as described on page 2-44 of the Draft PEIS/R. However, 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 likely efficacy of Settlement actions in achieving the Restoration or Water Management goals, and does not evaluate the feasibility of the Settlement or the interactions of individual Settlement actions on other Settlement actions. Accordingly, because active reintroduction of spring-run and active or passive (through straying) reintroduction of fall-run Chinook salmon are included as actions under all alternatives, the potential for hybridization to occur between these reintroduced populations within the Restoration Area is not addressed in the PEIS/R; these interactions will be considered in a subsequent project-level evaluation prior to reintroduction. The PEIS/R evaluates, at a program level, the potential impacts associated with hybridization between reintroduced spring-run Chinook salmon and existing fall-run Chinook salmon populations on the San Joaquin River tributaries (see Impact FSH-10 on page 5-74 of the Draft PEIS/R), as the commenter notes.

The Implementing Agencies recognize the unprecedented nature of the SJRRP, and acknowledge that flexibility in implementation of the Settlement is necessary to ultimately achieve the Restoration and Water Management goals. In consideration of this necessary and anticipated flexibility, the SJRRP management process involves a broad range of strategies to guide implementation of the Settlement consistent with the Act and incorporates a continuously growing set of data and scientific information. In particular 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 of reintroduced spring-run and fall-run Chinook salmon. This includes Action I3 (page 5-38), Action L2 (page 5-43), and Action M1 (page 5-44). Additionally, guidelines and measures to protect genetic integrity of the runs are under development as part of the *Hatchery and Genetics Management Plan* (SJRRP 2010a). See MCR-1 in Chapter 2.0 of this Final PEIS/R for additional information relevant to this comment. With respect to the second point made by the commenter, Impact FSH-10 on page 5-74 lines 7 through 27 of the Draft PEIS/R has been revised, removing text indicating that holding habitat in the tributaries is limiting, and to clarify the impact description to reflect the discussion above. See Chapter 4.0, "Errata," of this Final PEIS/R. However, the impact remains less than significant, and no mitigation or measures to prevent hybridization in the tributaries is required.

SJTA-9: The commenter asserts that the Draft PEIS/R does not adequately evaluate the potential change in competition for spawning habitat downstream from the Restoration Area resulting from changes in flow. As reported in the Water Operations Modeling Output – CalSim Attachment to Appendix H, "Modeling," of the Draft PEIS/R, average monthly San Joaquin River flows at the Merced River confluence would increase by as much as 61 percent under the action alternatives. This average increase in flow is not likely to increase the frequency of floodplain inundation because it would correspond to a negligible change in water stage. Thus any increase in the potential for floodplain inundation, which has the potential to increase rearing habitat for salmonids (and thus reduce competition), would also be minor. However, regularly increased flows in the San Joaquin River would affect other habitat conditions such as water temperature and quality, resulting in changes to rearing habitat, refugia, and prey availability, described on pages 5-57 through 5-59.

As discussed in MCR-3, "Order and Schedule of Implementing Settlement Actions," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, neither the Settlement nor the Act links the progress in completing Phase1 and Phase 2 improvements to Chinook salmon reintroduction. The Settlement envisioned that both spring-run and fall-run Chinook would be reintroduced prior to the completion of the Phase 1 and Phase 2 projects, as presented in the Settlement's milestone dates, but does not specify that the Phase 1 projects must be completed prior to the reintroduction of Chinook salmon.

Text has not been revised.

SJTA-10: 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 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. Accordingly, the PEIS/R does not present benefits or impacts of the SJRRP to reintroduced spring-run Chinook salmon and does not assess the efficacy of the Settlement actions to provide suitable water temperatures for reintroduced Chinook salmon. The Implementing Agencies recognize the unprecedented nature of the SJRRP, and acknowledge that flexibility in implementation of the Settlement is necessary to ultimately achieve the Restoration and Water Management goals. In consideration of this necessary and anticipated flexibility, the SJRRP management process involves a broad range of strategies to guide implementation of the Settlement consistent with the Act, and incorporates a continuously growing set of data and scientific information. In particular Appendix E, "Fisheries Management Plan," of the Draft PEIS/R describes the framework for addressing specific actions related to fisheries, including actions to address water temperatures for reintroduced spring-run and fall-run Chinook salmon. This includes all actions described in Section 5.2.5, "Unsuitable Water Temperatures," of Appendix E of the Draft PEIS/R, beginning on page 5-33. See MCR-1 in Chapter 2.0 of this Final PEIS/R for additional information relevant to this comment.

While the Draft PEIS/R does not assess the efficacy of the Settlement actions to provide suitable water temperatures for reintroduced Chinook salmon, the Draft PEIS/R does describe the potential for changes in water temperatures under the action alternatives to impact existing populations of fish within the study area. The river temperature model SJR5Q provides simulated daily water temperatures over 23 years of historical hydrology for many locations within the Restoration Area. Because of the large data set this produces, these data are summarized in various ways for presentation in the Draft PEIS/R. This includes two levels of summary tables, presented in the Temperature Modeling Output- SJR5Q Attachment to Appendix H of the Draft PEIS/R, a narrative discussion of the potential for water temperature changes to impact water quality in Chapter 14.0, "Hydrology – Surface Water Quality," of the Draft PEIS/R, and a narrative discussion of the potential for changes in water temperature to impact existing populations of fish within the study area in Chapter 5.0, "Biological Resources – Fisheries," of the Draft PEIS/R.

The commenter refers to the discussion of changes in water temperatures in Chapter 5.0 as "limited." The narrative discussion of the potential for changes in water temperature to impact existing populations of fish within the study area is based on an evaluation of the SJR5Q output. This evaluation indicates an overall trend of reduced water temperatures within the San Joaquin River with the action alternatives in place, as compared with the No-Action Alternative. As discussed in Impact FSH-22 beginning on page 5-90 of the Draft PEIS/R, reduced water temperatures within the Restoration Area would be beneficial or have no impact for the representative fish species analyzed. As shown in the Temperature Modeling Output- SJR5Q Attachment to Appendix H of the Draft PEIS/R, however, water temperatures may increase in some portions of some years as compared with the No-Action Alternative. Therefore the impact was found to be less than significant. As previously mentioned, this assessment does not include an evaluation of the suitability of these water temperatures for reintroduced spring-run Chinook salmon.

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, interpolated 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. These daily operations are then used with a simplified flood routing procedure to generate a set of daily releases from Millerton Lake to the San Joaquin River. The resulting set of daily Millerton Lake operations are used in the Millerton Lake and San Joaquin River temperature models to simulate water temperatures within the Restoration Area.

Text has not been revised.

SJTA-11: Comment noted. 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 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. Accordingly, the PEIS/R does not present benefits or impacts of the SJRRP to reintroduced Chinook salmon and does not assess the efficacy of the Settlement actions to provide suitable water temperatures, in-Delta conditions, or in-ocean conditions for reintroduced Chinook salmon. See MCR-1 in Chapter 2.0 of this Final PEIS/R for additional information relevant to this comment.

SJTA-12: 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 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. Accordingly, the PEIS/R does not present benefits or impacts of the SJRRP to reintroduced Chinook salmon and does not assess the efficacy of the Settlement actions to provide suitable water temperatures, in-Delta conditions, or in-ocean conditions for reintroduced Chinook salmon. The Implementing Agencies recognize the unprecedented nature of the SJRRP, and acknowledge that flexibility in implementation of the Settlement is necessary to ultimately achieve the Restoration and Water Management goals. In consideration of this necessary and anticipated flexibility, the SJRRP management process involves a broad range of strategies to guide implementation of the Settlement consistent with the Act, and incorporates a continuously growing set of data and scientific information. In particular Appendix E, "Fisheries Management Plan," of the Draft PEIS/R describes the framework for addressing specific actions related to fisheries, including actions to address water temperatures for reintroduced spring-run and fall-run Chinook salmon. This includes all actions described in Section 5.2.5, "Unsuitable Water Temperatures," of Appendix E,

"Fisheries Management Plan," of the Draft PEIS/R, beginning on page 5-33. See MCR-1 in Chapter 2.0 of this Final PEIS/R for additional information relevant to this comment.

The Millerton Daily Operations Model was used to simulate daily water operations of Millerton Lake. This model, developed in Excel, interpolated 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. These daily operations are then used with a simplified flood routing procedure to generate a set of daily releases from Millerton Lake to the San Joaquin River. The resulting set of daily Millerton Lake operations are used in the Millerton Lake and San Joaquin River temperature models to simulate water temperatures within the Restoration Area. The potential for these changes in water temperatures to impact water quality and existing fisheries are evaluated in Chapters 14.0, "Hydrology – Surface water Quality," and Chapter 5.0, "Biological Resources – Fisheries," of the Draft PEIS/R, respectively. Text has not been revised.

SJTA-13: The commenter identifies an error in the text for Impact FSH-13 (Alternatives B1 and B2): *Changes in Water Temperatures in the San Joaquin River Between the Merced River and the Delta*, where the impact statement indicates that Alternatives B1 and B2 will use new facilities. The text on page 5-75, line 40, of the Draft PEIS/R has been revised to indicate withdrawal of water under Alternatives B1 and B2 will occur at existing facilities. See Chapter 4.0, "Errata," of the Final PEIS/R.

The commenter also states that, "it is inaccurate to say that *inputs* to the main stem SJR from the tributaries would be affected by withdrawal at the new pumping facilities" (emphasis in original). 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 (including water temperature) that adversely affect beneficial uses, or have substantive impacts on public health (see Impact SWQ-2 on pages 14-21 and page 14-22 of the Draft PEIS/R). As further discussed on pages 5-75 and 5-76 of the Draft PEIS/R, 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 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.

The commenter also states that, "there is no mention in this section of how temperatures might be affected by the location of water withdrawals." 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 is 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, the 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 5-95 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 to occur 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 in detail 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.

The commenter also states that, "The existing San Joaquin Basin temperature model that was used to model water temperatures through the Restoration Area extends downstream from the Merced River confluence, and this readily available tool should be used to model water temperatures under the project alternatives." 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 assure 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 (CE-QUAL-W2) and San Joaquin River (SJR5Q) temperature models to simulate Millerton Release water temperatures, and San Joaquin River flows and temperatures, within the Restoration Area from Millerton Lake to just downstream from the confluence with the Merced River.

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. 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 a 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. Downstream from the Restoration Area, the analyses presented in the Draft PEIS/R rely on flow-temperature balance procedure that begins with the flow and temperature just downstream from the Merced confluence obtained from the SJR5Q modeling and measured water temperatures at tributary inflow locations to evaluate water temperature and related impacts.

Text has not been revised.

SJTA-14: The commenter expresses concerns about the association of piscivorous fish species in the Restoration Area with gravel pits in Reach 1, and states that "high priority gravel pits should be filled before juvenile salmon reintroduction scheduled to occur in 2012." Paragraph 11 of the Settlement includes a series of channel and structural improvement projects. Paragraph 9 of the Settlement states that "the Parties [to the Settlement] agree that the channel and structural improvements listed in Paragraph 11 are necessary to fully achieve the Restoration Goal." The Settlement calls for the initial projects, Phase 1, to be completed by December 31, 2013, and for the Phase 2 projects to be completed by December 31, 2016. The Settlement does not specify that the Phase 1 projects need to be completed prior to the reintroduction of Chinook salmon. Rather, the Settlement envisioned that both spring-run and fall-run Chinook would be reintroduced prior to the completion of the Phase 1 and Phase 2 projects, as presented in the Settlement's milestone dates.

As described in more detail in MCR-2, "SJRRP Funding Availability, Sources, and Cost Estimates," in Chapter 2.0 of this Final PEIS/R, the Settling Parties and Implementing Agencies 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 Settlement, including the Phase 1 and Phase 2 improvements and spring-run reintroduction activities, and presents a schedule and budget for these actions. The *Framework for Implementation* can be found on the SJRRP Web site at www.restoresjr.net. This *Framework for Implementation* outlines the conditions that will be in place prior to fish reintroduction activities. While the *Framework for Implementation* presents a revised schedule for Settlement implementation, 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.

Although the Draft PEIS/R does not evaluate the potential for predation of reintroduced Chinook salmon to occur, 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 from reduced water temperatures, increased habitat complexity, and reduced predator populations) in the Restoration Area. Many program-level actions are included in all action alternatives and are intended to address predatory fish species in the Restoration Area, 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

- Actions to enhance in-channel habitat (page 2-46, lines 22 through 33 of the Draft PEIS/R)

- Conservation Measure CVS-1 and EFH-1 ("Avoid loss of habitat and risk of take of species") on page 2-76 and page 2-78 respectively

- Conservation Measure CVS-2 ("Minimize loss of habitat and risk of take of species") on page 2-77

- Conservation Measure EFH-2 ("Minimize loss of habitat and risk of take from implementation of construction activities") on page 2-79

Additionally, the 10(a)(1)(A) permit application (USFWS 2010) includes measures to help reduce the impacts of predation on reintroduced Chinook salmon. These measures include:

- Page 40: "When possible, releases would occur at night to minimize predation on juveniles."

- Page 42: "The use of temporary holding pens would allow the juveniles to acclimate before release, and thereby reduce the risk of predation (Fisheries Foundation 2009). Holding pens would also allow for collecting juveniles from donor stocks over a period of time until a group of fish have been amassed for release in a series of groups. Juvenile salmon outmigrate in groups, which may reduce mortality due to predation. Temporarily holding juveniles and releasing them in a series of groups may more closely resemble natural densities experienced during rearing and outmigration and increase their survivorship."

- Page 48: "To reduce the vulnerability of eggs to predation, an egg planter would be used to reposition ejected eggs."

- Page 66: "The initial reintroduced spring-run Chinook salmon will likely benefit from a period of depressed predation because of current conditions within the SJR. The periodic reduction and elimination of flow in some reaches of the restored mainstem of the SJR should limit the establishment of large piscivore predators within those reaches. This would likely be a temporary situation, and would not extend beyond those reaches that have until recently been without consistent flows of water. In addition, fish that are ultimately released culminating any trap and haul effort would be released at a number of different locations overtime to limit the establishment of large piscivore predators within the areas of release."

The management process described above would also contribute to the management of predation on reintroduced Chinook salmon and other native fishes.

Project-level actions would also affect predatory fish species within the Restoration Area. As described in Impact FSH-27 on page 5-94 and page 5-95 of the Draft PEIS/R, Interim and Restoration flows are likely to improve instream and floodplain habitat conditions, increasing the quantity, quality, and velocity of water downstream from Friant Dam, and generally reduce water temperatures. These changes would occur throughout the Restoration Area, but particularly in Reach 1. Impact FSH-27 concludes that these changes would shift habitat conditions away from the warmer and slower water habitat favored by nonnative predators and increase habitat suitability for native species, providing the basis for a conclusion of less than significant and beneficial.

While the project-level impacts related to changes in predation are anticipated to be less than significant and beneficial as described under Impact FSH-27, the Implementing Agencies nevertheless recognize the unprecedented nature of the SJRRP, and acknowledge that flexibility in implementation of the Settlement is necessary to ultimately achieve the Restoration and Water Management goals. In consideration of this necessary and anticipated flexibility, the SJRRP management process involves a broad range of strategies to guide implementation of the Settlement consistent with the Act and incorporates a continuously growing set of data and scientific information. In particular, Appendix E, "Fisheries Management Plan," of the Draft PEIS/R describes the framework for addressing specific actions related to fisheries, including actions to address predation of reintroduced Chinook salmon and other native fishes. Specifically, see Actions S1, S2, S3, S4, S5, and S6 (pages 5-56 through 5-60 of Appendix E).

The changes to fish habitat conditions as a result of program-level actions, as described under Impact FSH-23 on page 5-92 through 5-94 of the Draft PEIS/R, are anticipated to benefit the fish species targeted for analysis, including predator species such as bass, Sacramento pikeminnow, and sculpin. The analysis of potential impacts related to a corresponding increase in predation of native fishes as a result of the release of Interim and Restoration flows is described under Impact FSH-27 on page 5-94 to 5-95 of the Draft PEIS/R. Impact FSH-27 concludes that changes in predation levels within the Restoration Area would be less than significant and beneficial. Impact FSH-27 concludes that changes in predation levels within the Restoration Area would be less than significant and beneficial based on a qualitative analysis of the potential for this impact to occur. As described under Impact FSH-27 on page 5-95, the release of Interim and Restoration flows would result in increases in the quantity, quality, and velocity of water downstream from Friant Dam, and generally reduce water temperatures, especially in Reach 1. This would shift habitat conditions away from the warmer and slower water habitat favored by nonnative predators and increase habitat suitability for native species, in effect, moving nonnative predatory fish farther downstream.

While actions described in Appendix E of the Draft PEIS/R would reduce the risk of predation of reintroduced Chinook salmon, the actions are not anticipated to eliminate predatory fish species from the Restoration Area. Native predatory fish found within the Restoration Area species (including Sacramento pikeminnow, prickly sculpin, and riffle sculpin) are also commonly found on Central Valley rivers supporting Chinook salmon populations, demonstrating the potential for these species to coexist.

The commenter also cautions that the creation of holding pool habitat for spring-run Chinook salmon could improve habitat conditions for redeye bass that, if they establish in the San Joaquin River, could become important predators of native fish. However, holding pool habitat in Reach 1A receives water much cooler than is preferred by redeye bass. Redeye bass prefer summer water temperatures around 79°F to 84°F (26°C to 28°C), substantially warmer than would be in the upper portion of Reach 1A where spring-run Chinook salmon are expected to hold.

Text has not been revised.

SJTA-15: 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 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. Accordingly, the PEIS/R does not evaluate the efficacy of the actions described above to address predation of reintroduced Chinook salmon. The Implementing Agencies recognize the unprecedented nature of the SJRRP, and acknowledge that flexibility in implementation of the Settlement is necessary to ultimately achieve the Restoration and Water Management goals. In consideration of this necessary and anticipated flexibility, the SJRRP management process involves a broad range of strategies to guide implementation of the Settlement consistent with the Act and incorporates a continuously growing set of data and scientific information. In particular, Appendix E, "Fisheries Management Plan," of the Draft PEIS/R describes the framework for addressing specific actions related to fisheries, including actions to address predation of reintroduced Chinook salmon and other native fishes (see page 5-56 of Appendix E). See MCR-1 in Chapter 2.0 of this Final PEIS/R for additional information relevant to this comment.

The commenter notes the potential effects of predation by native fish (specifically Sacramento pikeminnow and sculpin) on reintroduced Chinook salmon. While actions described in Appendix E of the Draft PEIS/R would reduce the risk of predation of reintroduced Chinook salmon, the actions are not anticipated to eliminate predatory fish species from the Restoration Area. Native predatory fish found within the Restoration Area species (including Sacramento pikeminnow, prickly sculpin, and riffle sculpin) are also commonly found on Central Valley rivers supporting Chinook salmon populations, demonstrating the potential for these species to coexist.

While the Draft PEIS/R does not evaluate the efficacy of the action alternatives to address predation of reintroduced Chinook salmon, the Draft PEIS/R does present an evaluation of the potential for the action alternatives to cause changes in predation levels within the Restoration Area under Impacts FSH-8 (pages 5-72 and 5-73) and FSH-27 (pages 5-94 and 5-95). Although specific species were not called out and evaluated separately in the text, Sacramento pikeminnow and sculpin are among the species considered in this evaluation. Both of these potential impacts were found to be less than significant.

As described in response to comment SJTA-14, all action alternatives include actions to address predation of reintroduced Chinook salmon. Additionally, the 10(a)(1)(A) permit application (USFWS 2010) includes measures to help reduce the impacts of predation on reintroduced Chinook salmon (also described in response to comment SJTA-14). With these measures in place, the impacts of predation on reintroduced Chinook salmon would be minimized.

Text has not been revised.

SJTA-16: The commenter states that "Given that predation was considered a primary factor limiting spring-run Chinook salmon recovery in the Restoration Area (SJRRP 2010e), and warm-water game fish, such as largemouth bass were considered in the Draft PEIS/R to be nonnative predators of concern (page 5-73), it is contradictory to state that predation will be "***Less Than Significant and Beneficial***" under all alternatives for representative special-status species, and yet under all alternatives there would also be a "***Less Than Significant and Beneficial***" impact on warm-water sportfishing opportunities in all reaches" (emphasis in original). In support of this statement, the commenter references Appendix E, "Fisheries Management Plan," of the Draft PEIS/R and Chapter 5.0, "Biological Resources – Fisheries," and Chapter 21.0, "Recreation," of the Draft PEIS/R. As described below in more detail, these two chapters are consistent in their conclusions as to the potential for the action alternatives to benefit or harm populations of predatory species, such as bass. Generally, both chapters conclude that actions described at a project level of detail in the Draft PEIS/R would benefit predatory species. This is characterized as a less-than-significant and beneficial impact to the predatory fish species, as well as to recreational opportunities for angling. Both chapters also conclude that actions described at a program level of detail in the Draft PEIS/R would reduce these same populations, benefitting other native fish species but adversely impacting recreational opportunities. These conclusions do not include evaluation of impacts to reintroduced Chinook salmon, for the reasons set forth in response to comment SJTA-15 and MCR-1, "Analysis of Program Feasibility, Potential to Achieve Restoration and Water Management Goals," in Chapter 2.0 of this Final PEIS/R.

- **Project-Level Impacts –** Project-level impacts related to changes in populations of predatory species include Impacts FSH-23, FSH-27, and REC-14:

    - **Impact FSH-23 –** The changes to fish habitat conditions as a result of program-level actions, as described under Impact FSH-23 on page 5-92 through 5-94 of the Draft PEIS/R, are anticipated to benefit the fish species targeted for analysis, including predator species, such as bass, Sacramento pikeminnow, and sculpin. This impact would be less than significant and beneficial.

    - **Impact FSH-27 –** The analysis of potential impacts related to a corresponding increase in predation of native fishes is described under Impact FSH-27 on page 5-94 to 5-95 of the Draft PEIS/R. Impact FSH-27 concludes that changes in predation levels within the Restoration Area would be less than significant and beneficial based on a qualitative analysis of the potential for this impact to

occur. As described under Impact FSH-27 on page 5-95, the release of Interim and Restoration flows would result in increases in the quantity, quality, and velocity of water downstream from Friant Dam, and generally reduce water temperatures, especially in Reach 1. This would shift habitat conditions away from the warmer and slower water habitat favored by nonnative predators and increase habitat suitability for native species, in effect, moving nonnative predatory fish farther downstream. The amount of the shift is too speculative to estimate at this time; however, it is expected that the increased flows and habitat restoration activities in Reach 1A will result in less suitable habitat available for predatory fish species. Impact FSH-27 concludes that changes in predation levels within the Restoration Area would be less than significant and beneficial.

- **Impact REC-14 –** Impact REC-14 on page 21-54 of the Draft PEIs/R evaluates the potential effects on warm-water fishing opportunities from enhanced fish populations related to increased flow in the Restoration Area. Impact REC-14 concludes that project-level actions could increase warm-water fish populations in Reaches 2 through 5, enhancing fishing opportunities. This impact would be less than significant and beneficial.

- **Program-Level Impacts –** Project-level impacts related to changes in populations of predatory species include Impacts FSH-6, FSH-8, and REC-5:

  - **Impact FSH-6 –** Impact FSH-6 on page 5-71 of the Draft PEIS/R evaluates the potential for changes in habitat to impact representative and game fish species. Program-level actions are expected to increase the quantity and quality of instream, riparian, and floodplain habitat over the long term, providing benefits to all fish species, including the representative and game fishes. The primary mechanisms for improving habitat conditions for fish in the Restoration Area would be creation of new floodplain, riparian, and aquatic habitats; improvement of aquatic habitat conditions; and improved access to existing floodplain and aquatic habitat. This impact would be less than significant and beneficial.

  - **Impact FSH-8 –** As described in Impact FSH-8, on page 5-73, some program-level actions, such as constructing fish passage structures and restoration of side channels and backwater habitat, could increase the amount or quality of habitat for piscivorous fish, such as black bass. Other program-level actions, such as filling gravel pits in Reach 1, would likely reduce largemouth bass populations, thus decreasing predation. Restored floodplain habitat would also increase spawning opportunities for Sacramento splittail, allowing splittail to withstand pressures caused by predation. This impact would be less than significant and beneficial.

  - **Impact REC-5 –** Impact REC-5 on page 21-36 of the Draft PEIS/R evaluates the potential for program-level impacts to affect warm-water angling opportunities within the Restoration Area. Impact REC-5 finds that because

> program-level actions would include the filling or isolation of gravel pits in Reach a, warm-water fishing opportunities could be substantially reduced, and would present a potentially significant impact. Mitigation Measure REC-5 is therefore proposed on page 21-36 to enhance warm-water fishing access and fish populations in the vicinity of the San Joaquin River below Friant Dam. With mitigation, this impact would be less than significant.

The commenter states that EDT identified three primary limiting factors for spring-run Chinook salmon recovery: (1) water temperature, (2) quantity of key habitat, and (3) predation. EDT did not, however, model the effects of the predator control actions that will occur as a result of the Section 10(j) rule. As described in response to comment SJTA-14 above, these actions will work toward reducing the pressure of predation on salmonid species in the Restoration Area.

Text has not been revised.

SJTA-17: The commenter suggests that juvenile spring-run Chinook salmon that survive migration through the Restoration Area will be susceptible to high rates of predation in the lower San Joaquin River and Delta. The commenter further indicates that the PEIS/R incorrectly states that increased San Joaquin River inflow will not reduce predation by shifting the fish distribution. The commenter discusses the risk of exposure at the Clifton Court Forebay, because of the associated high level of predation and entrainment. The commenter also states that the PEIS/R should identify a potentially significant impact for fish in the San Joaquin River downstream from the Merced River confluence because of the increased risk of predation.

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 rivers flow were negative (i.e., reversed) because only negative flows moved fish toward 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.

Because of change in the flow patterns, more San Joaquin River Chinook salmon would likely bypass the south Delta (particularly in March and April), the location where predation and exposure to Clifton Court Forebay is high. Impact FSH-36 on page 5-104 in Chapter 5.0, “Biological Resource – Fisheries,” of the Draft PEIS/R, states that the increased ratio of San Joaquin River inflow to reverse flow in Old and Middle rivers

could lead to fish population distributions with fewer fish in the south Delta. This includes San Joaquin River Chinook salmon and steelhead, but also includes young delta smelt and longfin smelt, which are not strong swimmers. However, fish already in the south Delta will remain at risk of high predation, as the increased San Joaquin River inflow is not expected to alter the south Delta distribution of such fish species as black bass and other warm-water game fish. This conclusion does not rely on changes in turbidity or temperature, which would be minimal as the commenter notes.

Text has not been revised.

SJTA-18: The commenter indicates that entrainment impacts are insufficiently evaluated, because, "Although the new facility would include a fish screen 'consistent with NMFS and DFG standards to reduce entrainment and predation,' the new facilities will still be increasing entrainment and predation related mortalities for fall-run Chinook from the SJR tributaries." Risk of entrainment between the Merced River and the Delta as a result of changes in diversion is discussed on pages 5-75 and 5-76 of the Draft PEIS/R, under Impact FSH-12. As described on page 5-75 of the Draft PEIS/R, increased pumping along the San Joaquin River under Alternatives B1, B2, C1, and C2 may increase the potential for entrainment of juveniles of representative fish species into the pumps and canals, resulting in losses because of mortality, or displacement from suitable habitat. Additionally, it could reduce attraction flow for fall-run Chinook salmon and Central Valley steelhead to the tributaries. All diversion facilities would be operated in accordance with existing operating criteria, prevailing and relevant laws, regulations, BOs, and court orders in place at the time the program-level actions were performed. As the commenter notes, these operating and design criteria would not likely eliminate the increase in entrainment. However, these criteria would reduce the risk of entrainment, and thus the impact, to a less than significant level. Text has not been revised.

SJTA-19: The potential for reintroduced Chinook salmon to serve as disease sources and result in a disease outbreak among wild fall-run Chinook salmon in the major San Joaquin River tributaries is described on under Impact FSH-11 on page 5-74 of the Draft PEIS/R. This impact is anticipated to be less than significant, due primarily to implementation of Conservation Measure SRCS-1, "Avoid and minimize loss of habitat and individuals." Conservation Measure SRCS-1 states, in part, that SJRRP actions shall be performed in accordance with the Experimental Population 4(d) rule, as it is developed, and where applicable (see page 2-77 of the Draft PEIS/R), and the measure requires the involvement of NMFS and DFG in the development and/or implementation of SRCS-1. Spring-run reintroduction activities 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* (SJRRP 2010a), which would guide management of the genetic diversity of the spring-run hatchery population (SJRRP 2010a). Consistent with the Act, spring-run 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) designation and 4(d) rule if certain conditions are met (Fish and Game Code Section 2080.4).

The proposed action 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) is more detailed than the program-level discussions of reintroduction presented in the Draft PEIS/R, and includes guidelines established under the permitting process, namely for the Section 10(a)(1)(A) permit and Section 10(j) rule. Section 10 of the ESA allows for the issuance of permits 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 the potential for eggs or juveniles being translocated into the San Joaquin River to increase the 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. Specific methodologies and measures for collecting, handling, and quarantining any eggs and fish prior to locating the eggs or fish to the San Joaquin River are described in the Draft EA (see page 4-3), the 10(a)(1)(A) permit application (USFWS 2010) (see pages 53 and 56), and the *Hatchery and Genetics Management Plan* (SJRRP 2010a) (see pages 15, 24, and 70).

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* concludes on page 4-7 that, "…potential effects related to the introduction of disease to the existing populations would not be significant." This is consistent with the analyses presented in the Draft PEIS/R. See also MCR-7, "Adequacy of Conservation Strategy," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R for further information. For the reasons set forth above and in MCR-7, Reclamation and DWR do not believe that any changes to the Conservation Strategy related to potential disease impacts are necessary. Text has not been revised.

SJTA-20: This comment identifies three concerns regarding potential effects of the action alternatives on fall-run Chinook salmon and fall-run Chinook salmon essential fish habitat. These concerns are as follows:

- **Effects on habitat** – Effects on habitat, which includes effects of adult straying and rearing in non-natal tributaries, is described in response to comments SJTA-6 through SJTA-9. See responses to comments SJTA-6, SJTA-7, SJTA-8, and SJTA-9.

- **Effects on water temperature** – Effects on water temperatures, which includes potential changes in flows downstream from the Restoration Area, are discussed in more detail in response to comments SJTA-10 and SJTA-13. See responses to comments SJTA-10 and SJTA-13.

- **Effects on food resources through competition** – Effects on food resources, including competition for food and other resources in the tributaries is not explicitly evaluated, but the effects to the fish for competition for food would be similar to the effects on fish from competition for habitat. A discussion of the effects of competition for habitat is found in response to comments SJTA-7 and SJTA-9. See responses to comments SJTA-7 and SJTA-9.

Text has not been revised.

SJTA-21: The commenter describes three key concerns in this comment: (1) the conservation "measures are too vague to guide action-specific strategies, and do not address potential effects on threatened Central Valley steelhead in the San Joaquin River tributaries," (2) "the addition of spring-run juveniles, which are known to rear in neighboring tributaries, may compete with [steelhead] for habitat and other resources within the lower San Joaquin River and tributaries," and (3) Restoration Flows "will make it more difficult to achieve the temperatures recommended by the USEPA and DFG," to protect steelhead smoltification in the lower San Joaquin River.

In response to the first key issue submitted by the commenter, at the program level for the entire SJRRP and at the project level for actions evaluated at the project level in the PEIS/R, the Conservation Strategy provides a comprehensive and integrated set of specific conservation measures. 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 resulting from this coordination is much more than a list of actions. It presents goals and measures to attain the goals. For potentially affected sensitive species and habitats, the Conservation Strategy provides a sequence of avoidance, minimization, and compensation measures with if/then relationships. For example, for most sensitive species, if full avoidance is not achievable, then the minimization measures would be implemented, and if minimization is determined to not suffice, then the compensation measures would be enacted.

As discussed in detail in MCR-7, "Adequacy of Conservation Strategy," in Chapter 2.0 of this Final PEIS/R, although the restoration actions included in the alternatives would have substantial beneficial effects on aquatic, wetland, and riparian ecosystems, implementation of actions that alter these ecosystems could also result in some potentially significant adverse impacts to these ecosystems, as well as upland ecosystems. 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 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.

The Conservation Strategy includes several best management practices to avoid and minimize effects related to displacement from habitat, injury, and mortality, including restricting fish from areas of construction and/or limiting construction to periods when fish are less likely to occur (PL-1, CVS-1, CVS-2, EFH-1, and EFH-2), maintaining existing habitat (CVS-1 and EFH-1), and compensating for habitat effects (CVS-2 and EFH-2). These are common best management practices included in most EISs and EIRs with construction-related effects. Additionally, the Conservation Strategy includes measures to avoid and minimize effects to green sturgeon and winter-run and spring-run Chinook salmon through compliance with existing operating criteria of the CVP and SWP, and prevailing and relevant laws, regulations, BOs, and court orders (GS-1, WRCS-1, and SRCS-1). For the reasons set forth above and in MCR-7, no changes to the Draft PEIS/R related to the Conservation Strategy are necessary.

The second concern stated by the commenter regards the potential for reintroduced Chinook salmon to adversely affect steelhead through competition for habitat. The effects of changes to flows in the tributaries on Chinook salmon and steelhead habitat are discussed on pages 5-53 through 5-57 in Chapter 5.0, "Biological Resources – Fisheries," 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 or, if not, then do not change from the No-Action Alternative or existing conditions. As described 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 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. 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. There would be no competition for spawning/incubation habitat between steelhead and spring-run Chinook salmon because spring-run Chinook typically spawn between late August and early October, while steelhead spawn typically between January and March. The level of competition, however, for food resources is too speculative, as the commenter acknowledges by stating that the quantity and quality of food resources in the tributaries is unknown. Further discussion of the effects of competition for habitat is provided in response to

comments SJTA-7 and SJTA-9. See responses to comments SJTA-7 and SJTA-9 for additional information relevant to this comment.

The third concern stated by the commenter regards the potential for the release of Restoration Flows to adversely affect water temperatures in the San Joaquin River downstream from the Merced River confluence. As further discussed on pages 5-75 and 5-76 in Chapter 5.0, "Biological Resources – Fisheries," of the Draft PEIS/R, 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 cool water inputs to the main stem San Joaquin River from the tributary rivers would be affected by the withdrawal of water that would occur under Alternatives B1, B2, C1, and C2, potentially resulting in downstream increases or decreases 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 main stem San Joaquin River, including Interim and Restoration flows from the Restoration Area, and would therefore be less than significant. The commenter identified an error in the text for Impact FSH-13 (Alternatives B1 and B2): *Changes in Water Temperatures in the San Joaquin River Between the Merced River and the Delta, the commenter,* where the impact statement indicates Alternatives B1 and B2 will use new facilities. The text on page 5-75 lines 36 through 43, and page 5-76, lines 1 through 4, of the Draft PEIS/R, has been revised to indicate withdrawal of water under Alternatives B1 and B2 will occur at existing facilities. See Chapter 4.0, "Errata," of the Final PEIS/R.

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 is 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, the 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 5-95 through 5-97 of the Draft PEIS/R describes the potential for changes to occur 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 in detail 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.

SJTA-22: Hybridization between steelhead and rainbow trout was not called out explicitly as an impact statement in the Draft PEIS/R, but discussions of how hybridization could occur, and why it was not considered a significant issue for steelhead in the tributaries can be found on page starting on 5-61, line 3, through page 5-63, line 6,

of the Draft PEIS/R. It is expected that the resident (hatchery progeny) rainbow trout in Reach 1 would not, even with continuous San Joaquin River flow, migrate upstream into the steelhead spawning sections of the tributary rivers because resident rainbow trout do not typically make migrations of that distance. Additionally, steelhead do not spawn in the lower reaches of the San Joaquin River, so the risk of hybridization is further reduced. There would remain, however, a risk of hybridization for steelhead that would recolonize the Restoration Area. Those steelhead expected to recolonize the Restoration Area are from the San Joaquin River tributaries, which are known to have hybridized already with hatchery progeny rainbow trout. The Draft PEIS/R does indicate that there could be hybridization between steelhead and resident rainbow trout, but did not state that the hybridization was unimportant. Rainbow trout progeny from hatchery rainbow trout do occupy the river and could hybridize with anadromous steelhead. A quantification of the degree to which this could occur is speculative. However, given the current genetic mix between steelhead and rainbow trout in the tributaries and the fact that resident rainbow trout currently occur in the tributaries, hybridization between steelhead and rainbow trout is not considered a significant issue for steelhead in the tributaries. Additionally, the Fisheries Management Work Group developed the *Stock Selection Strategy: Spring-Run Chinook Salmon* (SJRRP 2010b), along with the *Hatchery and Genetics Management Plan* (SJRRP 2010a), to help minimize potential genetic impacts to salmonids in the San Joaquin River and its tributaries.

Text has not been revised.

SJTA-23: As discussed in detail in MCR-7, "Adequacy of Conservation Strategy," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, although the restoration actions included in the alternatives would have substantial beneficial effects on aquatic, wetland, and riparian ecosystems, implementation of actions that alter these ecosystems could also result in some potentially significant adverse impacts to these ecosystems, as well as upland ecosystems. 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 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.

The Conservation Strategy includes several best management practices to avoid and minimize effects related to displacement from habitat, injury, and mortality, including restricting fish from areas of construction and/or limiting construction to periods when fish are less likely to occur (PL-1, CVS-1, CVS-2, EFH-1, and EFH-2), maintaining existing habitat (CVS-1 and EFH-1), and compensating for habitat effects (CVS-2 and EFH-2). These are common best management practices included in most EISs and EIRs with construction-related effects, and must be somewhat general at a program level of

analysis. For the reasons set forth above and in MCR-7, no changes to the Draft PEIS/R related to the Conservation Strategy are necessary.

SJTA-24: The commenter raises two topics of concern. The first concern raised by the commenter is that VAMP was discontinued; however, the tributary fisheries analysis in FSH-30 uses VAMP flow requirements as one of the criteria to determine impacts. Although VAMP expired in 2011, the No-Action Alternative includes a continuation of a VAMP-like condition. SWRCB indicates that VAMP experimental data will be used to create permanent objectives for the pulse flow period. Reclamation and DWR intend to continue a VAMP-like action for the foreseeable future or until SWRCB adopts new permanent objectives that replace the current program. It is anticipated that new SWRCB objectives will maintain the same level of protection for fisheries as the current program or increase the level of protection, and that such protections will remain in place through 2030. Because considerable uncertainty remains as to the flows that will occur under future flow requirements in the San Joaquin River, the analyses include the continuation of VAMP as a surrogate for these requirements.

The second concern raised by the commenter is that it was unclear how the flow criteria used in Table 5-11 of the Draft PEIS/R were used to assess impacts, and which DFG model the notes to Table 5-11 refer. The DFG model to which the notes to Table 5-11 refer is the *San Joaquin River Fall-Run Chinook Salmon Population Model* not the Salmon Survival Model. 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 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. An additional revision to Table 5-11 includes a change in the table notes to clarify that the Tuolumne River flows in the table came from the Tuolumne River Instream Flow Incremental Methodology report, and from results of the DFG San Joaquin River Fall-Run Chinook Salmon Population model. Flow criteria for Chinook salmon and steelhead incubation/fry rearing and juvenile migration on the Stanislaus River were identified with the assistance of NMFS and used the Stanislaus River Instream Flow Incremental Methodology report and the NMFS 2009 CVP/SWP Operations BO (2009a) average below normal year flow requirements (see Table 11-1 in the NMFS 2009 CVP/SWP Operations BO).

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. 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.

SJTA-25: This comment identifies the Table of Contents and the Introduction of the San Joaquin Tributaries Association comment letter. The Introduction provides a summary of the Draft PEIS/R, and introduces comments SJTA-5 through SJTA-24. See responses to comments SJTA-5 through SJTA-24.

3.8.20 San Luis Canal Company/Henry Miller Reclamation District #2131

SLCC

September 21, 2011

Ms. Alicia Forsythe
SJRRP Program Manager
U.S. Bureau of Reclamation (USBR)
2800 Cottage Way MP-170
Sacramento, CA 95825-1898
email to: PEISRComments@restoresjr.net

Ms. Fran Schulte
California Dept. of Water Resources (DWR)
South Central Region Office
3374 East Shields Avenue
Fresno, CA 93726
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RE: Comments to the Draft Program Environmental Impact Statement/Environmental Impact Report (PEIS), April 2011 for the San Joaquin River Restoration Program

Dear Ms. Forsythe and Ms. Schulte:

San Luis Canal Company (SLCC) and Henry Miller Reclamation District #2131 (HMRD) have been active participants in the San Joaquin River Restoration Program (SJRRP). Because of our direct diversion from the San Joaquin River (River), along with our lands abutting the River in Reaches 4a and 4b, the future of the program will be forever tied to our 45,000 acres of productive farmland.

SLCC-1

The PEIS plays a pivotal role in how the entire SJRRP will be organized, designed, engineered, constructed, maintained and funded. Therefore, based on its importance, both entities have spent a considerable amount of time reviewing the draft document and providing comments.

The future of the program relies on the ability of the State of California and the Department of the Interior (USBR) to receive adequate funding for **ALL** aspects of the program. Due to the current projected funding schematic for the next five years, it is obvious that all Phase 1 projects will not be constructed prior to the legislated mandate date for reintroduction of the species. Therefore, we truly believe that the Phase 1 projects, along with the other necessary mitigation endeavors, must be prioritized and fully funded so that they can be constructed prior to reintroduction of fish and release of Restoration flows.

Please accept this bullet-outline of our critical issues relating to the draft PEIS document referenced above:

SLCC-2
- It is still SLCC and HMRD's contention that having the USBR and the DWR moving forward on site specific projects within the SJRRP before the PEIS is complete is not the appropriate manner upon which to move forward. In fact, it might not even be legally defensible. You have asked third parties to participate on a variety of site specific projects long before the draft PEIS was available for review. Therefore, we had no idea on how the USBR and the DWR planned on moving forward on a global scale with this immense project prior to our involvement. We hope our act of faith in participating prior to the completion of the PEIS doesn't come back to haunt us.

SLCC-3
- Federal and/or State Endangered Species Act protected fish must not be introduced into the San Joaquin River System prior to Phase I projects being completed.

SLCC-4
- SLCC and HMRD's Fish Screen and Sack Dam Replacement Project **SHALL** be installed prior to reintroduction of the ESA protected fish in order to protect our landowner's ability to divert water from their sole diversion off of the San Joaquin River. SLCC and HMRD cannot be and should not be put at jeopardy from Endangered Species issues due to regulatory affairs, political battles, poor planning or lack of funding.

SLCC-5
- The Operations of Friant Dam, Mendota Pool and downstream recirculation of Friant water needs be coordinated, written down and agreed upon by all parties involved.

SLCC-6
- The Reach 4b program will affect a large portion of SLCC's northern boundary. SLCC and HMRD have an extensive inventory of canals, drains and other water related facilities that will be greatly impacted do to the restoration of this stretch. It will also create issues relating to private property and water rights allocated to individual parcels of land. This program must be thoroughly vetted with the input of all the Reach 4b stakeholders and built with all the necessary 3rd party mitigation projects.

SLCC-7
Along with these bullet points, both SLCC and HMRD hereby join in and incorporate into this letter the comments submitted by the San Joaquin River Exchange Contractors Water Authority (Exchange Contractors) and the San Joaquin River Resource Management Coalition (RMC). The purpose of this letter is to fulfill SLCC'S and HMRD's obligation to exhaust administrative remedies. Whether or not SLCC or HMRD choose to pursue all issues raised by the Exchange Contractors, RMC or others will be determined at a later time.

Sincerely yours,

Anthony Neves
Director

Chase Hurley
General Manager

2

Responses to Comments from San Luis Canal Company/Henry Miller Reclamation District #2131

SLCC-1: Paragraph 11 of the Settlement includes a series of channel and structural improvement projects. Paragraph 9 of the Settlement states that "the Parties [to the Settlement] agree that the channel and structural improvements listed in Paragraph 11 are necessary to fully achieve the Restoration Goal." The Settlement calls for the initial projects, Phase 1, to be completed by December 31, 2013, and for the Phase 2 projects to be completed by December 31, 2016. The Settlement does not specify that the Phase 1 and Phase 2 projects need to be completed prior to the reintroduction of Chinook salmon. Rather, the Settlement envisioned that both spring-run and fall-run Chinook would be reintroduced prior to the completion of the Phase 1 and Phase 2 projects, as specified in the Settlement's milestone dates.

As described in more detail in MCR-2, "SJRRP Funding Availability, Sources, and Cost Estimates," 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). 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 is realistic and achievable, and is different from the schedule contained in the Settlement. 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.

SLCC-2: Comment noted. As described in MCR-4, "Segmentation Under NEPA and CEQA," in Chapter 2.0, "Master Comment Responses," in this Final PEIS/R, the SJRRP is a major program 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 PEIS/R evaluates potential direct, indirect, and cumulative impacts of the whole of the SJRRP on the environment at a program level that could result from implementing the Settlement consistent with the Act. The 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 PEIS/R includes feasible mitigation measures to avoid, minimize, rectify, reduce, or compensate for significant adverse impacts. See also MCR-4 in Chapter 2.0 of this Final PEIS/R for additional information relevant to this comment.

SLCC-3: This comment is substantially the same as comment SLCC-1. Please see response to comment SLCC-1.

SLCC-4: As described in MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, the Implementing Agencies are examining several potential protections for landowners and agencies who will continue to conduct routine agricultural and operations and maintenance activities in the Restoration Area after protected spring-run Chinook salmon are reintroduced to the San Joaquin River. These protections are specific to Federal and State laws pertaining to reintroducing populations of protected species. Also, as discussed in MCR-3, "Order and Schedule of Implementing Settlement Actions," in Chapter 2.0 of this Final PEIS/R, Paragraph 11 of the Settlement specifies channel and structural improvements (Phase 1 and Phase 2 improvements) described as "necessary to fully achieve the Restoration Goal." The Settlement milestone dates include spring-run and fall-run Chinook salmon reintroduced by December 31, 2012; Paragraph 11(a) actions (Phase 1 improvements) completed by December 31, 2013; initiation of full Restoration Flows by January 1, 2014; and Paragraph 11(b) actions (Phase 2 improvements) completed by December 31, 2016. The dates for completing Phase 1 and potentially Phase 2 improvements may change pending completion of compliance, coordination, consultation, data collection, and related efforts, and in compliance with the provisions of the Settlement and the Act. Neither the Settlement nor the Act links the progress in completing Phase1 and Phase 2 improvements to Chinook salmon reintroduction. The Settlement envisioned that both spring-run and fall-run Chinook would be reintroduced prior to the completion of the Phase 1 and Phase 2 projects, as presented in the Settlement's milestone dates, but does not specify that the Phase 1 projects must be completed prior to the reintroduction of Chinook salmon.

Paragraph 14 of the Settlement states that the Secretary, through USFWS, and in consultation with the Secretary of Commerce, DFG, and the RA, will reintroduce spring-run and fall-run Chinook salmon "at the earliest practical date after commencement of sufficient flows and the issuance of necessary permits." As described in the Draft PEIS/R and in MCR-1, "Analysis of Program Feasibility, Potential to Achieve Restoration and Water Management Goals," in Chapter 2.0 of this Final PEIS/R, the RA, in consultation with the Technical Advisory Committee, is responsible for consulting with the Secretary on the reintroduction of Chinook salmon under Paragraph 14 of the Settlement, on implementing actions under Paragraph 11 of the Settlement, and for identifying and recommending additional actions under Paragraph 12 of the Settlement. The RA's recommendations would be taken into consideration by the Secretary in making decisions or taking specific actions to be implemented under the Settlement. The Implementing Agencies continue to evaluate the appropriate timing and other site-specific details of the reintroduction process; however, this evaluation is ongoing, beyond the scope of this PEIS/R, and has been addressed only to the degree that information was available at the time the Draft PEIS/R and Final PEIS/R were prepared, and then only in the context of evaluating potential environmental impacts. Appendix E, "Fisheries Management Plan," of the Draft PEIS/R describes the framework for addressing specific actions related to fisheries and evaluates their effectiveness in an action routing process.

See MCR-1, MCR-3, and MCR-6 in Chapter 2.0 of this Final PEIS/R for additional information relevant to this comment.

SLCC-5: As described on page 2-36 of the Draft PEIS/R, the details of the plan for recirculation would be determined through future negotiations between affected parties, and this action is therefore described at a program level in the PEIS/R. The plan for recirculation would include details regarding the coordination of Friant Dam and Mendota Pool operations, as they relate to the recirculation of recaptured water. Text has not been revised.

SLCC-6: The Reach 4B1 site-specific study and overall SJRRP will continue to use outreach to potentially affected landowners and operators. Additionally, the Implementing Agencies will continue to coordinate with the appropriate agencies to work toward resolution on issues related to water rights and property concerns. For more information relevant to this comment, please see the site-specific Reach 4B, Eastside Bypass and Mariposa Bypass Channel and Structural Improvements Project documentation on the SJRRP Web site at www.restoresjr.net.

SLCC-7: Comment noted. The San Joaquin River Exchange Contractors Water Authority and San Joaquin River Resource Management Coalition comments and responses are shown in Section 3.8, "Regional and Local Government Comments and Responses," of this Final PEIS/R. See responses to comments EC1-1 to EC1-352n in Section 3.8 of this Final PEIS/R.

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3.8.21 San Luis and Delta-Mendota Water Authority

Brownstein | Hyatt
Farber | Schreck

SLDMWA

September 21, 2011

SENT VIA ELECTRONIC MAIL AND U.S. MAIL

Alicia Forsythe
SJRRP Program Manager
U. S. Bureau of Reclamation
2800 Cottage Way, MP-170
Sacramento, California 95825
PEISRComments@restoresjr.net

RE: *Draft Program Environmental Impact Statement and Environmental Impact Report for the San Joaquin River Restoration Program*

Dear Ms. Forsythe:

SLDMWA-1

The San Luis & Delta-Mendota Water Authority (Authority) submits the following comments on the draft program environmental impact statement and environmental impact report (draft PEIS/R) for the San Joaquin River Restoration Program (Proposed Project or SJRRP). The Authority continues to support the SJRRP, as it is described by the settlement in the litigation entitled *Natural Resources Defense Council, et al. v. Kirk Rodgers, et al.*, United States District Court, Eastern District of California, No. CIV. S-88-1658-LKK/GGH (Settlement) and authorized by the San Joaquin River Restoration Settlement Act, Pub. L. No. 111-11, tit. X, subtit. A, Part I, §§ 10004–10011 (Settlement Act).

Yet the Authority's concern with how the United States Bureau of Reclamation (Reclamation) and the California Department of Water Resources (DWR) are implementing the SJRRP continues to grow (Reclamation and DWR are referred to collectively as the "Implementing Agencies"). Primarily, the Authority is concerned that the SJRRP will reduce or impair the Authority's water supply, in spite of the settling parties' commitment and the congressional mandate that the SJRRP not have any adverse, unmitigated impacts on third parties.

The Authority files this comment letter because, like other environmental-review documents previously prepared for the SJRRP, the draft PEIS/R does not acknowledge that an important part of the SJRRP is to completely avoid or fully mitigate harm to third parties. That failure, along with the following additional failures, renders the draft PEIS/R legally deficient:

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SLDMWA-2 • The draft PEIS/R fails to include an accurate and complete description of the Proposed Project;

SLDMWA-3 • The draft PEIS/R improperly segments the environmental review of the long-term SJRRP from review of connected actions;

SLDMWA-4 • The draft PEIS/R fails to analyze a reasonable range of alternatives; and

SLDMWA-5a • The draft PEIS/R ignores or only provides a superficial analysis of impacts of the Proposed Project and so fails to ensure that the Proposed Project has been developed and will be implemented without causing harm (or unmitigated harm) to third parties.

SLDMWA-5b As a result, the Implementing Agencies must correct the errors in the draft PEIS/R and re-circulate it to allow for proper public review and comment.

1. Background

1.1 The No-unmitigated-harm-to-third-parties Requirement

SLDMWA-6 The SJRRP is a direct result of the Settlement, which attempts to end a nearly 20-year lawsuit. There, Natural Resources Defense Council and other environmental groups sought to compel Reclamation to provide water for habitat in the San Joaquin River such that fish populations would be maintained "in good condition." Even before the Settlement was reached, third parties saw the potential for the effort to maintain fish populations in good condition to shift water and monetary costs, real property impacts, and other burdens of restoration to third parties. Third parties objected, early, earnestly, and often. They wanted assurances that any settlement and corresponding legislation would protect the third parties from shouldering the burdens of the SJRRP. The settling parties initially and Congress eventually gave the third parties the requested assurances. The Settlement was approved by a federal court in 2006, and in 2009 Congress authorized implementation of the Settlement, provided that it occur without unmitigated harm to third parties. Examples of the protections afforded third parties are:

- Settlement, ¶ 16 (requiring a recapture and recirculation plan that ensures no adverse impact to the water supply of Central Valley Project long-term contractors, other than Friant Division long-term contractors);

- Settlement Act, § 10004(d) (requiring mitigation of impacts prior to implementation);

- Settlement Act, § 10004(f) (prohibiting implementation from reducing water supply to Central Valley Project long-term contractors, other than Friant Division long-term contractors);

- Settlement Act, § 10009 (prohibiting SJRRP costs from being re-directed to third parties),

- Settlement Act, § 10011 (prohibiting the reintroduction of salmon under the SJRRP from causing more than de minimus: water supply reductions, additional storage releases, or bypass flows on unwilling third parties).

The settling parties reflected the no unmitigated-impact assurances. Three examples are:

SLDMWA-6 cont'd

- Memorandum of Understanding with Third Parties, February 2007 (explaining Reclamation neither intends nor believes that the implementation of the Settlement or the implementing legislation will have a material adverse effect on the Third Parties or interests not a party to the litigation).[1]

- Memorandum in Support of Joint Motion for Approval of Settlement and Entry of Judgment, p. 17 (expressing to the court that the settling parties did not anticipate that the Settlement would cause adverse impacts to water deliveries to water users other than Friant Division long-term contractors).[2]

- Questions & Answers Fact Sheet (answering the question "How have other stakeholders been involved?" by explaining, in part, that "the settling parties have worked to ensure that the benefits of restoration can be realized without harming third parties").[3]

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[1] A copy of which is included herewith as Exhibit A.

[2] A copy of which is included herewith as Exhibit B.

[3] A copy of which is included herewith as Exhibit C.

1.2 The Authority's position on the SJRRP is unwavering.

SLDMWA-7a

Reclamation and others have already carried out or have begun to carry out components of the SJRRP. Interim Flows have been flowing for two years now, in spite of incomplete environmental review of the SJRRP. Other SJRRP components were begun without analysis because Reclamation or DWR contended that they were exempt from applicable environmental laws. For three years, the Authority has been tracking the SJRRP's implementation, observing, commenting, expressing support for some aspects, and concern, sometimes serious concern, for other aspects. The Authority commented on the draft environmental-review documents for the Water Year 2010, 2011, and 2012 Interim Flows themselves as well on those for the recapture and recirculation of Interim Flows in 2010 and 2011. Moreover, the Authority has protested aspects of the temporary changes that Reclamation has requested in its water rights for all three years of Interim Flows.

The Authority has consistently raised a voice of warning on behalf of its members and other third parties who stand exposed to serious harm if Reclamation proceeds as it has begun with the SJRRP. Those earlier comments and protests culminate here in this comment letter on the PEIS/R, the programmatic review document intended for the whole of the SJRRP. They reflect the Authority's growing concerns. In short, the Authority position has been simply this: It supports the SJRRP and wants it to succeed as long as it does not harm the Authority or other third parties. And while the Implementing Agencies conclude, on occasion, that aspects of the SJRRP will not harm third parties, the SJRRP is not fully define. And, the Implementing Agencies plans, data and modeling, and discussions in the draft PEIS/R belie the truth of those sporadic conclusions. The Implementing Agencies say that the SJRRP will not cause third party harm, but they describe an incomplete program and will cause unmitigated harm.

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The Authority does not here restate each of the objections and comments that it presented to the State Water Board in prior years when Reclamation petitioned for changes in its water rights to allow for implementation of the SJRRP. Nor does the Authority restate each of the comments that the Authority presented to the Implementing Agencies and the National Marine Fisheries Service on the environmental documents that it prepared or is preparing to support the SJRRP. But each of those objections and comments are relevant to and form part of the basis for these comments and are thus incorporated herein by this reference.[4]

[4] Copies of the objections and comments are attached as Exhibit D.

2. The PEIS/R Must Comply with NEPA, CEQA, and the Settlement Act to Provide Full Environmental Review and Complete Mitigation of All Impacts to Third Parties.

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Reclamation and DWR must comply not only with the National Environmental Policy Act (NEPA)[5] and the California Environmental Quality Act (CEQA),[6] but they must also comply with the Settlement and the Settlement Act, which impose no-harm-to-third-parties requirements on the SJRRP. The draft PEIS/R, its statements of purpose and need, project objectives, and impact analyses all must adhere to and reflect the no unmitigated harm principle.

2.1 The PEIS/R must comply with NEPA's requirements for consideration of a reasonable range of alternatives and full disclosure of potential impacts.

NEPA requires full disclosure of a project's potential impacts and consideration of a reasonable range of alternatives. NEPA is a disclosure statute that "imposes ... procedural requirements to 'ensur[e] that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts.'"[7] Under NEPA, the primary purpose of an environmental impact statement (EIS) is to "serve as an action-forcing device to ensure that the policies and goals defined in NEPA are infused in the ongoing programs and actions of the federal government."[8] An EIS must provide a "full and fair discussion of significant environmental impacts and shall inform the decision-makers and the public of the reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment."[9] An EIS also must discuss the "means to

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[5] 42 U.S.C. §§ 4321–4370h (2009); *see also* 40 C.F.R. §§ 1500.1–1508.28 (2010).

[6] Cal. Pub. Res. Code §§ 21000–21177 (Deering 2009 & Supp. 2011); *see also* 14 Cal. Code Regs. §§ 15000–15387 (West, Westlaw through 8/26/11 Register 2011) (CEQA Guidelines). The CEQA Guidelines "are binding on all public agencies in California." CEQA Guidelines § 15000. "At a minimum, ... courts should afford great weight to the [CEQA] Guidelines except when a provision is clearly unauthorized or erroneous under CEQA." *Laurel Heights Improvement Assn. v. Regents of University of California*, 47 Cal.3d 376, 391 n.2 (1988).

[7] *Winter v. Natural Resources Defense Council, Inc.*, 555 U.S. 7, 23 (2008); *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989).

[8] 40 C.F.R. § 1502.1.

[9] *Id.*

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mitigate adverse environmental impacts."[10] NEPA unequivocally requires federal agencies to rigorously explore alternative proposals and mitigation efforts that can feasibly reduce environmental effects. Any failure to disclose or analyze impacts as the statute requires violates the law and leaves the action vulnerable to challenge.

2.2 The PEIS/R must comply with CEQA's requirements for thorough analysis, including alternatives that would lessen significant impacts, and mitigation of potentially significant impacts.

SLDMWA-9

CEQA's purpose is similar. It demands thorough disclosure and analysis of public-agency projects and approvals before an agency commits itself to any of them. But unlike NEPA, CEQA binds the public agency to inform the public and then to mitigate all significant environmental impacts unless full mitigation is not feasible — and the burden is on the agency to show that it is not feasible.[11] The purpose of an environmental impact report (EIR) under CEQA is twofold: It must both protect the environment and demonstrate to the public that it is being protected.[12]

2.3 In addition to NEPA and CEQA, the PEIS/R must comply with the no-harm-to-third-parties mandate of the Settlement Act by providing full mitigation of every adverse impact to third parties.

The PEIS/R must not only comply with CEQA and NEPA, but with the Settlement and the Settlement Act, which, as cited above, mandate rigorous harm avoidance and, if needed, mitigation. The settlement parties agree in the Settlement that Reclamation must develop its plan for recirculation, recapture, reuse, exchange or transfer of water "in a manner that does not adversely impact the Secretary's ability to meet contractual obligations..."[13] Congress protected third parties, by providing that the Proposed Project may not "modify or amend the rights and obligations of the parties to any existing water service, repayment, purchase, or exchange contract."[14] Congress also directed Reclamation, before the SJRRP, to identify any harm that may result from implementation of the SJRRP, as well as "the measures which *shall* be implemented to mitigate impacts on adjacent and downstream water users and

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[10] 40 C.F.R. § 1502.16(h).

[11] *See* Cal. Pub. Res. Code § 21002.1(b); CEQA Guidelines §§ 15002, 15003, 15021.

[12] CEQA Guidelines § 15003(b).

[13] Settlement, ¶ 16(a)(3).

[14] Settlement Act, § 10004(g).

landowners."[15] As to the potential impact of the reintroduction of salmon, Congress directed the Secretary of Commerce to include in its final rule issued pursuant to section 4(d) of the Endangered Species Act (ESA) to "provide that the reintroduction will not impose more than de minimus: water supply reductions, additional storage releases, or bypass flows on unwilling third parties due to such reintroduction."[16]

SLDMWA-10 cont'd

3. The PEIS/R Violates NEPA, CEQA, and the Settlement Act Because the PEIS/R does not Include or Adequately Describe Vital Components of the Proposed Project.

3.1 Under NEPA, the PEIS/R must provide a full and accurate description of the Proposed Project.

NEPA requires that an agency must provide an accurate description of the proposed action. Such a full and accurate description is necessary to ensure the proposed project's environmental impacts are accurately disclosed and analyzed and to define the reasonable range of alternatives to the proposed action.[17] NEPA requires a full evaluation of site-specific impacts "when a critical decision has been made to act ..., *i.e.*, when the agency proposes to make an irreversible and irretrievable commitment of the availability of resources to [a] project at a particular site."[18] "The determination of whether a 'critical decision' has been made begins with an *accurate description* of the [agency's] proposed action."[19] An agency's decision to proceed with an action will be set aside as arbitrary and capricious if it entirely fails to consider an important aspect of the action.[20]

SLDMWA-11

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[15] *Id.* § 10004(d) (emphasis added).

[16] *Id.* § 10011(c)(3).

[17] *See* 40 C.F.R., §§ 1502.13 (requiring statement of purpose and need), 1502.14 (requiring an EIS to "rigorously explore and evaluate" alternatives to the proposed action and the environmental consequences of the action), 1502.16 (requiring disclosure of the proposal's environmental consequences).

[18] *Friends of Yosemite Valley v. Norton*, 348 F.3d 789, 801–802 (9th Cir. 2003).

[19] *Id.* at p. 802 (emphasis added); *see also Oregon Natural Desert Ass'n v. Bureau of Land Management*, 625 F.3d 1092, 1109 (9th Cir. 2010); *Aberdeen & R.R. Co. v. Students Challenging Regulatory Agency Procedures et al.*, 422 U.S. 289, 322 (1975) ("In order to decide what kind of an environmental impact statement need be prepared, it is necessary first to describe accurately the 'federal action' being taken").

[20] *Friends of Wild Swan v. US Fish & Wildlife Serv.*, 12 F.Supp.2d 1121, 1131 (D. Ore. 1997).

3.2 Under CEQA the PEIS/R must provide an accurate, stable, and consistent project description.

Similarly, CEQA mandates that an EIR include an accurate, stable, and consistent description of the proposed project. The project description must contain sufficient specific information to allow a complete evaluation of the project and thorough review of its potential environmental impacts.[21] An accurate description is necessary to determine the scope of environmental review, and the adequacy of an EIR's project description is closely linked to the adequacy of its analysis of the project environmental effects. If the description is inadequate because it fails to discuss the complete project, EIR's environmental analysis will likely reflect the same mistake.[22] Further, an EIR's project description, and the accompanying analysis, must be consistent throughout the EIR. An inconsistent project description prevents the EIR from serving as a vehicle for intelligent public participation in the decision-making process.[23]

SLDMWA-12

3.3 The PEIS/R's project description is fatally deficient because it omits the mandated no-harm component of the Proposed Project.

The project description in the draft PEIS/R is inadequate because it fails to include the critical no-harm component required of the Proposed Project. The draft PEIS/R approaches the no-harm requirement only indirectly with general statements that the SJRRP will be implemented "as directed by the [Settlement] Act, consistent with NEPA/CEQA requirements."[24] It never expressly describes the no-harm requirement of the Proposed Project, much less acknowledges it as a critical component of the SJRRP or as an important consideration in evaluating impacts. The draft PEIS/R must include a direct acknowledgement of the Implementing Agencies' responsibility to avoid or fully mitigate all harm to third

SLDMWA-13

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[21] CEQA Guidelines § 15124.

[22] *See Laurel Heights*, 47 Cal.3d 376 (EIR failed to describe or analyze project accurately); *County of Inyo v. City of Los Angeles*, 71 Cal.App.3d 185, 197 (1977); *see also Dry Creek Citizens Coalition v. County of Tulare*, 70 Cal.App.4th 20, 26 (1999) (holding that an adequate EIR must be "prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences"); *Santiago County Water Dist. v. County of Orange*, 118 Cal.App.3d 818 (1981) (finding an EIR for sand-and-gravel operation inadequate because it did not describe facilities to be constructed to deliver water to mine, include data that would allow county to evaluate pros and cons of supplying water, or explain effect of project water use on water delivery elsewhere in district).

[23] *County of Inyo*, 71 Cal.App.3d at p. 197.

[24] Draft PEIS/R, Chapter 1, at p. 1-7.

SLDMWA-13 cont'd

parties. The PEIS/R's current statement for compliance with NEPA and CEQA is no substitute for compliance with the mandated NEPA-CEQA-plus review required to implement the no-harm policy. A detailed explanation of how each aspect of the Proposed Project will comply with the important no-harm requirement is required.

3.4 The PEIS/R is inadequate because it fails to describe and analyze the Recirculation Plan.

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As part of the overall SJRRP, Reclamation is required to prepare a plan for the recapture, recirculation, exchange, and transfer of flows that leaves south-of-the-Delta Central Valley Project contractors unharmed (Recirculation Plan).[25] That Recirculation Plan is expected to define, among other things, the criteria to determine the volume of flows available for recapture, the pumping facilities where the water will be recaptured, and the priority of use for those facilities. It is also expected to determine priority of use for facilities in which Reclamation would store the recaptured Interim flows.

Though the Recirculation Plan was required to be prepared immediately upon execution of the settlement,[26] it has only been released in draft form so far.[27] Therefore, the draft PEIS/R does not describe the final Recirculation Plan and does not consider its connection to or its potential impacts on the whole of the SJRRP. Because the PEIS/R does not incorporate the congressionally mandated Recirculation Plan — an important element of the SJRRP — the description of the Proposed Project is materially lacking.[28]

3.5 The PEIS/R is inadequate because it fails to discuss changes to the SJRRP schedule.

The project description in the draft PEIS/R is also inadequate because it fails to sufficiently discuss and consider changes in the original SJRRP schedule. The Settlement called for the Implementing Agencies to achieve the Restoration Goal and the Water Management Goal by December 31, 2025 and set earlier deadlines for completion of the

SLDMWA-15

[25] Settlement at p. 20, ¶ 16(a); Draft PEIS/R, Summary, at pp. 3, 13.

[26] Settlement at p. 20, ¶ 16.

[27] *See* Draft PEIS/R, Summary, at pp. 28–29.

[28] Because Reclamation still has not completed the Recirculation Plan, it is unlawful for the draft PEIR/S to purport to provide project-level review of the recirculation and capture of Interim or Restoration Flow. Simply put, without a plan for the recirculation and recapture of those flows there is insufficient information to conduct project-level analyses.

SJRRP's preliminary components.[29] For example, the Settlement provides that the SJRRP's Phase 1 improvements, deemed the highest priority improvements, "shall be completed no later than December 31, 2013,"[30] and that Phase 2 improvements would be completed no later than December 31, 2016.[31] The Settlement also provided that the Restoration Goal must include reintroduction of salmon by December 31, 2012.[32] The Settlement anticipated that modification of Reach 4B to route at least 475 cfs would be completed by December 2011, and further Phase 1 improvements were to be completed by December 2012. But the PEIS/R shows that the Implementing Agencies are not meeting these scheduled deadlines.

For instance, the PEIS/R analyzes alternatives to modify Reach 4B to route at least 475 cfs[33] and shows that this modification is being analyzed at the program rather than the project level,[34] making it very unlikely if not impossible for Reclamation to complete this high priority improvement by the December 2011 deadline required by the Settlement. It shows that other Phase 1 improvements, anticipated to be completed by December 2012, will also be analyzed at the program level, creating the same uncertainty. Similarly, the PEIS/R provides program-level analysis of reintroduction of salmon, despite that the scheduled deadline for this activity is coming up in just over a year.[35] The PEIS/R must acknowledge the delays in meeting these deadlines, and discuss how these delays affect the project, as described.

SLDMWA-15 cont'd

In sum, while the PEIS/R acknowledges the dates set in the Settlement,[36] it does not explain how these dates affect the description of the SJRRP. It is also does not acknowledge that some of the deadlines have already passed. The PEIS/R must discuss changes in the schedule that have or will occurred and explain how those changes affect the Proposed Project.

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[29] Settlement at pp. 4–5, ¶ 3.

[30] *Id.* at p. 8, ¶ 11(a).

[31] *Id.* at p. 9, ¶ 11(b).

[32] *Id.* at p. 17, ¶ 14.

[33] Draft PEIS/R, Summary, at p. 19.

[34] *Id.* at p. 20.

[35] *Id.*

[36] Draft PEIS/R, Summary, at pp. 27–28, Chapter 1, at p. 1-5.

3.6 The PEIS/R is inadequate because it fails to adequately discuss how implementation of the SJRRP from 2010–2012 has influenced the Proposed Project.

The PEIS/R must analyze the data available from implementation of the SJRRP in 2010-2012. When it authorized Reclamation to undertake a restoration effort, Congress SLDMWA-16 required Reclamation to release Interim Flows to gather data to inform and shape the SJRRP.[37] The Authority finds no meaningful discussion in the PEIS/R of what happened when the Interim Flows were released in 2010 or 2011. It finds no substantial analysis of the resulting data or discussion of what Reclamation learned from the data. Failure to provide that information creates the risk that changes to the SJRRP must be made to the Proposed Project and ultimately potential impacts of the SJRRP, discovered through the Interim Flows, will remain unmitigated. To ensure an accurate project description, the PEIS/R must provide a thorough report of what Reclamation has learned from the Interim Flows and how that has shaped the Proposed Project. That report must be included in the PEIS/R.

3.7 The PEIS/R is inadequate because it fails to consider whether increasing flows before completing physical improvements helps achieve the Restoration and Water Management Goals.

The project description in the PEIS/R is further inadequate because it fails to describe whether or how increasing the flows before completing the Proposed Project's physical improvements will help achieve either the Restoration or Water Management Goals. Per the Settlement Agreement, the PEIS/R provides for the release of full Restoration Flows no later than January 1, 2014, subject to then-existing channel capacities.[38] However, the PEIS/R does not make clear whether or to what extent physical channel-improvements and other structural SLDMWA-17 changes will be completed prior to the Restoration Flows.

Instead, the PEIS/R acknowledges that the Settlement identifies specific channel and structural improvements "considered necessary to achieve the Restoration Goal" but states that these will be analyzed at the program level, rather than the project level.[39] It further acknowledges that "additional channel or structural improvements … may be needed to

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[37] *See id.*, Summary, at p. 3 ("Interim Flows are experimental flows that began in 2009 and will continue until full Restoration Flows are initiated, with the purpose of collecting relevant data concerning flows, temperatures, fish needs, seepage losses, recirculation, recapture, and reuse").

[38] Draft PEIS/R, Summary, at p. 3.

[39] *Id.* (referring to Settlement ¶ 11).

achieve the Restoration Goal,"[40] but does not specify the timing for these improvements and also defers analysis until the project level. Regardless, despite the uncertain timing and less-specific program level review for these *necessary* improvements, the PEIS/R states that salmon will be reintroduced to the San Joaquin River no later than December 31, 2012, and that full Restoration Flows will begin no later than January 1, 2014, subject to then-existing channel capacities.[41] Therefore, the PEIS/R acknowledges that salmon will be introduced before the release of full Restoration Flows, which flows will be released before completion of all necessary channel and other physical improvements. However, the draft PEIS/R does not consider the effect of these changes on the Proposed Project (or impacts of the SJRRP). It must.

SLDMWA-17 cont'd

3.8 Without a clear and complete project description, the draft PEIS/R fails to meet the minimum standards under NEPA and CEQA.

SLDMWA-18

For the reasons stated above, the PEIS/R fails to adequately describe the Proposed Project and thus does not and cannot accurately discuss or analyze all the potential impacts of the Proposed Project. Without a clear and complete project description, the PEIS/R cannot present a proper statement of purpose and need, project objectives, reasonable range of alternatives, or impact analysis. It also cannot adequately support its conclusions. Without the benefit of a clear and complete project description, the current PEIS/R's analysis of potential impacts is incomplete.

4. The PEIS/R Must Clearly State the Purpose and Need and Objectives for the Proposed Project.

4.1 Under NEPA, the PEIS/R must consistently describe the underlying purpose and need of the proposed action.

SLDMWA-19

NEPA requires the PEIS/R to include an explanation of the "underlying purpose and need to which the Agency is responding in proposing the alternatives, including the proposed action."[42] This statement of purpose and need should explain why the federal agency is undertaking the proposed action and what objectives it intends to achieve by that action. While agencies have discretion to define the purpose and need of a proposed project, a court will

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[40] *Id.* (referring to Settlement ¶ 12).

[41] *Id.* (referring to Settlement ¶¶ 13, 14).

[42] 40 C.F.R. § 1502.13.

SLDMWA-19 cont'd

evaluate whether a narrow statement of purpose and need unreasonably limited the objectives of the proposed project, thus inappropriately narrowing the scope of alternatives evaluated.[43]

4.2 Under CEQA, the PEIS/R must to consistently describe the project objectives.

SLDMWA-20

Similarly, under CEQA, the PEIS/R must include a "clearly written statement of objectives [that] will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR.... The statement of objectives should include the underlying purpose of the project."[44]

4.3 The PEIS/R's statement of purpose and need and objectives should include the requirements of the Settlement and the Settlement Act.

SLDMWA-21

The PEIS/R defines the proposed action as "implement[ation] [of] the ... Settlement in *NRDC, et al., v. Kirk Rodgers, et al....*, consistent with the ... Settlement Act...."[45] Although the PEIS/R acknowledges that the Settlement should be implemented "consistent with the Act," the various goals and objectives discussed are limited to some, but not all of the requirements and objectives of the Settlement, and do not include additional requirements of the Settlement Act.[46] The purpose and need of the action and objectives of the project should expressly incorporate all of the requirements of the Settlement and Settlement Act, which mandate implementation of the SJRRP without unmitigated impacts to third parties.[47]

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[43] *Westlands Water Dist. v. U.S. Dept. of Interior*, 376 F.3d 853, 867 (9th Cir. 2004); *City of Carmel-by-the-Sea v. U.S. Dept. of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997).

[44] CEQA Guidelines § 15124(b).

[45] Draft PEIS/R, Summary, at p. 1

[46] *Id.* at p. 13.

[47] See discussion above, citing, in part, Settlement, ¶ 16; Settlement Act, §§ 10004(d), 10004(f), 10009, 10011.

5. The PEIS/R Illegally Segments Analysis of the SJRRP Impacts from Analyses of Connected Actions.

The PEIS/R illegally segments the environmental review of the Proposed Project by separating it from the Implementing Agencies' review of connected Program activities.[48]

5.1 The PEIS/R must comply with NEPA's prohibition against segmenting "connected actions."

Under NEPA, an agency must not segment a major federal action into smaller components to avoid either the application of NEPA or the preparation of a more detailed assessment of the environmental effects of the overall federal action. "Segmentation is to be avoided in order to ensure that interrelated projects, the overall effect of which is environmentally significant, not be fractionalized into smaller, less significant actions."[49]

SLDMWA-22

To prevent improper segmentation, the Council of Environmental Quality's NEPA Regulations (CEQ Regulations) contain detailed requirements pertaining to the scope of actions that must be considered. An environmental document must consider "connected actions," "cumulative actions," and "similar actions."[50] Actions are "connected" and must be considered in a single environmental document if they:

> (1) automatically trigger other actions that might require environmental impact statements;
>
> (2) cannot or will not proceed unless other actions are taken previously or simultaneously; or
>
> (3) are interdependent parts of a larger action and depend on the larger action for their justification.[51]

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[48] *See* Draft PEIS/R, Summary, at p. 7 (Table ES-3: Site Specific NEPA/CEQA Environmental Compliance Documentation for SJRRP Actions Completed or In Progress).

[49] *Stewart Park Reserve Coalition, Inc. v. Slater*, 352 F.3d 545, 554 (2d Cir. 2003).

[50] 40 C.F.R. § 1508.25.

[51] *Id.* § 1508.25(a)(1)–(3); *see also* 40 C.F.R. § 1508.18(b)(4) (defining "major federal action" to include "concerted actions" and "systematic and connected" decisions).

Further, the CEQ Regulations require the following:

> Agencies shall make sure the proposal which is the subject of an environmental impact statement is properly defined. Agencies shall use the criteria for scope (§ 1508.25) to determine which proposal(s) shall be the subject of a particular statement. *Proposals or part of proposals which are related to each other closely enough to be, in effect, a single course of action shall be evaluated in a single impact statement.*[52]

SLDMWA-22 cont'd

The Ninth Circuit applies an "independent utility" test to determine whether multiple actions are so connected as to mandate consideration in a single environmental document.[53] The crux of the test is whether each of the actions would have taken place with or without the other and thus had "independent utility."[54]

5.2 The PEIS/R must comply with CEQA's requirement for review of the whole project.

CEQA similarly prohibits segmenting (or "piecemealing") review of limited parts of a project to avoid full environmental review and mitigation of the whole project. Under CEQA, the environmental review accompanying the first discretionary approval must evaluate the impacts of the ultimate development authorized by that approval. This prevents an agency from chopping a large project into little ones, each with a minimal impact on the environment, to

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[52] 40 C.F.R. § 1502.4(a) (emphasis added).

SLDMWA-23a [53] *Great Basin Mine Watch v. Hankins*, 456 F.3d 955, 969 (9th Cir. 2006) ("We apply an 'independent utility' test to determine whether multiple actions are so connected as to mandate consideration in a single EIS").

[54] *Id.*; *see Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1215–16 (9th Cir. 1998) (concluding that five potential logging projects in the same watershed were cumulative and had to be evaluated in a single EIS because they were reasonably foreseeable and 'developed as part of a comprehensive forest recovery strategy'); *Thomas v. Peterson*, 753 F.2d 754, 758 (9th Cir. 1985) (holding that logging project and road to facilitate the logging had to be considered in a single EIS because 'the timber sales could not proceed without the road, and the road would not be built but for the contemplated timber sales'); *see also Blue Ocean Preservation Society v. Watkins*, 754 F.Supp. 1450 (D. Haw. 1991) (concluding that subsequent phases of a geothermal-power project were linked to the initial phase and should have been considered in the same NEPA document).

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avoid full environmental disclosure.[55] CEQA requires consideration of environmental consequences at the earliest possible stage, even though more detailed environmental review might be necessary later.[56] A lead agency may not limit environmental disclosure by ignoring the development or other activity that will ultimately result from an initial approval.[57] Instead, "an EIR must include an analysis of the environmental effects of future expansion or other action if both:

> (1) it is a reasonably foreseeable consequence of the initial project; and
>
> (2) the future expansion or action will be significant in that it will likely change the scope or nature of the initial project or its environmental effects.[58]

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Further, a program EIR prepared for multiple or phased projects must evaluate the cumulative effect of the environmental changes that will result from the combined or ultimate project.[59] The governing CEQA Guideline also provides that when a project is "a necessary precedent for action on a larger project, or commits the lead agency to a larger project," an EIR on the project must address the scope of the larger project.[60] This CEQA Guideline applies when an agency approves a single project in stages, and approval of the second stage is a foreseeable consequence of its approval of the first stage. A program EIR is intended to

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[55] *See* CEQA Guidelines § 15003(h); *Bozung v. LAFCO*, 13 Cal.3d 263, 283 (1975); *see also California Unions for Reliable Energy v. Mojave Desert Air Quality Mgmt. Dist.*, 178 Cal.App.4th 1225, 1242 (2009).

[56] *Rio Vista Farm Bureau Center v. County of Solano*, 5 Cal.App.4th 351, 370 (1992).

[57] *See City of Antioch v. City Council*, 187 Cal.App.3d 1325 (1986) (holding that piecemeal review of development of infrastructure for undeveloped site resulting in negative declaration was improper, even though future developments of the site would be examined in later EIRs, because infrastructure extension was approved to allow site to be developed); *see also Arviv Enters., Inc. v. South Area Planning Comm'n*, 101 Cal.App.4th 1333 (2002) (upholding city determination that EIR should be required for separate project applications that together resulted in single 21-home project).

[58] *Laurel Heights*, 47 Cal.3d at p. 396 (holding that a later phase should have been included in the environmental review of the underlying project even though it had not been formally approved).

[59] CEQA Guidelines §15165; *see Whitman v. Board of Supervisors*, 88 Cal.App.3d 397 (1979).

[60] CEQA Guidelines §15165.

"[e]nsure consideration of cumulative impacts that might be slighted in a case-by-case analysis."[61]

SLDMWA-23b cont'd

Indeed, a project description must include all relevant parts of a project, including reasonably foreseeable future expansion or other activities that are part of the project.[62] While uncertain future activities that are not currently proposed for approval do not need to be included in an EIR's project description, as soon as future activities are identified as reasonably foreseeable consequences of the proposed project, CEQA demands that the lead agency include the activities in the project description.[63]

5.3 The PEIS/R improperly segments review of the SJRRP.

The Implementation Agencies fails to evaluate all components of the Proposed Project in a single environmental document. The Implementing Agencies are now preparing environmental documents that analyze components of the SJRRP at the project-level. But since the PEIS/R involves both a program-level and some project-level analyses and is not complete, the concurrent, but separate project-level reviews are improper.[64] Those other reviews are fore

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[61] *Id.* § 15168(b)(2).

[62] *Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.*, 47 Cal.3d 376 (1988); *see also* CEQA Guidelines § 15126 (EIR's impact analysis must consider all phases of project).

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[63] *See No Oil, Inc. v. City of Los Angeles*, 13 Cal.3d 68, 77 n5 (1974); *Save Round Valley Alliance v. County of Inyo*, 157 Cal.App.4th 1437 (2007); *National Parks & Conserv. Ass'n v. County of Riverside*, 42 Cal.App.4th 1505, 1520 (1996); *Fort Mojave Indian Tribe v. California Dep't of Health Servs.*, 38 Cal.App.4th 1574 (1995); *Christward Ministry v. County of San Diego*, 13 Cal.App.4th 31, 45 (1993); *Del Mar Terrace Conservancy, Inc. v. City Council*, 10 Cal.App.4th 712, 735 (1992); *Kings County Farm Bureau v. City of Hanford*, 221 Cal.App.3d 692, 737 (1990); *Residents Ad Hoc Stadium Comm. v. Board of Trustees*, 89 Cal.App.3d 274, 291 (1979); *Lake County Energy Council v. County of Lake*, 70 Cal.App.3d 851 (1977).

[64] CEQA Guidelines § 15165 ("Where individual project are, or a phased project is, to be undertaken and where the total undertaking comprises a project with significant environmental effect, the Lead Agency shall prepare a single program EIR for the ultimate project..."); CEQA Guidelines §§ 15168(b)(1)-(4) (Program EIR can be used to consider broad programmatic issues for related action at an early stage in the planning process), 15168(c) (Program EIRs allow lead agency to dispense with later further environmental review of activities adequately covered by the program EIR), 15168(d) (Program EIRs that evaluate the program as a whole may be used to simply later environmental review for activities within the

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project that are blatantly "reasonably foreseeable." There are numerous examples that give rise to this defect. For instance, Reclamation recently circulated and solicited comments on its Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Interim Flows Project Water Year 2012.[65] But the draft PEIS/R includes program-level as well as project-level review for impacts caused by releasing, recapturing, and recirculating the Interim Flows.[66] This concurrent, but separate review improperly segments review, resulting in inadequate consideration of all of the reasonably foreseeable impacts of the SJRRP.

In sum, the Interim Flows, Recirculation Plan, reintroduction of salmon, and the other elements of the SJRRP are all elements of a single settlement agreement and a single Act of Congress. The Implementing Agencies and other agencies responsible for implementing elements of the SJRRP cannot prepare a programmatic environmental document, that includes project-level analyses of some SJRRP elements, while at the same time preparing separate project-level analyses for other elements of the SJRRP. Reasonably foreseeable impacts are considered in separate documents. For these reasons, the Implementing Agencies had unlawfully segmented multiple elements of the same action. Accordingly, the PEIS/R does not meet the minimum standards set either by NEPA or CEQA because it illegally segments review of the whole project.

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program); *Sierra Club v. City of Orange* (2008) 163 Cal.App.4th 523, 529 (Supplemental project-level EIR was prepared following certification of a program level EIR)

[65] Reclamation released the Draft Supp. EA and FONSI, Interim Flows Project Water Year 2012 for public comment on June 14, 2011. *See* U.S. Dept. of Interior, Bureau of Reclamation, website, last viewed on 9/19/2011, *available at* http://www.restoresjr.net/program_library/02-Program_Docs/index.html. Other prior project-level environmental documents include the Draft Feasibility Report, EA, and Proposed FONSI for the Friant-Kern Canal Capacity Restoration Feasibility Study, released for public comment on June 3, 2011, *id.*, and the National Marine Fisheries Service (NMFS) Draft EA on the Experimental Population 10(j) and the Take Exemption 4(d) Rules. *See* NMFS website, last viewed on 9/19/2011, available at http://swr.nmfs.noaa.gov/sjrrestorationprogram/salmonreintroduction.htm.

[66] Draft PEIS/R, Summary, at 19–20; *see also* Chapter 13, at p. 13-71 (Table 13-51).

6. The PEIS/R Fails to Analyze a Reasonable Range of Alternatives.

Because the draft PEIS/R includes an inadequate project description and fails to clearly and consistently describe the SJRRP's purpose and need and objectives[67] (i.e., to keep fish in good condition below Friant Dam, reduce resulting impacts on Friant users as much as possible, and do no harm to third parties along the way), the draft PEIS/R considers an inadequate range of alternatives. To pass legal muster, the PEIS/R must provide a reasonable range of alternatives to the SJRRP as currently proposed, based on the underlying purposes. Unfortunately, it does not.

6.1 The PEIS/R must comply with NEPA's mandate for a reasonable range of alternatives to achieve the Proposed Project's underlying purpose and need.

The heart of NEPA is the environmental impact statement.[68] And the "linchpin" of the environmental impact statement is the alternatives analysis. As the U.S. Supreme Court has stated, "It is absolutely essential to the NEPA process that the decisionmaker be provided with a detailed and careful analysis of the relative environmental merits and demerits of the proposed action and possible alternatives, a requirement that we have characterized as 'the linchpin of the entire impact statement.'"[69] Indeed, federal regulations refer to the alternatives

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[67] The PEIS/R at times correctly describes the purpose and need and objectives of the Proposed Project based on achieving the Settlement's underlying Restoration and Water Management Goals (regardless of how those goals are achieved), but at times alternatively describes it based on implementation of the specific scheme set out by the Settlement and Settlement Act that was intended to achieve these goals. *See* Draft PEIS/R, Summary, at p. 13, Chapter 1, at pp. 1-13 to 1-14; *see also* 40 C.F.R. § 1502.13; CEQA Guidelines § 15124(b). This inconsistency results in uncertainty over whether the draft PEIS/R considers a reasonable range of alternatives that might meet the purpose and need and objectives. The PEIS/R must include a clear statement of the purpose and need and objectives to ensure it considers a reasonable range of alternatives based on that statement. *See Westlands Water Dist. v. U.S. Dept. of Interior*, 376 F.3d 853, 867 (9th Cir. 2004); *City of Carmel-by-the-Sea v. U.S. Dept. of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997).

[68] *Department of Transportation v. Public Citizen*, 541 U.S. 752, 757 (2004); Mandelker, NEPA Law and Litigation (West 2d ed. 2010), § 1:1, at p. 1-2.

[69] *Natural Resources Defense Council v. Callaway*, 524 F.2d 79, 92–93 (2d Cir. 1975) (quoting *Monroe County Conservation Council, Inc. v. Volpe*, 472 F.2d 693, 697–98 (2d Cir. 1972)); *accord Friends of Bitterroot, Inc. v. US Forest Service*, 900 F.Supp. 1368, 1371 (Dist. Ct. D. Montana 1994).

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analysis itself as the very heart of the whole."[70] The agency must "[r]igorously explore and objectively evaluate all reasonable alternatives."[71]

6.2 The PEIS/R must comply with CEQA's requirement for a reasonable range of alternatives that satisfy most project objectives.

An environmental impact report likewise must present "a reasonable range of potentially feasible alternatives."[72] As with alternatives and EISes under NEPA, "[t]he EIR is the heart of CEQA, and the mitigation and alternatives discussion forms the core of the EIR."[73] The scope of alternatives reviewed must be considered in light of the nature of the project, the project's impacts, relevant agency polices, and other material facts.[74] The range of alternatives examined in an environmental impact report must be designed to foster informed decision-making and public participation.[75] The lead agency may not treat the proposed project as a forgone conclusion and limit alternatives to variations within that scope; the point is to give the decisionmakers options before they commit to a particular course or discrete range of actions.

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The basic purpose of an environmental impact report's discussion of alternatives is to consider ways that project objectives might be achieved at less environmental cost. Consistent with this purpose, alternatives must implement most project objectives, but they need not implement them all.[76] As the CEQA Guidelines explain, the analysis in an environmental impact report must focus on alternatives that can eliminate or reduce significant environmental impacts *even if they would impede* attainment of project objectives *to some degree*, or even if

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[70] 40 C.F.R. § 1502.14 ("this [alternatives] section is the heart of the environmental impact statement").

[71] *Id.*, § 1502.14(a).

[72] CEQA Guidelines § 15126.6(a).

[73] *In re Bay Delta*, 43 Cal.App.4th 1143, 1162 (2008).

[74] *Mira Mar Mobile Community v. City of Oceanside*, 119 Cal.App.4th 477 (2004); *City of Rancho Palos Verdes v. City Council*, 59 Cal.App.3d 869 (1976).

[75] CEQA Guidelines § 15126.6(a)–(f).

[76] *Watsonville Pilots Ass'n v. City of Watsonville*, 183 Cal.App.4th 1059, 1087 (2010); *Mira Mar*, 119 Cal.App.4th 477; CEQA Guidelines § 15126.6(a).

they would be *more costly*.[77] There is no requirement that the alternatives analyzed in environmental impact report satisfy every single key objective of the project.[78]

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Indeed, when the environmental impact report is programmatic, one of the express uses of it is to explore "*broad policy alternatives* and program wide mitigation measures at an early time when the agency has greater flexibility . . ."[79] to change course and to "[p]rovide . . . more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action."[80]

The fundamental scope of what is and what is not a reasonable alternative under CEQA is essentially the same as that under NEPA: The lead agency must include alternatives that are compatible with the "fundamental purpose" and that would not change the basic nature of the project.[81]

6.3 The alternatives in the PEIS/R must address the requirements of the Settlement and Settlement Act, and analyses of the alternatives must consider all possible impacts to third parties.

As stated above, implementation of the SJRRP must not result in harm (water supply, water quality, property, or other) to third parties. The PEIS/R must consider alternatives that will ensure that the Implementing Agencies avoid such impacts, and then clearly and completely analyze all such alternatives. The PEIS/R claims that its alternatives "were formulated to feasibly accomplish the primary objectives of the Settlement."[82] Yet none of the

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[77] CEQA Guidelines § 15126.6(b).

[78] *California Native Plant Soc'y v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 991.

[79] CEQA Guidelines § 15168(b)(4) (emphasis added).

[80] *Id.* § 15168(b)(1).

[81] *In re Bay-Delta*, 43 Cal.4th at 1164–66 (holding that lead agency did not have to consider alternatives that did not satisfy each of the four stated objectives because each of the four was part of an "integrated approached" that was itself the "very foundation of the Program"; "[n]othing less can achieve the underlying fundamental purpose of reducing conflicts by providing a solution that competing interests can support").

[82] PEIS/R, Chapter 2, at p. 2-3.

alternatives were designed to avoid impacts on the water supplies of the Authority's members. The Implementing Agencies did not even consider the obligation to avoid impacts:

> Development of program alternatives began on two parallel tracks.... One track focused on actions to address reoperation of Friant Dam, and was developed in coordination with the Settling Parties through preparation of Restoration Flow guidelines, as stipulated by the Settlement. The other focused on defining the range of potential implementation of physical actions to achieve the Restoration and Water Management goals. To accomplish the second track, a broad range of actions to achieve the Restoration and Water Management goals was packaged into initial program alternatives ....[83]

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Despite other acknowledgments in the PEIS/R of requirements to implement the Settlement "consistent with the Act," **the alternatives do not address the requirements of the SJRRP to avoid impacts to third parties**. This is a fundamental flaw.

Moving forward, the Implementing Agencies must develop alternatives that are formulated to accomplish the objectives of the Settlement Act as well as the Settlement. As an example, the PEIS/R should contain alternatives formulated to avoid impacts from the reintroduction of spring-run Chinook. The PEIS/R purports to analyze the reintroduction of spring-run Chinook at a program level, but actually does not analyze the reintroduction of the species at all. Irrespective of analysis that may or may not be provided in future environmental documents regarding reintroduction of spring-run Chinook, the PEIS/R should analyze potential impacts from reintroduction.

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Means of avoiding impacts from the reintroduction of spring-run Chinook are discussed in more detail below, but may include the issuance of a 10(a)(1)(A) permit that allows for take of the reintroduced fish at the CVP facilities or the issuance of a 4(d) rule that similarly covers incidental take of the reintroduced population.

Where the PEIS/R analyzes impacts from the alternatives, it must consider *all* possible impacts. Chapter 13 of the PEIS/R purports to analyze hydrology, but the chapter's analysis of water-supply impacts from the alternatives[84] is confusing and appears incomplete. The analysis

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[83] *Id.* at p. 2-1.

[84] *See id.*, Table 13-109, at p. 13-179. Moreover, Table 13-51 shows how narrow the range of alternatives is in the draft PEIS/R: They are all the same except for some variances in actions

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does not break down possible impacts to CVP versus State Water Project (SWP) contractors and does not address all possible impacts from implementation of the SJRRP. This presentation must be improved and re-circulated for additional public review and comment.[85]

6.4 The PEIS/R's discussion of the no-action alternative must include the assessment of projected conditions with implementation of the CVP- and SWP-operations biological opinions.

The draft PEIS/R evaluates a no-action alternative to comply with NEPA's no-action requirement and CEQA's no-project requirement.[86] Under this alternative, the Settlement and Settlement Act would not be implemented, and instead the alternative "includes projected conditions as they would exist in the study area at the end of the PEIS/R planning horizon (2030), including those projects and programs considered reasonably foreseeable by that time."[87] The no-action alternative presented in the draft PEIS/R does not include biological opinions issued in 2008 and 2009 for operation of the CVP and SWP. Nonetheless, the Implementing Agencies explain:

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> Additional simulation is being prepared to assess projected conditions under the No-Action Alternative with implementation of the USFWS 2008 *Biological Opinion (BO) on the Coordinated Operations of the CVP and SWP* (2008 USFWS CVP/SWP Operations BO) and the NMFS 2009 *Final Biological and Conference Opinion on the Long-Term Operations of the CVP and SWP* (2009) NMFS CVP/SWP Operations BO). Results of this assessment will change the anticipated effects of the No-Action Alternative; however, relative impacts and overall impact mechanisms are

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In Reach 4B1 and in how recapture might happen below the Merced River. (Chapter 13, at p. 13-71.)

[85] *See* 40 C.F.R. § 1502.8 (requiring presentation of EIS in plain language so the public can readily understand); *see also* Section 8 below, describing all of the types of impacts the Authority members may suffer as a result of implementation of the SJRRP.

[86] Draft PEIS/R, Summary, at p. 47, Chapter 2, at pp. 2-7, 2-11.

[87] *Id.*, Chapter 2, at p. 2-7.

not anticipated to change with the results of this assessment. Results of this assessment will be provided in the Final PEIS/R.[88]

Though the PEIS/R anticipates the results of this assessment will change the effects of the no-action alternative, the draft PEIS/R falls far short of explaining the extent or type of anticipated changes. It also improperly fails to explain the relationship between the biological opinions and the SJRRP. The PEIS/R fails to provide any of the underlying facts and analysis that would support its conclusion. And, the information contained in the draft EIS/R would lead one to conclude just the opposite. For example, the draft EIS/R indicates the majority of water from the SJRRP will be available for recapture and recirculation in April, a period of high regulation under the 2008 and 2009 biological opinions.[89]

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The PEIS/R's failure to explain or support the basis for its conclusion of no impacts, and its failure to include the assessment, constitutes a failure to disclosure information vital to the potential impacts of the SJRRP. This deprives the public of its right to comment on the basis for the conclusion or the adequacy of the assessment. It is wholly inadequate to delay release of this information, after the public's opportunity to review and comment is done and past. The PEIS/R must be revised to include this significant information and recirculated for further public review.

7. The Draft PEIS/R Provides Inadequate Analysis and Mitigation of Potential Impacts, Thus Failing to Satisfy the No-unmitigated-harm-to-third-parties Requirement.

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NEPA and CEQA require full analysis of potential impacts for the whole project, including direct, indirect, secondary, and cumulative impacts, and both short-term and long-term.[90] The draft PEIS/R does not do that. The draft PEIS/R fails in at least _ regards to analyze the impacts of the SJRRP on water supply.

First, the draft PEIS/R makes general statements and renders conclusions without clear explanation or support and so fails as an informational document. For example, the draft

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[88] *Id.* at p. 2-11.

[89] *Id.*, Chapter 13, at p. 13-179.

[90] Cal. Pub. Resources Code § 21100(b)(1); CEQA Guidelines § 15126.2; *see also* CEQA Guidelines §§ 15064(d), 15358(a)(2), 15165; 42 U.S.C. § 4332(2)(C); 40 C.F.R. § 1508.8.

PEIS/R's chapter on surface-water supplies opens with the following statement: "Implementing the action alternatives would change surface water supplies and facilities operations of the San Joaquin River from Friant Dam to the Delta, in the Delta, and in the CVP and SWP water service areas."[91] Yet, though the authors of the draft PEIS/R go to some lengths to identify specific subareas within the overall study area, the draft PEIS/R fails to address water-supply impacts with anything approaching that same level of specificity. There is no doubt that there will be changes, but a statement like this, with little or no further explanation in the environmental document, is meaningless. The Implementing Agencies may cite to appendices in attempt to "cure" the defect. That too fails. The Implementing Agencies may not rely on in-document references to appendixes or other sources for explanation[92]; the draft PEIS/R itself must summarize the data, describe the potential impacts in detail, and explain specifically how impacts will be mitigated.[93]

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[91] Draft PEIS/R, Chapter 13, at p. 13-1; *see also* p. 13-70 (same statement, leading the discussion of environmental "consequences").

[92] As it does throughout Chapter 13, with its many references to Appendix J. The draft PEIS/R claims to summarize "potential surface water supplies" "at the end of this chapter [13]," but no meaningful summary is found.

[93] 40 C.F.R. § 1502.21; *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 100 n.12 (1983); *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 811 (9th Cir. 1999) (concluding that impacts analysis was inadequate because it was "very broad and general statements devoid of specific, reasoned conclusions"); *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova*, 40 Cal.4th 412, 442 (2007) ("a reader ... could not reasonably be expected to ferret out an unreferenced discussion in [another document], interpret that discussion's unexplained figures without assistance, and spontaneously incorporate them into the [current environmental review]. The data in an EIR must not only be sufficient in quantity, it must be presented in a manner calculated to adequately inform the public and decision makers, who may not be previously familiar with the details of the project. Information scattered here and there in EIR appendices or a report buried in an appendix, is not a substitute for a good faith reasoned analysis." [internal quotations and cites omitted]); *accord* Kostka & Zischke, Practice Under the California Environmental Quality Act (CEB 2d ed.) section 11.25 ("When an EIR incorporates material from a document by reference, it must summarize the incorporated portions of the document [or], if that is not possible, briefly describe the data being incorporated [citing Cal. Pub. Res. Code section 21061, CEQA Guidelines, section 15150(c)].... [I]t must give the reader an adequate road map to the information that it intends to convey [*citing Vineyard at 442; Emmington v. Solano County Redev. Agency*, 195 Cal.App.3d 491, 502 (1987) (suggesting that absence of summary of information that is incorporated by reference is fatal if it results in incomprehensible environmental document)]").

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Second, the draft PEIS/R's analysis of water supply impacts is not based on a proper description of the relevant thresholds of significance. Chapter 13 of the draft PEIS/R states the thresholds of significance for impacts to surface water supplies and facilities operations based on CEQA's Appendix G environmental checklist, which thresholds also encompass the factors taken into account under NEPA.[94] This statement of thresholds of significance under CEQA and NEPA ignores the Settlement Act's mandate of no harm to third parties. To comply with this requirement, the PEIS/R must analyze water supply impacts based on a significance threshold that acknowledges that any adverse impacts to third parties are significant.

SLDMWA-29d

Third, Chapter 13 and the tables contained therein presents information on the impact of the SJRRP on hydrology within the study area. Critical information is nonetheless absent. Chapter 13 spends over 65 pages describing existing environmental conditions, including specific subareas within the study area, but fails to approach the impacts analysis with a reasonable level of specificity. The impacts analysis itself, starting in section 13.3, all but ignores the subareas. There is no recognizable comparison of existing-versus-projected water supplies within the subareas. There is no meaningful recognition of potential water-supply reductions specific to non-Friant CVP and SWP contractors.

Though Tables 13-109 and 13-110 and Figures 13-74 and 13-75 attempt to analyze water-supply impacts on the overall study area, they fall short of a legally adequate analysis of hydrology. That information does nothing to explain if the SJRRP will impact the water supply of the Authority's members. Absent from these tables and figures and the Chapter as a while is any data or analysis that considers hydrologic impacts to all study areas. There is nothing that discusses potential impacts to "other CVP and SWP contractors" identified in the chapter.[95] The PEIS/R must comparing the water supply for the Authority members without the SJRRP against the water supply for the Authority members with the SJRRP. In other words, the PEIS/R must comparison of with- and without-SJRRP water allocations. This failure is particularly curious, as the Authority has raised its concerns with the potential impacts of the SJRRP to the water supply of the Authority's members for years.

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The failure to analyze potential impacts to the Authority's member agencies render the draft PEIS/R wholly insufficient. The draft PEIS/R must be revised to provide the substance that it omits, and the revised draft must be recirculated for public review and comment. That is particularly the case since the SJRRP, as it is currently proposed, will cause significant impacts to the Authority's members. The defects in the draft EIS/R allow the Implementing Agencies to "unknowingly" approve the Proposed Project without realizing that the SJRRP does not adhere to the no-unmitigated-harm-to-third-parties principle and will in fact cause significant impacts.

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[94] Draft PEIS/R, Chapter 13, at p. 13-75.

[95] *Id.* at p. 13-74.

7.1 The draft PEIS/R provides inadequate analysis and mitigation of water-supply impacts.

The PEIS/R does not adequately analyze the possibility of reduced water supplies to third parties like the Authority members; nor does it propose adequate mitigation if those impacts result.

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7.1.1 Reclamation's own data and modeling show that the SJRRP, as proposed, will affect flood flows and decrease the Authority members' water supply.

Reclamation admits that the Proposed Project study-area comprehends the service areas of third parties, including the Authority, and purports to analyze the potential for reduced water supplies on the third parties. Whether Reclamation conducted that analysis is not evident from the text of the draft PEIS/R. It may be buried within in appendix, but the draft PEIS/R does not reflect it, which is a defect in and of itself.[96] Furhter, data obtained by the Authority belie the PEIS/R's conclusion: Absent a change in the SJRRP (changes in the project or mitigation measures), third parties will in fact suffer substantial reductions in their water supplies, reductions that at times will be even more harmful than what the Friant Division contractors will experience. This is a significant and material impact, which the PEIS/R must address head on and for which it must avoid or provide full mitigation.

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As the Authority has previously explained on numerous other occasions, the reduction in flood flows in the San Joaquin River reduces the quantity of water available to members of the Authority members in many years. Flood flows occurring below Friant Dam that reach the Mendota Pool have historically been used to meet the demands of the San Joaquin River Exchange Contractor Water Authority members.[97] When that occurs, more water is available in San Luis Reservoir to meet the demands of the Authority's member agencies. Flood flows historically have allowed for as much as a 25 percent increase in contract allocations to the Authority's member agencies.

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[96] See footnote 93.

[97] The draft PEIS/R acknowledges that flood flows reach the Mendota Pool only during periods of flood management releases and that flood flows in the San Joaquin and/or Kings rivers occurred at the Mendota Pool in 1997, 2001, 2005, and 2006. Draft PEIS/R, Chapter 13, at p. 13-18. But the draft PEIS/R fails to analyze the impacts of changes to these flood flows on third parties.

The results of modeling performed by Reclamation show that in many years the changes proposed by Reclamation will change the timing or reduce the quantity, or both, of flood flows in the San Joaquin River. These effects on flood flows are a result of the release of previously stored water to meet the Restoration Goals of the SJRRP. The SJRRP-related releases occur much earlier in the Water Year than the releases that would otherwise occur for the benefit of the entities that contract for water from Friant Dam. Thus, while absent the SJRRP all of the previously stored water that is the subject of the SJRRP would have remained in storage at Millerton Reservoir or would have been diverted into the Madera and Friant-Kern canals for consumptive use in the Friant Division service area of the CVP,[98] that circumstance, even if accurate, is meaningless unless considered in context with the fact that the SJRRP will alter the timing and magnitude of reservoir storage and the magnitude and duration of San Joaquin River instream flows.[99] As a result of the earlier releases of "previously stored" water

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[98] *E.g., id.*, Chapter 28, at p. 28-26 (describing Interim and Restoration Flows as being "made available through the release of previously stored water at Friant Dam"); *see also* Supplement to Reclamation's Petitions for WY 2012 Temporary Transfer, p. 11.

[99] *E.g.*, Draft PEIS/R, at pp. 8-23 ("Release of Interim and Restoration flows from Friant Dam would alter the timing and magnitude of fluctuations in reservoir elevations in Millerton Lake"), 10-37 ("Reoperating Friant Dam to release Interim and Restoration flows could change the timing, frequency, and duration of fluctuations in the water level of Millerton Lake"; "Reoperating Friant Dam to release Interim and Restoration flows would change the timing, frequency, duration, and volume of flows in the San Joaquin River and bypasses"), 10-40 (similar), 14-24 (acknowledging that changes in operations of Friant Dam would change timing and location of flows), 20-25 ("The reoperation of Friant Dam would increase water volume and change the timing of water flows in the San Joaquin River"), 21-21 ("Implementing the action alternatives [which include the Proposed Project] would ... change[] ... reservoir elevations at Millerton Lake [and] reestablish[] or change[] ... flows in the reaches of the San Joaquin River within the Restoration Area"), 25-16 ("Reoperating Friant Dam could ... alter[] the timing and extent of drawdown of Millerton Lake"); *see also* Draft PEIS/R, Chapter 13, at pp. 13-1 ("Implementing the action alternatives would change surface water supplies and facilities operations of the San Joaquin River from Friant Dam to the Delta, in the Delta, and in CVP and SWP water service areas"); 13-70 ("Implementing the action alternatives would change surface water supplies and facilities operations of the San Joaquin River from Friant Dam to the Delta, in the Delta, and in CVP and SWP water service areas"); Supplement to Reclamation's Petitions for WY 2012 Temporary Transfer, p. 4; Water Year 2010 Interim Flows Project Final Environmental Assessment/Initial Study, Attachment 1, Water Operations Modeling Output – CalSim, pp. 1-1 through 1-4 (providing modeling results for changes to end-of-the-month storage in Millerton Reservoir).

for the implementation of the SJRRP, the quantity of flood flows that reach the Mendota Pool is reduced and therefore reduces water-supply allocation to the Authority members.[100]

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In the years when changes in Millerton Reservoir release patterns occur, the impact to the water supply available to the Authority members can be significant — and under some conditions will actually exceed the adverse impacts that will fall on the Friant Division contractors themselves. For example, modeling preformed by Reclamation indicates that in Water Years classified as "Wet," the Authority's members will be impacted by at least 95,000 acre-feet of water, while the impact to the Friant Division contractors will be just 10,000 acre-feet — less than 11 percent of what the Authority's members will suffer. The following table compares the average impact to the Authority members with the average impact to the Friant contractors:

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[100] *See also* Draft PEIS/R, Chapter 3, at p. 3-5 ("peak flood flows may be reduced under Project Conditions in Reaches 1 and 2 because there is more storage available in Millerton Reservoir"); Draft PEIS/R, Appendix I, at p. 3-42 (SJRRP is apparently "expected to result in reduced Millerton release with changes in flood control operations and possible contractor deliveries").

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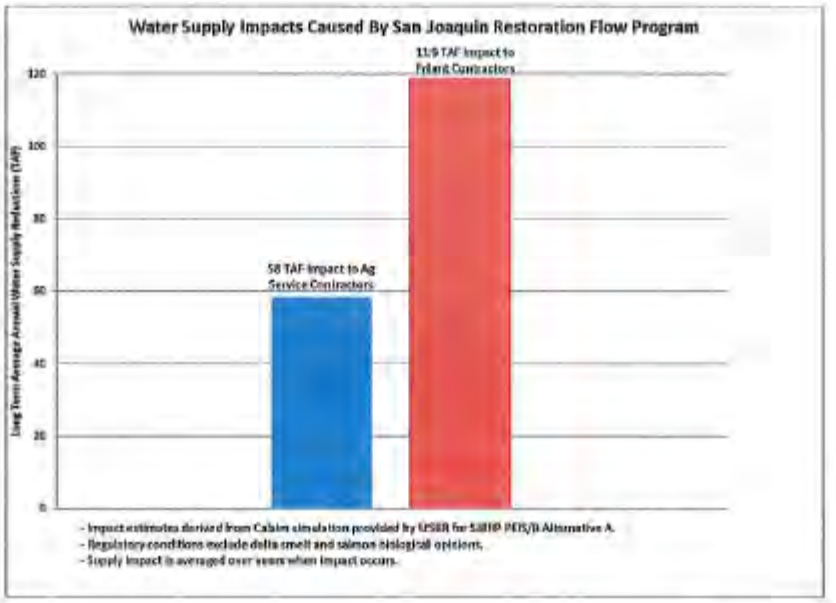

The table above, which again is derived from modeling performed by Reclamation — not the Authority — unequivocally shows that implementation of the SJRRP will significantly and adversely impact the Authority's members.[101]

A second table is presented below. It shows by Water-Year type the impact that the Authority's members will suffer and demonstrates that there is a substantial risk that in the

[101] These tables were prepared using data provided to the Authority by Reclamation. A copy of the data is included herewith as Exhibit E (a CD).

2012 Water Year alone the SJRRP will cause the Authority members to suffer a water supply impact.[102]

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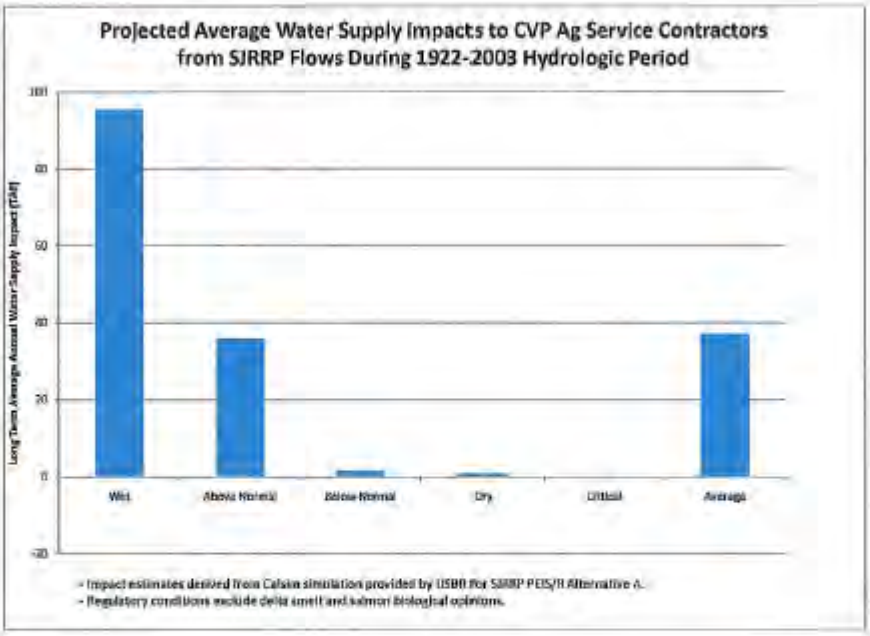

T. Brandman, SLDMWA
9/7/2011

The end result, as modeling performed by Reclamation shows, is that the release of previously stored water under the SJRRP will harm the members of the Authority. The draft PEIS/R does not include the data and analysis in a form readily available to the decision makers or the public. The Implementing Agencies must meet their burden of providing a robust and rigorous analysis. It is insufficient to do as Reclamation did last year in its supplemental environmental assessment for the Interim Flows and simply quote section

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[102] Please note that, as the tables reflect, the average impact shown in the first table is based on only those years in which an impact will occur, while the average impact shown in the second table is based on all years modeled. That difference in averaging period explains the difference in the 58,000 acre-foot average impact in the first table and the 38,000 acre-foot average impact in the second table.

SLDMWA-30d

10004(f) of the Settlement Act and state that the Proposed Project will "be implemented consistent with the [Settlement] Act" — without saying *how* or including an express, detailed definition of what constitutes harm — and merely conclude that it will "not involuntarily reduce non-Friant Division contract water allocations."[103] The Implementing Agencies must present in the PEIS/R a detailed discussion of how changes in flood flows may impact the water supply of the Authority's members and either redefine the SJRRP to ensure those impacts are avoided or to provide the Authority's members full mitigation.

SLDMWA-30d cont'd

7.1.2 The PEIS/R must analyze and mitigate the potential reduction in third-party water supplies caused by reductions to New Melones Dam releases.

The PEIS/R ignores the SJRRP's potential to reduce releases from New Melones Dam that in the past were needed to maintain water quality downstream and the possibility of a consequential reduction in third-party water supplies. Current operations for water quality require New Melones Dam releases to meet water-quality objectives measured at Vernalis, California. During certain periods, release of that water results in additional water available to be pumped from the Delta by the CVP and SWP. As a result of flows under the SJRRP, New Melones Dam releases could be reduced by a like amount of flows under the SJRRP to meet the water-quality objectives. Under the SJRRP, the Restoration (and Interim) Flows could then be eligible to be recaptured at the CVP and SWP pumping facilities to benefit the CVP Friant Division contractors. If that were the case, the SJRRP would result in a water-supply impact to third parties, as absent the SJRRP flows, the New Melones Dam releases would allow additional water to be pumped by the CVP and SWP. The PEIS/R needs to acknowledge this potential impact, recognize that it would constitute a harm to third parties that is prohibited by the Settlement and Settlement Act, consider alternatives that would avoid this harm, and provide full mitigation if the harm occurs.

SLDMWA-31

7.1.3 The SJRRP could affect water quality in the Mendota Pool.

The SJRRP will likely exacerbate the severity and frequency of water-quality problems in the Mendota Pool, which in turn affect how third parties are able to access water to which they have a legal right. During 2010 and 2011 operations, water-quality impacts on the Delta-Mendota Canal and Mendota Pool resulted from the Interim Flows as part of the SJRRP. Although Reclamation was eventually able to adjust the manner in which it was implementing the SJRRP to prevent the water-quality conditions from continuing, in the meantime the well pumpers under the Warren Act contracts and Mendota Pool well pumpers had to curtail

SLDMWA-32

[103] Water Year 2010 Interim Flows Project Final Environmental Assessment/Initial Study at p. 96, response to SLDMWA & SWC-5.

pumping during the period of water-quality impacts and so suffered a reduction in their water supply.

SLDMWA-32 cont'd

Last year, the Authority brought this to Reclamation's attention and called for Reclamation to work with it to prepare a water-quality response plan for the Delta-Mendota Canal and Mendota Pool (Water-quality Response Plan) that would prevent this kind of harm to third parties in the future. Together, Reclamation and the Authority did so, and the Water-quality Response Plan so far has done what it was intended to do. The draft PEIS/R must, but currently fails to identify and discuss this adverse impact. Further, because of this demonstrated impact, irrespective of what the draft PEIS/R reflects, the draft PEIS/R must include the Water-quality Response Plan and analyses must show that the Plan will succeed at protecting third parties from water-quality related harm.

7.1.4 The PEIS/R must analyze and mitigate the potential reductions in third-party water supply caused by changes in operation of Delta Facilities.[100]

The PEIS/R fails to adequately describe or mitigate potential impacts arising from changes the SJRRP may cause in operation of Delta Facilities, such as changes in priority to pump, conveyance, or storage facilities, changes in the impact of existing regulations, or changes resulting from new regulations.

7.1.4.1 The SJRRP might result in third parties losing priority access to Delta Facilities.

SLDMWA-33a

The PEIS/R ignores the SJRRP's potential to change operation of Delta Facilities in a way that limits access to pumping, conveyance or storage in Delta Facilities and adversely impacts the water supply of the Authority's members. Specifically, the PEIS/R fails to adequately explain how flows under the SJRRP will not be allowed to take precedence in Delta Facilities over water that benefits the Authority's members. Given the limited capacity of the Delta Facilities to pump, convey and store water, Reclamation must ensure that recapture of flow under the SJRRP through Delta Facilities is pumped, conveyed and stored only after (1)

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[100] "Delta Facilities" in this comment letter means those existing and future Central Valley Project and State Water Project facilities in and south of the Sacramento-San Joaquin Rivers Delta, including, but not limited to, the C. W. Jones Pumping Plant, Delta Mendota Canal, O'Neill Forebay, O'Neill Pumping/Generating Plant, San Luis Reservoir, Clifton Court Forebay, Harvey O. Banks Pumping Plant and the California Aqueduct. The PEIS/R should adopt this definition.

SLDMWA-33a cont'd

all water that is available to the Authority members and other affected third parties and (2) all water is conveyed that might be required to mitigate for third-party water-supply reductions from the SJRRP. The PEIS/R should include a clear statement of commitment and limitation explaining that any water needed to meet demand south of the Delta must have priority access to Delta Facilities, ahead of any SJRRP water, be it Interim, Restoration, Recirculation, or other.

The draft PEIS/R provides that use of Delta Facilities for recirculation will be "subject to available capacity and then-existing operational constraints within CVP/SWP storage and conveyance facilities."[105] That provision is not adequate. The PEIS/R must clearly state that use of Delta Facilities for SJRRP purposes is subordinated to use of Delta Facilities for the benefit of the Authority's members. The PEIS/R must state that Delta Facilities will be used for the SJRRP only if and to the extent that they are not needed to convey or store water for the benefit of the Authority's members. To ensure that that protection exists, the Authority requests that the PEIS/R define available capacity as follows:

> *Available capacity* is the capacity that is available after satisfaction of all statutory and contractual obligations to make deliveries through Delta Facilities, including but not limited to:
>
> (1) obligations related to Level 2 and Level 4 refuge water supplies,
>
> SLDMWA-33b
>
> (2) obligations under existing or future water service, exchange, and other settlement contracts to Central Valley Project contractors entitled to Central Valley Project water through Delta Division facilities,
>
> (3) all obligations under existing or future transfer, exchange, or other agreements involving or intended to benefit Central Valley Project and/or State Water Project contractors served water through Delta Division facilities, including the Environmental Water Account, Yuba Accord, or similar programs,
>
> (4) obligations under existing or future long-term water supply contracts involving State Water Project contractors served State Water Project water through Delta Division facilities, and
>
> (5) all water delivery obligations established by the State Water Project Water Supply Contracts, including, but not limited to, the categories of deliveries set forth in Article 12(f) of such contracts.

[105] Draft PEIS/R, Summary, at p. 26, Chapter 2, at pp. 2-31, 2-36.

SLDMWA-33b cont'd

Delta Facilities in this PEIS/R means those existing and future Central Valley Project and State Water Project facilities in and south of the Sacramento–San Joaquin Rivers Delta, including, but not limited to, the C.W. Jones Pumping Plant, Delta–Mendota Canal, O'Neill Forebay, O'Neill Pumping/Generating Plant, San Luis Reservoir, Clifton Court Forebay, Harvey O. Banks Pumping Plant and the California Aqueduct.

7.1.4.2 The SJRRP could cause regulatory limits to be triggered earlier, thus impairing the ability to deliver water to third parties.

SLDMWA-33c

The CVP and SWP are significantly regulated pursuant to the federal Endangered Species Act. The PEIS/R does not take into account the significant effect that the SJRRP might have on the ability of Reclamation and the DWR to comply with those regulations. It fails to analyze potential indirect impacts from any potential increased regulatory burdens, for example, resulting from the increased take of listed species that could occur when implementing the Proposed Project. For instance, if the SJRRP results in additional pumping at the Jones or Banks pumping plants and that additional pumping causes increases to the incidental take of fish authorized under a biological opinion (i.e., Delta smelt, winter run salmon, etc.), that take could contribute to Reclamation and DWR reaching or exceeding take limitations imposed in a biological opinion sooner then they would absent the SJRRP. Under those circumstances, the SJRRP could foreclose the ability of Reclamation to deliver water to the Authority that would otherwise be delivered in the absence of the SJRRP. The PEIS/R provides scant discussion of this potential harm or, just as important, how exactly the Implementing Agencies will avoid it or fully mitigate it.

7.2 The PEIS/R must analyze and mitigate the potential impacts, including increased regulatory burden, caused by the reintroduction of spring-run Chinook.

SLDMWA-34a

In the draft PEIS/R, the Implementing Agencies must analyze and explain how the SJRRP will comply with the requirements of Sections 10004 and 10011 of the Settlement Act, which mandates that the reintroduction of spring-run Chinook will have no more then a de minimus impact on the Authority's members. Although future agency actions relating to the reintroduction must ensure the reintroduction will not impact the Authority's members, the regulatory burden associated with these actions must be analyzed now, in the PEIS/R. The PEIS/R must consider issuance of a 10(a)(1)(A) permit, the 10(j) designation of an experimental spring-run Chinook population, and the issuance of a 4(d) rule governing incidental take of the reintroduced population. The PEIS/R cannot leave the analysis of these regulatory actions for a later date.

7.2.1 10(a)(1)(A) Permit for Beneficial Action

The U.S. Fish and Wildlife Service (FWS) submitted a 10(a)(1)(A) permit application to the National Marine Fisheries Service (NMFS) on September 29, 2010. Under the Settlement, NMFS is required to issue a decision on the permit application no later than April 30, 2012. This application suffers from several shortcomings and should be revised, or the permit that is granted should go beyond the existing application and remedy these problems.

SLDMWA-34a cont'd

A 10(a)(1)(A) Enhancement of Species Permit would allow FWS to collect listed Central Valley spring-run Chinook salmon for purposes beneficial to the species and would be coupled to a decision to designate an experimental population under section 10(j) of the ESA. Although the Settlement Act requires the agencies to ensure that the reintroduction of spring-run Chinook does not cause a reduction in contract water allocations, the 10(a)(1)(A) permit application that has been submitted does not address how the agencies will provide that assurance. The Permit Application acknowledges that "[t]he proposed action [reintroduction of spring-run Chinook] would result in both direct and incidental take to the donor stock populations and losses to the conservation stock."[106] However, it does not address incidental take of fish after they have been released (i.e., take that may occur at Delta Facilities), the so-called experimental population. If a take occurs in the Delta that is not anticipated or accounted for in the Permit, that take might be used to justify the imposition of restrictions on Reclamation's operation of the CVP and DWR's operation of the SWP. The take of experimental stock thus has the potential to result in water-supply impacts to the Authority's members.

Migration of smolts out of the San Joaquin River and through the Delta is necessarily a part of the SJRRP. Since that migration may involve incidental take at Delta Facilities, the 10(a)(1)(A) permit should provide coverage for such take. FWS and NMFS should consider this approach to ensure that reintroduction is authorized in a manner that results in no adverse impacts to CVP contractors. This type of take authority and associated impacts must be analyzed in the PEIS/R.

7.2.2 10(j) Designation and 4(d) Rule

SLDMWA-34b

Section 10(j) of the ESA governs the reintroduction of spring-run Chinook populations as experimental populations. Section 10(j) defines "experimental population" as "any population (including any offspring arising solely therefrom) authorized by the Secretary for

[106] Permit Application at p. 79.

release under paragraph (2), but only when, and at such times as, the population is wholly separate geographically from nonexperimental populations of the same species."[107]

Coupled with the 10(j) designation, the Secretary of Commerce will issue a final rule under ESA section 4(d) regarding incidental take of the experimental spring-run Chinook population. ESA section 4(d) allows NMFS to specify by regulation the extent and conditions under which the take prohibition in ESA section 9 will and will not apply to take of spring-run Chinook.[108]

SLDMWA-34b cont'd

The 4(d) Rule provides another means of ensuring that there will be no water-supply impacts from reintroduction. However, NMFS has suggested that the 4(d) Rule will not authorize take of reintroduced fish once they leave the San Joaquin River and move into the Delta. During the February 8, 2011 workshop on Permitting for the Reintroduction of Spring-Run Salmon to the San Joaquin River, co-presented by FWS and NMFS, the NMFS Program Manager expressly stated that take authorization of the planned 4(d) Rule would not apply to the reintroduced fish once they have migrated into the Delta. If that is the position of the NMFS, it must be reconsidered given the legal authorization and direction Congress provided NMFS in the Settlement Act. And, if it remains, the draft PEIS/R must consider the substantial impacts that position may have on the water supply of the Authority members and the resulting socioeconomic and environmental impacts caused by water supply shortages.

7.3 The draft PEIS/R does not discuss potential socioeconomic and environmental impacts that would be caused if the Authority members are injured.

As has been discussed at length above, in its current form the SJRRP will likely result in the Authority's members receiving less water then they would receive absent the SJRRP. If this happens, farmers served by the Authority's members might then fallow land and or pump more groundwater. Both actions have potentially significant adverse socioeconomic and environmental impacts.

SLDMWA-35a

A response by farmers to reduced surface supplies might be to fallow land. As lands are taken out of production, farm worker jobs are lost. Land fallowing also impacts employment in agriculture-related businesses, like packing sheds and processing plants. When land fallowing

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[107] 16 U.S.C. § 1539(j)(1).

[108] *See* Settlement, ¶ 14(a); Settlement Act, § 10011(e)(2).

SLDMWA-35a cont'd

extends to permanent crops, long-term investments are lost as well. Fallowed fields also negatively impact the air quality of the San Joaquin Valley and could potentially impair major transportation routes through the valley, including Interstate 5. Fugitive-dust emissions from fallowed fields have contributed to the exceedence of ambient air-quality standards for particulate matter.

SLDMWA-35b

As surface supplies decrease, groundwater use often increases, which in turn increases the risk that the groundwater basin will be overdrafted. As overdraft occurs, land may subside. Over the centuries, the ground-surface elevation of the west side of the San Joaquin Valley was established by the deposition of sedimentary soils. Much of the space between the soil particles in the sediments is naturally filled with water. When water is removed from the spaces between the soil particles, the silt and clay soils compact into a smaller volume than they previously occupied. Once the water holding capacity of the underground materials has been reduced, as a result of compaction of the materials, the damage is permanent. This results in subsidence of the ground surface in the area where the water has been extracted. Subsidence is a part of the history of the San Joaquin Valley and may be the cause of damage to water conveyance facilities (i.e., canals) and wells.

SLDMWA-35c

The PEIS/R gives too little attention to these potential impacts of the SJRRP and should acknowledge them, analyze them, and redesign the SJRRP to avoid the impacts or, if they are not avoidable, to fully mitigate for them, as required under NEPA, CEQA, the Settlement and the Settlement Act.

8. Conclusion

SLDMWA-36

The draft PEIS/R fails to meet its obligations under NEPA, CEQA, the Settlement and the Settlement Act, and thus violates federal and state law. The draft PEIS/R must include a legally adequate project description that describes all major components necessary for the SJRRP, and it must thoroughly analyze all potential impacts from all connected actions of the SJRRP. The draft PEIS/R must also analyze a reasonable range of alternatives that can avoid or mitigate any potential environmental impacts. The shortcomings of the draft PEIS/R must be remedied by recirculating a new draft PEIS/R that ensures the SJRRP will be implemented without impacts to third parties, and, if or where those impacts cannot be voided, acknowledges harms to third parties and fully mitigates for them.

SLDMWA-36 cont'd

The Authority looks forward to reviewing a revised and recirculated draft PEIS/R which complies with federal and state law.

Sincerely,

Jon D. Rubin

cc: Dan Nelson

Responses to Comments from San Luis and Delta-Mendota Water Authority

SLDMWA-1: The Settlement and the Act present separate and distinct requirements from NEPA and CEQA requirements for evaluating environmental impacts. Reclamation is committed to implementing the SJRRP to meet Settlement requirements while meeting Third-Party protections provided in the Act. Additionally, nothing in the Settlement or the Act prevents full disclosure of environmental impacts under NEPA and CEQA, whether or not such impacts adversely affect Third Parties.

Section 10004(d) of the Act states the following:

> *(d) MITIGATION OF IMPACTS. – Prior to the implementation of decisions or agreements to construct, improve, operate, or maintain facilities that the Secretary determines are needed to implement the Settlement, the Secretary shall identify –*
>
> *(1) the impacts associated with such actions; and*
>
> *(2) the measures which shall be implemented to mitigate impacts on adjacent and downstream water users and landowners.*

The completion of the PEIS/R as part of the NEPA process fulfills Reclamation's obligations under this section of the Act.

Section 10004(f) of the Act states the following:

> *EFFECT ON CONTRACT WATER ALLOCATIONS.—Except as otherwise provided in this section, the implementation of the Settlement and the reintroduction of California Central Valley Spring Run Chinook salmon pursuant to the Settlement and section 10011, shall not result in the involuntary reduction in contract water allocations to Central Valley Project long-term contractors, other than Friant Division long-term contractors.*

Section 10004(g) of the Act states the following:

> *EFFECT ON EXISTING WATER CONTRACTS.—Except as provided in the Settlement and this part, nothing in this part shall modify or amend the rights and obligations of the parties to any existing water service, repayment, purchase or exchange contract.*

Reclamation, SLDMWA, and FWA have been meeting to address concerns expressed in this comment and to develop a Recapture and Recirculation Plan as called for in Paragraph 16(a) of the Settlement and Section 10004(a)(4) of the Act. Regular and frequent Water Management Technical Feedback Group meetings have been occurring with both Friant Division long-term contractors and non-Friant Division south-of-Delta water service contractors. These meetings discuss methods to achieve the Water Management Goal of the Settlement.

Section 10004(h)(3) of the Act states:

> *(3) SEEPAGE IMPACTS.—The Secretary shall reduce Interim Flows to the extent necessary to address any material adverse impacts to third parties from groundwater seepage caused by such flows that the Secretary identifies based on the monitoring program of the Secretary.*

Implementation of the Seepage Monitoring and Management Plan, and specifically, the action to reduce Interim Flows to the extent necessary to address any material adverse impacts to Third Parties, will fulfill Reclamation's obligations under this section of the Act. Reclamation will continue to coordinate through the Seepage and Conveyance Technical Feedback Group meetings to obtain feedback and to implement long-term solutions to the implementation of the SJRRP in relation to potential seepage impacts.

Third-Party concerns are further addressed in MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R. See MCR-6 for additional information relevant to this comment.

SLDMWA-2: Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, describes the action alternatives; subsequent sections of Chapter 2.0 describe the range of potential implementation of these actions. As described further 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, the description of alternatives presented in Chapter 2.0 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. See MCR-5 for additional information relevant to this comment. For the reasons set forth above and in MCR-5, Reclamation and DWR believe that the Draft PEIS/R provides an accurate and complete description of the proposed project and alternatives.

SLDMWA-3: The PEIS/R includes an analysis of both the long-term SJRRP and the connected actions as discussed in Section 1.2.3, "Type of Environmental Document," of the Draft PEIS/R on pages 1-9 through 1-11. 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 PEIS/R evaluates potential direct, indirect, and cumulative impacts of the whole of the SJRRP on the environment at a program level that could result from implementing the Settlement consistent with the Act. The 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 PEIS/R includes feasible mitigation measures to avoid, minimize, rectify, reduce, or compensate for significant adverse impacts. See 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. For the reasons set forth above and in MCR-4, Reclamation and DWR do not believe that segmentation of impacts has occurred.

SLDMWA-4: The range of alternatives considered in the PEIS/R was developed based on 40 CFR 1502.14 of the NEPA Regulations, which states an EIS is required to "[r]igorously explore and objectively evaluate all reasonable alternatives," and Section 15364 of the State CEQA Guidelines, which states an EIR is required to "consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation." Under CEQA, the term feasible means "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors" (see State CEQA Guidelines Section 15364). The Act authorizes and directs the Secretary to implement the terms and conditions of the Settlement in cooperation with the State of California. Although CEQ has indicated that under NEPA there are conditions in which compliance with the law does not necessarily make an alternative unreasonable, in this case the Act and the Settlement have come after 18 years of legal dispute and negotiation. Therefore, the PEIS/R evaluates alternative approaches to implement the provisions of the Settlement. See MCR-5, "Adequacy of Purpose and Need, and Range of Alternatives Under NEPA/CEQA," in Chapter 2.0, "Master Comment Responses," of the Final PEIS/R for additional information relevant to this comment. For the reasons set forth above and in MCR-5, Reclamation and DWR believe that the Draft PEIS/R provides a reasonable range of alternatives.

SLDMWA-5a: The comment does not provide evidence as to what impacts the commenter believes were "ignored"; therefore, Reclamation and DWR cannot respond with specificity to this comment. With regards to the comment that the PEIS/R only provides a "superficial" analysis, Reclamation and DWR note that Chapters 4.0 through 26.0 of the Draft PEIS/R together contain substantial analysis of all program- and project-level actions of the SJRRP as a whole, supported by further data and methodology presented in the appendices of the Draft PEIS/R. 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. As discussed in Section 1.2.3, "Type of Environmental Document," of the Draft PEIS/R on pages 1-9 through 1-11, the PEIS/R evaluates potential direct, indirect, and cumulative impacts of the whole of the SJRRP on the environment at a program level that could result from implementing the Settlement consistent with the Act. The 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 PEIS/R includes feasible mitigation measures to avoid, minimize, rectify, reduce, or compensate for significant adverse impacts. See also MCR-4, "Segmentation Under NEPA and CEQA," and MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R for additional information relevant to this comment. For the reasons set forth above and in MCR-4 and MCR-6, Reclamation and DWR believe that the PEIS/R provides a thorough, appropriate analysis of all relevant impacts of the Proposed Project and the alternatives as required by NEPA and CEQA. See also response to comment SLDMWA-1.

SLDMWA-5b: This comment concludes the previous four comments with a request to correct errors in the Draft PEIS/R and recirculate the Draft PEIS/R. As described in

response to comments SLDMWA-2 through SLDMWA-5a and other comments, the Implementing Agencies have not identified a need to recirculate the Draft PEIS/R. Errors in the Draft PEIS/R have been corrected via errata, presented in Chapter 4.0, "Errata," of this Final PEIS/R. Text has not been revised.

SLDMWA-6: This comment is substantially similar to comment SLDMWA-1. See responses to comment SLDMWA-1. The comment does not raise issues or concerns specific to the environmental analysis presented in 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. See also MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R.

SLDMWA-7a: See response to comment SLDMWA-1. Additionally, the comment does not raise issues or concerns specific to the environmental analysis presented in 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.

As described in MCR-4, "Segmentation Under NEPA and CEQA," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, under NEPA and CEQA the whole of an action must be evaluated in a way and at a time that does not limit the discretion of the lead agency to consider a reasonable range of feasible alternatives and does not compromise the lead agency's authority to approve or deny the proposed project or any alternative. In this case, the entirety of the SJRRP has been described and considered in the PEIS/R. All direct, indirect, and cumulative effects of the entire SJRRP are disclosed in this PEIS/R. Related specific project-level actions that have already been undertaken have been included within the scope of the action and have been analyzed cumulatively with impacts from other past, present, and reasonably foreseeable future projects.

The actions that have been undertaken prior to the completion of this Final PEIS/R and associated decision documents have independent utility, while also potentially serving as essential first steps that contribute to the implementation of the Settlement. None of the actions taken to date, such as release of Interim Flows, data collection, and monitoring, commit the Implementing Agencies to undertaking any other part of the SJRRP; they are independent actions that benefit SJRRP if it is approved, as well as benefiting other programs, such as DWR's NULE Project. See MCR-4 and MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0 of this Final PEIS/R for additional information relevant to this comment. For the reasons set forth above and in MCR-4 and MCR-6, Reclamation and DWR believe that they have complied with the provisions of the Settlement and the Act pertaining to Third-Party impacts.

SLDMWA-7b: Comment noted. SWRCB provided responses to all objections and comments raised by SLDMWA in response to previous water rights applications to SWRCB related to the release of Interim Flows in previous years. Summary descriptions of the objections and comments, and responses are provided in the SWRCB Water Right Orders approving the temporary transfer of water and change pursuant to Water Code

Sections 1725 and 1707 (filed for Permits 11885, 11886 and 11887). The Water Right Orders, and responses to SLDMWA objections and comments contained therein, are available at www.restoresjr.net and at www.waterboards.ca.gov. For responses to comments submitted on related NEPA and CEQA environmental compliance documents prepared in support of the release and recirculation of Interim Flows during previous years, see the final publication of those documents on the SJRRP Web site at www.restoresjr.net. Responses to comments submitted on the USFWS September 29, 2010, *10(a) 1(A), Enhancement of Species Permit Application for the Reintroduction of Central Valley Spring-Run Chinook Salmon into the San Joaquin River* are published in the NMFS *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*, also publicly available on the SJRRP Web site at www.restoresjr.net.

The actions that have been undertaken prior to the completion of this Final PEIS/R and associated decision documents have independent utility, while also potentially serving as essential first steps that contribute to the implementation of the Settlement. None of the actions taken to date, such as release of Interim Flows, data collection, and monitoring, commit the Implementing Agencies to undertaking any other part of the SJRRP; they are independent actions that benefit SJRRP, as well as benefiting other programs, such as DWR's NULE Project. See MCR-4, "Segmentation Under NEPA and CEQA," and MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0 of this Final PEIS/R for additional information relevant to this comment. For the reasons set forth above and in MCR-4 and MCR-6, Reclamation and DWR believe that they have complied with the provisions of the Settlement and the Act pertaining to Third-Party impacts. Text has not been revised.

SLDMWA-8a: The comment does not raise issues or concerns specific to the environmental analysis presented in 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. As a NEPA- and CEQA-compliant document, this PEIS/R presents a reasonable range of alternatives, defined for the purposes of implementing the Settlement consistent with the Act. Further discussion of the selection and range of alternatives is presented 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. The PEIS/R presents an analysis of potential impacts of the alternatives and identifies mitigation measures to mitigate significant or potentially significant impacts to a less than significant level. For more information regarding Third-Party concerns, see also MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0 of this Final PEIS/R.

SLDMWA-8b: Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, describes the action alternatives; subsequent sections of Chapter 2.0 describe the range of potential implementation of these actions. As discussed in detail 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, the description of alternatives

presented in Chapter 2.0 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. Thorough analysis of the action alternatives is presented in Chapters 4.0 through 26.0 of the Draft PEIS/R, with sections dedicated to program- and project-level analyses, as appropriate. These chapters provide a full disclosure of the potential impacts of implementing the action alternatives, and identify feasible mitigation measures, where available, for all significant and potentially significant impacts. For the reasons set forth above and in MCR-5, Reclamation and DWR believe that the Draft PEIS/R provides a reasonable range of alternatives and fully discloses potential impacts. See response to comment SLDMWA-4, and MCR-5 in Chapter 2.0 of this Final PEIS/R for additional information relevant to this comment.

SLDMWA-9: The comment does not raise issues or concerns specific to the environmental analysis presented in 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. As described in detail 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, under CEQA, lead agencies have considerable discretion to articulate and evaluate alternatives that meet the basic objectives of the project. The California Supreme Court addressed this issue in *In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* by stating that "[a]lthough a lead agency may not give a project's purpose an artificially narrow definition, a lead agency may structure its EIR alternative analysis around a reasonable definition of underlying purpose and need not study alternatives that cannot achieve that basic goal." See response to comments SLDMWA-4 and SLDMWA-8 and MCR-5 in Chapter 2.0 of this Final PEIS/R for additional information relevant to this comment. For the reasons set forth in response to comments SLDMWA-4 and SLDMWA-8 and in MCR-5, Reclamation and DWR believe that the Draft PEIS/R complies with CEQA requirements to provide a reasonable range of feasible alternatives that would lessen significant impacts significant impacts.

SLDMWA-10: This comment is substantially similar to comment SLDMWA-1. See response to comment SLDMWA-1.

SLDMWA-11: The comment, along with SLDMWA-12, introduces comments SLDMWA-13 through SLDMWA-17, which in turn allege that the project description contained in the Draft PEIS/R is inadequate because it does not discuss, among other things, the mandated no-harm components of the project, the recirculation plan, and changes to the SJRRP schedule. For the reasons set forth in responses to comments SLDMWA-13 through SDLMWA-17, Reclamation and DWR believe that the PEIS/R contains a thorough, accurate, and stable project description as required by NEPA and CEQA and considers all aspects of the SJRRP to the greatest degree allowable by the best available information.

SLDMWA-12: As described in detail 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, Chapter 1.0, "Introduction," of the Draft PEIS/R identifies the purpose and need of the SJRRP, which are consistent with and responsive to the direction provided to the Secretary in the Act that states, "The Secretary of the Interior is hereby authorized and directed to implement the terms and conditions of the Settlement in cooperation with the State of California." 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 detail in MCR-4, "Segmentation Under NEPA and CEQA," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, the SJRRP is a major program 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 PEIS/R evaluates potential direct, indirect, and cumulative impacts of the whole of the SJRRP on the environment at a program level that could result from implementing the Settlement consistent with the Act. The 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 PEIS/R includes feasible mitigation measures to avoid, minimize, rectify, reduce, or compensate for significant adverse impacts.

As described in Chapter 1.0, "Introduction," of 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 the Draft PEIS/R, after specific project details are identified. The project proponent for subsequent site-specific studies would provide the requested information in the associated NEPA or CEQA environmental documentation, as appropriate to the purposes of those documents, and in compliance with NEPA and CEQA.

Reclamation and DWR believe that the PEIS/R is thorough, complete, and accurate, and no changes to the project description are necessary. See MCR-4 and MCR-5 in Chapter 2.0 of the Final PEIS/R for further information relevant to this comment.

SLDMWA-13: This comment is substantially similar to comment SLDMWA-1. See response to comment SLDMWA-1.

SLDMWA-14: The comment correctly states that the Recapture and Recirculation Plan has only been released in draft form. Therefore, the PEIS/R project description cannot describe the "final" Recapture and Recirculation Plan, because it has not been completed. The draft Recapture and Recirculation Plan was included in the project description and has been analyzed throughout the PEIS/R at program level. 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 in Chapter 1.0, "Introduction," of the Draft PEIS/R, the PEIS/R contains an analysis of the entire SJRRP at a program level. It also includes a more detailed project-level analysis of certain actions associated with the release, conveyance, and recapture of Interim and Restoration flows. 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 potential direct, indirect, and cumulative impacts of the whole of the SJRRP on the environment at a program level 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.

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. In general, the more that is known about the project, the greater the level of detail called for in the 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." See also MCR-4 in Chapter 2.0 of this Final PEIS/R, for additional information relevant to this comment. Since the project description includes the draft Recapture and Recirculation Plan, Reclamation and DWR believe that the PEIS/R is thorough, complete, and accurate, and no changes to the project description are necessary.

SLDMWA-15: The Draft PEIS/R acknowledges that the Settlement's milestone dates may change. For example, the Executive Summary of the Draft PEIS/R states the following: "Table ES-2 shows milestone dates anticipated in the Settlement. The Implementing Agencies are committed to attaining these milestones, as demonstrated by the release of Interim Flows beginning in October 2009; however, these dates may change, pending completion of compliance, coordination, consultation, data collection, and related efforts." As described in more detail in MCR-2, "SJRRP Funding Availability, Sources, and Cost Estimates," 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). 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 is realistic and achievable, and is different from the schedule contained in the Settlement. 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. See MCR-2 for additional information relevant to this comment.

SLDMWA-16: Data collected during the release and recapture of Interim Flows in Water Years 2010, 2011, and 2012 represent the first initial years of Settlement implementation, based on limited flow releases during specific water year types. In contrast, the analyses presented in the Draft PEIS/R are based on a lengthy historical record of conditions within the study area, including 82 years of historical hydrology (1922 through 2003) that closely matches the time period used to determine the water year types used in Exhibit B of the Settlement to identify the flow schedule for Interim and Restoration flows. The use of simulations to evaluate the likely range of environmental responses, in addition to the abbreviated record of actual conditions observed during Interim Flow releases, allow the analysis to capture the likely range of potential environmental responses that could be expected to occur under the known natural variability of the system. This variability cannot be captured in a small number of years, such as those in which Interim Flows have been released to date. For this reason, information collected during the release of Interim Flows to date is not used explicitly or extensively in the PEIS/R to determine the potential impacts of implementing the Settlement.

Reclamation is currently releasing Interim Flows within the range of timing and quantity described in the Draft PEIS/R, and has made modifications to Interim Flows in response to observed and reported conditions within the Restoration Area in a manner consistent with the management responses described in the Draft PEIS/R. Data collected during Interim Flows are reviewed to determine the validity of impact conclusions in the Draft PEIS/R. Data reviewed to date demonstrate that the effects of Interim Flows are within the range of potential effects evaluated and presented in this PEIS/R.

Data collected during the release and recapture of Interim Flows in Water Years 2010, 2011, and 2012 are available at http://www.restoresjr.net. SJRRP annual planning and reporting documents, including the Monitoring and Analysis Plan and the Annual Technical Report, present the data collected during the previous calendar year. The Annual Technical Report describes data collected during the preceding year, presents the results of analyses performed using those data, and identifies information needs. The Monitoring and Analysis Plan uses those data to identify needed studies, monitoring network changes, and analytical tool development for the following year. Together, these documents form a scientific basis for San Joaquin River operations downstream from Friant Dam.

The Monitoring and Analysis Plan provides a framework for the Implementing Agencies to prioritize and consolidate monitoring and analysis proposals into a coordinated program that best meets SJRRP needs within funding limits and other constraints. The RA, in consultation with the Technical Advisory Committee, developed recommendations for the monitoring and assessment actions for 2012. The Implementing Agencies modified monitoring and analysis activities in response to the RA recommendations to the greatest extent possible within the 2012 Monitoring and Analysis Plan process and will continue to develop new plans based on the recommendations as part of the next SJRRP planning cycle.

The Annual Technical Report tracks long-term strategies for SJRRP implementation in problem statements and identifies information needs as uncertainties to be resolved in order to implement the Settlement. The Annual Technical Report allows the Implementing Agencies to present to stakeholders the status and results of technical work to address SJRRP needs and solicit feedback.

SLDMWA-17: The Draft PEIS/R acknowledges that the Settlement milestone dates may change. For example, the Executive Summary of the Draft PEIS/R states the following: "Table ES-2 shows milestone dates anticipated in the Settlement. The Implementing Agencies are committed to attaining these milestones, as demonstrated by the release of Interim Flows beginning in October 2009; however, these dates may change, pending completion of compliance, coordination, consultation, data collection, and related efforts." As described in more detail in MCR-2, "SJRRP Funding Availability, Sources, and Cost Estimates," in Chapter 2.0, "Master Comments Responses," of this Final PEIS/R, the Settling Parties have recently developed a Third-Party working draft *Framework for Implementation* (SJRRP 2012b). 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 is realistic and achievable, and is different from the schedule contained in the Settlement. 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. See MCR-2 for additional information relevant to this comment.

SLDMWA-18: For the reasons set forth in responses to comments SLDMWA-13 through SDLMWA-17, Reclamation and DWR believe that the PEIS/R contains a thorough, accurate, and stable project description as required by NEPA and CEQA.

SLDMWA-19: In 40 CFR 1502.13, the NEPA regulations state that an EIS "shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives, including the proposed action." The purpose and need as stated in Chapter 1.0, "Introduction," of the Draft PEIS/R allow for the identification of project objectives as required under NEPA and the identification and evaluation of a reasonable range of feasible alternatives. The purpose and need and project objectives, as stated on pages 1-13 and 1-14 of the Draft PEIS/R, are adequate under NEPA because they capture the underlying purpose to which the lead agencies are responding in formulating a reasonable range of feasible alternatives. The purpose and need are consistent with and responsive to the direction provided to the Secretary in the Act, which states, "The Secretary of the Interior is hereby authorized and directed to implement the terms and

conditions of the Settlement in cooperation with the State of California." In this way, and as described 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, the purpose and need and project objectives presented in the PEIS/R implement and achieve the balance that is described in the Code of Federal Regulations and interpreted by Federal courts. See MCR-5 in Chapter 2.0 of this Final PEIS/R for additional information relevant to this comment. For the reasons set forth above and in MCR-5, Reclamation and DWR believe that the purpose and need of the proposed action complies with the requirements of NEPA.

SLDMWA-20: Please see Chapter 1.0, "Introduction," of the Draft PEIS/R, for a description of the purpose and need for action and project objectives. The purpose and need for action and project objectives, consistent with NEPA and CEQA, are stated on pages 1-13 and 1-14 of the Draft PEIS/R. As described in detail 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, the purpose and need allow for identifying project objectives as required under CEQA and identifying and evaluating a reasonable range of feasible alternatives. The purpose, need, and project objectives are adequate under both NEPA and CEQA because they capture the underlying purpose to which the lead agencies are responding in formulating a reasonable range of feasible alternatives. The purpose and need are consistent with and responsive to direction provided to the Secretary in the Act, which states, "The Secretary of the Interior is hereby authorized and directed to implement the terms and conditions of the Settlement in cooperation with the State of California." Text has not been revised. For the reasons set forth above and in MCR-5, Reclamation and DWR believe that the purpose and need of the proposed action complies with the requirements of NEPA.

SLDMWA-21: The purpose and need as stated in Chapter 1.0, "Introduction," of the Draft PEIS/R allow for the identification of project objectives as required under NEPA and the identification and evaluation of a reasonable range of feasible alternatives. The purpose, need, and project objectives establish the broad basic purpose and objectives of the SJRRP without overly constraining the range of alternatives that could be developed to achieve the stated purpose and objectives. The purpose and need are consistent with and responsive to the direction provided to the Secretary in the Act, which states, "The Secretary of the Interior is hereby authorized and directed to implement the terms and conditions of the Settlement in cooperation with the State of California."

The description of alternatives presented in Chapter 2.0, "Description of the 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. Thorough analysis of the action alternatives is presented in Chapters 4.0 through 26.0 of the Draft PEIS/R, with sections dedicated to program- and project-level analyses, as appropriate. These chapters provide a full disclosure of the potential impacts of implementing the action alternatives, and identify feasible mitigation measures, where available, for all significant and potentially significant impacts. See 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 for

additional information relevant to this comment. For the reasons set forth above and in MCR-5, Reclamation and DWR believe that the purpose and need and objectives include the requirements of the Settlement and the Settlement Act.

SLDMWA-22: A detailed discussion regarding the CEQ Regulations as they pertain to the issue of segmentation is contained in MCR-4, "Segmentation Under NEPA and CEQA," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R; see MCR-4 for additional information relevant to this comment. Reclamation and DWR believe that all actions that are connected to the SJRRP have been included and analyzed in the PEIS/R, including those for which prior environmental documents have already been prepared. Therefore, the PEIS/R evaluates potential direct, indirect, and cumulative impacts of the whole of the SJRRP on the environment at a program level that could result from implementing the Settlement consistent with the Act. The 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 PEIS/R includes feasible mitigation measures to avoid, minimize, rectify, reduce, or compensate for significant adverse impacts. Therefore, segmentation of the project has not occurred, and no changes to the PEIS/R are necessary. See MCR-4 in Chapter 2.0 of this Final PEIS/R for additional information relevant to this comment.

SLDMWA-23a: A detailed discussion of the CEQA statutes and guidelines regarding "piecemealing" and the requirement of an EIR to evaluate "the whole of the action" is contained in MCR-4, "Segmentation Under NEPA and CEQA," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R. Reclamation and DWR believe that all projects connected with the SJRRP have been included and analyzed in the PEIS/R, and therefore the PEIS/R evaluates potential direct, indirect, and cumulative impacts of the whole of the SJRRP on the environment at a program level that could result from implementing the Settlement consistent with the Act. The 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 PEIS/R includes feasible mitigation measures to avoid, minimize, rectify, reduce, or compensate for significant adverse impacts. Therefore, "piecemealing" has not occurred, and no changes to the PEIS/R are necessary. See MCR-4 in Chapter 2.0 of this Final PEIS/R for additional information relevant to this comment.

SLDMWA-23b: As described in MCR-4, "Segmentation Under NEPA and CEQA," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, under NEPA and CEQA the whole of an action must be evaluated in a way and at a time that does not limit the discretion of the lead agency to consider a reasonable range of feasible alternatives and does not compromise the lead agency's authority to approve or deny the proposed project or any alternative. In this case, the entirety of the SJRRP has been described and considered in the PEIS/R. All direct, indirect, and cumulative effects of the entire SJRRP are disclosed in this PEIS/R. Related specific project-level actions that have already been undertaken have been included within the scope of the action and have been analyzed cumulatively with impacts from other past, present, and reasonably foreseeable future

projects. Actions that have been completed to date have independent utility. The SJRRP in its entirety is not a reasonably foreseeable consequence of the actions already completed. However, the SJRRP is informed through data collection efforts such that the SJRRP can be refined, and the environmental impacts and mitigation disclosed in the PEIS/R can be more precise and accurate with respect to flow-related effects. See response to comment SLDMWA-23a, and MCR-4 in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, for additional information relevant to this comment.

SLDMWA-24: During the preparation of the PEIS/R, several agencies have undertaken actions that have independent utility from the SJRRP, but are included in the PEIS/R project description. These actions have independent utility; however, if combined with other Phase 1 and Phase 2 actions, they would contribute to the achievement of the purpose and need, as described in the Draft PEIS/R. Importantly, the lead agencies for these projects have complied with 40 CFR 1506.1(c) by ensuring that each of these projects (1) is justified independently of the SJRRP, (2) is itself accompanied by an adequate NEPA and/or CEQA document, and (3) will not limit the range of alternatives to be considered in the PEIS/R or prejudice the ultimate decision on the SJRRP.

The actions that have been undertaken prior to the completion of the PEIS/R and associated decision documents, and have independent utility while also potentially serving as essential first steps that contribute to the implementation of the Settlement. None of the actions taken to date, such as release of Interim Flows, data collection, and monitoring, commit the Implementing Agencies to undertaking any other part of the SJRRP; they are independent actions that benefit SJRRP if it is approved, as well as benefiting other programs, such as DWR's NULE Project. The urgency to implement these selected actions prior to completion of the PEIS/R was discussed in detail in the environmental compliance documents completed and certified prior to implementation of these selected actions. While the respective lead agencies have not sought to exempt these actions from NEPA or CEQA, these actions do not represent approval, adoption, or funding of the SJRRP, and also do not commit the Implementing Agencies to any further actions. All reasonably foreseeable SJRRP actions at the time of public scoping are included in the project description and analyzed in the PEIS/R, Further, all actions completed prior to the completion of the PEIS/R, but which are considered to be part of the overall SJRRP, are also included in all action alternatives evaluated in the PEIS/R along with all anticipated actions necessary for implementation of the Settlement. See 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. For the reasons set forth above and in MCR-4, Reclamation and DWR believe that the PEIS/R is in compliance with the requirements of NEPA and CEQA, and that segmentation has not occurred.

SLDMWA-25: With regards to that portion of the comment regarding the project description, see responses to comments SLDMWA-12 through SLDMWA-18. In 40 CFR 1502.13, the NEPA regulations state that an EIS "shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." The correlative language under CEQA relates to the required statement of project objectives about which Section 15124(b) of the State CEQA

Guidelines states: "The statement of objectives should include the underlying purpose of the project." The same section also clarifies that "[a] clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings or a statement of overriding considerations, if necessary." The purpose and need as stated in Chapter 1.0, "Introduction," of the Draft PEIS/R allow for the identification of project objectives as required under CEQA and the identification and evaluation of a reasonable range of feasible alternatives. The purpose and need and project objectives are adequate under both NEPA and CEQA because they capture the underlying purpose to which the lead agencies are responding in formulating a reasonable range of feasible alternatives. The purpose and need are consistent with and responsive to the direction provided to the Secretary in the Act, which states, "The Secretary of the Interior is hereby authorized and directed to implement the terms and conditions of the Settlement in cooperation with the State of California." Under CEQA, lead agencies have considerable discretion to articulate and evaluate alternatives that meet the basic objectives of the project. The California Supreme Court addressed this issue in *In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* by stating that "[a]lthough a lead agency may not give a project's purpose an artificially narrow definition, a lead agency may structure its EIR alternative analysis around a reasonable definition of underlying purpose and need not study alternatives that cannot achieve that basic goal." 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. Thorough analysis of the action alternatives is presented in Chapters 4.0 through 26.0 of the Draft PEIS/R, with sections dedicated to program- and project-level analyses, as appropriate. These chapters provide a full disclosure of the potential impacts of implementing the action alternatives, and identify feasible mitigation measures, where available, for all significant and potentially significant impacts. See 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 for additional information relevant to this comment. For the reasons stated above and in MCR-5, Reclamation and DWR believe that a thorough accurate project description has been provided, and that the purpose, need, objectives, and alternatives have been developed and analyzed appropriately as required by NEPA and CEQA.

SLDMWA-26: As described in MCR-4, "Segmentation Under NEPA and CEQA," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, under NEPA and CEQA the whole of an action must be evaluated in a way and at a time that does not limit the discretion of the lead agency to consider a reasonable range of feasible alternatives and does not compromise the lead agency's authority to approve or deny the proposed project or any alternative. In this case, the entirety of the SJRRP has been described and considered in the PEIS/R. All direct, indirect, and cumulative effects of the entire SJRRP are disclosed in this PEIS/R. Related specific project-level actions that have already been undertaken have been included within the scope of the action and have been analyzed cumulatively with impacts from other past, present, and reasonably foreseeable future projects. Actions that have been completed to date have independent utility. The SJRRP in its entirety is not a reasonably foreseeable consequence of the actions already completed. However, the SJRRP is informed through data collection efforts such that the

SJRRP can be refined, and the environmental impacts and mitigation disclosed in the PEIS/R can be more precise and accurate with respect to flow-related effects.

MCR-5, "Adequacy of Purpose and Need, and Range of Alternatives Under NEPA/CEQA," in Chapter 2.0 of this Final PEIS/R, describes in detail that the Act authorizes and directs the Secretary to implement the terms and conditions of the Settlement in cooperation with the State of California. Although CEQ has indicated that under NEPA there are conditions in which compliance with the law does not necessarily make an alternative to that law unreasonable, in this case, the Act and the Settlement have come after 18 years of legal dispute and negotiation. Because of the length of time and investments that have been made by agencies and stakeholders in developing the Act and achieving the Settlement, the Implementing Agencies have determined that alternatives that do not comply with the Act and the Settlement are neither reasonable nor feasible. Therefore, the PEIS/R evaluates alternative approaches to implement the provisions of the Settlement, but does not evaluate alternatives to the Settlement other than the required No-Action Alternative. This is proper under both NEPA and CEQA because alternatives that failed to achieve the provisions of the Settlement would be neither legal nor feasible.

See response to comment SLDMWA-4, and MCR-4 and MCR-5 in Chapter 2.0 of this Final PEIS/R, for additional information relevant to this comment. For the reasons set forth above and in MCR-4 and MCR-5, Reclamation and DWR believe that the Draft PEIS/R complies with CEQA requirements to provide a range of alternatives.

SLDMWA-27a: This comment is substantially similar to comment SLDMWA-1 and SLDMWA-26. See responses to comments SLDMWA-1 and SLDMWA-26.

SLDMWA-27b: As described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, and in further detail in MCR-4, "Segmentation Under NEPA and CEQA," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, the PEIS/R evaluates potential direct, indirect, and cumulative impacts of the whole of the SJRRP on the environment at a program level that could result from implementing the Settlement consistent with the Act. The 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 PEIS/R includes feasible mitigation measures to avoid, minimize, rectify, reduce, or compensate for significant adverse impacts.

Project-level NEPA and CEQA environmental documentation required for actions evaluated at a program level in the PEIS/R will be completed before the actions are implemented. These future project-level environmental documents may incorporate the findings of this PEIS/R through "tiering," and/or incorporating general or specific information, discussions, or analyses from the PEIS/R by reference. A PEIS/R can be used in these ways to streamline and simplify preparation of future related environmental documents. It is anticipated that these future project-specific documents will focus solely on issues specific to the project under evaluation, and will not require additional systemwide evaluations beyond those presented in this PEIS/R. The program-level

assessments presented in this PEIS/R include impact evaluations and mitigation measures with performance standards, as appropriate. When developing project-level environmental compliance for any action addressed at a program level in the PEIS/R, the Implementing Agencies would require compliance with the appropriate mitigation measures and performance standards set forth in this PEIS/R as conditions for approval of each action. Actions analyzed at the program level in the PEIS/R include reintroduction of fall-run and spring-run Chinook salmon. The potential impacts of this action are presented at the program level for each resource area in resource-specific chapters 4.0 through 26.0 in the Draft PEIS/R. Subsequent project-level analysis will present the potential project-level impacts of reintroduction.

As discussed in MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0 of this Final PEIS/R, 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. Under Section 10(j) of the ESA, the Secretary of Commerce can authorize the release of an experimental population outside a species' current range, but within its historical range, when (1) the experimental population is geographically separate from the nonexperimental population, and (2) the designation will further conservation of the listed species. Several comments raised concerns about the potential liability of landowners for harming reintroduced listed species, and the potential placement of restrictions and prohibitions on Federal and private activities to protect the reintroduced fish. As stated in the Draft PEIS/R, USFWS submitted a 10(a)(1)(a) Enhancement of Species Permit application to NMFS on September 30, 2010, for introducing an experimental population of spring-run Chinook salmon, consistent with the schedule identified in the Settlement. NMFS will issue a final rule pursuant to Section 10(j) of the ESA by April 30, 2012.

The term "take" is defined by the ESA as "to harass, harm, pursue, hunt, shoot, wound, trap, capture, or collect, or attempt to engage in any such conduct." A population designated as experimental is treated as threatened regardless of the species' designation elsewhere in its range. Section 4(d) of the ESA allows NMFS to adopt regulations necessary to provide for conservation of a threatened species. This provides flexibility for NMFS to customize prohibitions and regulate activities to conserve threatened species, potentially without involving many or all restrictions that apply to endangered species. Exact requirements depend on the species' biology and conservation needs, and threats being managed. Under the 4(d) rule for reintroducing spring-run Chinook salmon to the Restoration Area, NMFS would create a set of protective regulations specific to the experimental population. Under the 4(d) rule, NMFS may elect to allow take for the experimental population if the take is incidental to a lawful activity, such as agricultural activities, and is unintentional or not due to negligent conduct. NMFS is currently developing a document describing considerations for issuing a 4(d) rule as part of Settlement implementation.

For the reasons set forth above and in MCR-4 and MCR-6, Reclamation and DWR believe that the Draft PEIS/R provides an accurate and complete description of the

potential impacts of reintroduction of fall-run and spring-run Chinook salmon at the program level, as appropriate for the PEIS/R.

SLDMWA-27c: As described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, Interim and Restoration flows would be recaptured at existing facilities within the Restoration Area or the Delta consistent with applicable laws, regulations, BOs, and court orders in place at the time the water is recaptured under all action alternatives. Recapture of Interim and Restoration flows at existing facilities within the Restoration Area or in the Delta is analyzed at a project level of detail in this PEIS/R. Additional recapture on the San Joaquin River between the Merced River and the Delta, including recapture at existing facilities (under Alternatives B1, B2, C1, and C2) or new facilities (under Alternatives C1 and C2), is analyzed at a program level of detail in the Draft PEIS/R. As described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, no change in operational requirements would be required to recapture Interim and Restoration flows in the Restoration Area or in the Delta under the regulatory compliance standards in place at the time water is recaptured. Recirculation would be subject to available capacity and existing operational constraints within CVP/SWP storage and conveyance facilities.

The commenter states that the analysis of water supply impacts in Chapter 13.0, "Hydrology – Surface Water Supplies and Facilities Operations," of the Draft PEIS/R is incomplete because it "does not break down possible impacts to CVP versus State Water Project (SWP) contractors." An analysis of the potential impacts to CVP contractors and SWP contractors, as requested by the commenter, requires a detailed recirculation plan. Reclamation is in the process of developing a Recapture and Recirculation Plan, pursuant to Paragraph 16 of the Settlement, in consultation with the Settling Parties, Third Parties, and the State and will conduct a subsequent site-specific evaluation of implementation of the Recapture and Recirculation Plan, in compliance with NEPA and CEQA, as appropriate. Because sufficient details to support project-level evaluation were not available at the time the Draft PEIS/R was prepared, the Draft PEIS/R presents a program-level evaluation of recirculation.

As described in Chapter 13.0, "Hydrology – Surface Water Supplies and Facilities Operations," of the Draft PEIS/R, during spring and summer, water demands and schedules are greater than the capacity of Reclamation and DWR to pump water from the Jones and Banks pumping plants; water stored in San Luis Reservoir is used to make up the difference. Since San Luis Reservoir receives very little natural inflow, water must be stored during fall and winter when the two Delta pumping plants can pump more water from the Delta than is needed to meet water demands. The CVP share of San Luis Reservoir is typically at its lowest in August and September and at its maximum in April. The SWP contracts between DWR and individual State water contractors define several classifications of water available for delivery under specific circumstances. All classifications are considered "project water." For all action alternatives, the Draft PEIS/R identifies the volume of water recaptured pursuant to Paragraph 16(a) as the amount of additional water that would be exported under action alternatives in comparison to total exports under the No-Action Alternative (under identical regulatory constraints). This approach meets all south-of-Delta contractual obligations that

otherwise would be met under the No-Action Alternative before recaptured water would be considered available for recirculation. This analytical approach is consistent with the provisions of Paragraph 16(a) of the Settlement and with Section 10004(a)(4). Under Paragraph 16(a), the Recapture and Recirculation Plan shall:

1. *ensure that 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;*

2. *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;*

3. *be developed and implemented in a manner that does not adversely impact the Secretary's ability to meet contractual obligations existing as of the Effective Date of this Settlement; and*

4. *the plan shall not be inconsistent with agreements between the United States Bureau of Reclamation and the California Department of Water Resources existing on the Effective Date of this Settlement, with regard to operation of the CVP and State Water Project.*

Section 10004(a)(4) authorizes and directs the Secretary, in cooperation with the State, to implement the terms and conditions of Paragraph 16 subject to the following:

A. *applicable provisions of California water law;*

B. *the Secretary's use of Central Valley Project facilities to make Project water (other than water released from Friant Dam pursuant to the Settlement) and water acquired through transfers available to existing south-of-Delta Central Valley Project contractors; and*

C. *the Secretary's performance of the Agreement of November 24, 1986, between the United States of America and the Department of Water Resources of the State of California for the coordinated operation of the Central Valley Project and the State Water Project as authorized by Congress in section 2(d) of the Act of August 26, 1937 (50 Stat. 850, 100 Stat. 3051), including any agreement to resolve conflicts arising from said Agreement.*

Reclamation is committed to completing the Recapture and Recirculation Plan consistent with the provisions of Paragraph 16(a) of the Settlement and Section 10004(a)(4), as described above. As with all actions evaluated at a program level of detail in the PEIS/R, recirculation would require separate analysis pursuant to NEPA and CEQA, as appropriate, at a project level of detail.

The commenter also states that the analysis of water supply impacts in Chapter 13.0 of the Draft PEIS/R does not "break down water supply impacts to CVP and SWP contractors." Several possible causes of CVP and SWP surface water supply impacts are evaluated in the Draft PEIS/R, including the following:

1. **Reduced deliveries to Friant Division long-term contractors** – As described in Chapter 13.0 of the Draft PEIS/R, changes in surface water supply deliveries to Friant Division long-term contractors are presented in two scenarios to account for the uncertainty in the specific formulation of the Recapture and Recirculation Plan. One scenario would recirculate all recaptured water, estimated using the approach described above, to the Friant Division of the CVP (representing a lower bound of surface water supply impacts to Friant Division long-term contractors). A second scenario would recirculate no recaptured water to the Friant Division of the CVP (representing an upper bound of surface water supply impacts to Friant Division long-term contractors). Results of these scenarios are summarized on page 13-187 of the Draft PEIS/R. The results of these scenarios were post-processed to provide information to support quantitative analyses of impacts to groundwater, power and energy, and socioeconomics in the Draft PEIS/R.

2. **Changes in Delta Hydrodynamics and Water Quality that Affect CVP/SWP Operations** – Potential impacts to CVP/SWP surface water supplies and facilities operations are evaluated in Chapter 13.0 of the Draft PEIS/R. These potential impacts include the following:

    a. Several potential impacts to surface water supplies and facilities operations in the south Delta are evaluated relative to criteria identified in the *Response Plan for Water Level Concerns in the South Delta Under Water Rights Decision 1641* (Water Level Response Plan) (Reclamation and DWR 2004). The analyses in the Draft PEIS/R compared water surface elevations simulated using DSM2 with the criteria identified in the Water Level Response Plan to determine the potential for surface water supply impacts to occur as an indirect effect of Interim and Restoration flows from the San Joaquin River affecting water levels in the south Delta (see pages 13-82 through 13-86 of the Draft PEIS/R). The results of the analyses provided in Chapter 13.0 of the Draft PEIS/R indicate that project-level actions would not invoke real-time adjustments to Jones and Banks pumping plant operations based on the Water Level Response Plan criteria. Therefore, impacts related to these criteria were found to be less than significant.

    b. Changes in Delta conditions can affect CCWD's potential to fill Los Vaqueros Reservoir, if such changes cause the Delta to be in balanced conditions when

it would otherwise have been under excess conditions at any time from November 1 to June 30. As shown in Table 13-58 of the Draft PEIS/R, the action alternatives would cause very few changes from excess to balanced conditions compared to the No-Action Alternative during the critical months of November through June, such that CCWD's ability to fill Los Vaqueros Reservoir would not be substantially affected. This impact was found to be less than significant.

c. Changes in San Joaquin River flows at Vernalis can invoke changes in operations of storage facilities on San Joaquin River tributaries between the Merced River confluence and Vernalis, which can in turn affect water users using diversions in the south Delta. For example, when water quality conditions at Vernalis improve due to relatively large spring Restoration Flows, as indicated by reductions in estimated concentrations of salinity, less water would be released from New Melones Reservoir to meet San Joaquin River water quality targets, resulting in less water being released from the reservoir. As discussed on pages 13-154 through 13-174 of the Draft PEIS/R, this affect would result in average increases in storage at tributary facilities of less than 5 percent. Other legal and regulatory considerations, such as the 2009 NMFS CVP/SWP Operations BO (2009a), can also influence releases from New Melones, as described in Appendix C, "CVP/SWP Long-Term Operations Sensitivity Analyses," of this Final PEIS/R.

3. **Changes in exports from existing San Joaquin River or Delta facilities** – Paragraph 16(a) requires that the Recapture and Recirculation Plan be "implemented in a manner that does not adversely impact the Secretary's ability to meet statutory and contractual obligations existing as of the Effective Date of this Settlement." 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. As described above, Reclamation is in the process of developing a Recapture and Recirculation Plan in consultation with the Settling Parties, Third Parties, and the State, and will conduct a subsequent site-specific evaluation of implementation of the Recapture and Recirculation Plan, in compliance with NEPA and CEQA, as appropriate.

4. **Changes in flood releases from Friant Dam to the San Joaquin River and resulting impacts on water supply allocations to CVP/SWP contractors** – Settlement implementation would result in reduced frequency and volume of flood releases from Millerton Lake, potentially reducing the annual average diversion of flood flows at downstream locations, including Mendota Pool and the Delta. Historically, portions of these flood releases have been diverted at Mendota Pool to satisfy CVP demands. San Joaquin River flood flows diverted at Mendota Pool provide deliveries in lieu of CVP water supplies from the DMC. This increases the portion of CVP water exported from the Delta that is available for delivery to other south-of-Delta water service contractors. Similarly, Reclamation considers availability of flood flows entering the Delta from the San Joaquin River and other rivers in water contract allocations for south-of-Delta water service contractors. Reclamation is in the process of developing the Recapture and Recirculation Plan, which will describe the specific procedures necessary to accomplish recirculation consistent with the provisions of Paragraph 16(a) of the Settlement and with Section 10004(a)(4). Reclamation is developing the Recapture and Recirculation Plan in consultation with the Settling Parties, Third Parties, and DWR, and will conduct a subsequent site-specific evaluation of any changes to existing recirculation, from implementation of the Recapture and Recirculation Plan, in compliance with NEPA and CEQA, as appropriate.

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.

The commenter also states that Table 13-51 of the Draft PEIS/R "shows how narrow the range of alternatives is… They are all the same except for some variances in actions." The PEIS/R evaluates alternative approaches to implement the provisions of the Settlement, but does not evaluate alternatives to the Settlement other than the required No-Action Alternative. This is proper under both NEPA and CEQA since alternatives that failed to achieve the provisions of the Settlement would be neither legal nor feasible. For additional information relevant to this comment, see MCR-5, "Adequacy of Purpose and Need, and Range of Alternatives Under NEPA/CEQA," in Chapter 2.0 of this Final PEIS/R.

The inclusion of this discussion 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. For the reasons set forth above and in MCR-5 and MCR-6, no changes to the PEIS/R are necessary and public recirculation of the Draft PEIS/R is not necessary.

SLDMWA-28: The analyses and impact assessment presented in the Draft PEIS/R were completed using the best available modeling tools and information. The modeling tools used in the Draft PEIS/R analyses were selected because they are publicly available, have a knowledgeable user community, and are widely accepted for use in similar systemwide analysis of resources in California's Central Valley. The modeling assumptions, modeling analyses and results, and baseline conditions used to support the environmental analysis in the Draft PEIS/R were based on the best available information and modeling

tools at the time the Draft PEIS/R was prepared. The sensitivity analyses contained in Appendix C to this Final PEIS/R were completed using the same set of tools and information, as modified only to reflect an interim representation of the RPAs set forth in the 2008 USFWS CVP/SWP Operations BO and 2009 NMFS CVP/SWP Operations BO (2009a).

The analyses presented in the Draft PEIS/R were based, in part, on a water supply operations modeling tool, CalSim-II. The CalSim-II model is widely accepted as the standard for simulating the long-term effects of operational changes to CVP and SWP facilities. At the time evaluations were completed in support of the Draft PEIS/R, there was no representation of the full set of RPAs set forth in the 2008 USFWS CVP/SWP Operations BO and 2009 NMFS CVP/SWP available for use in the CalSim-II model. Therefore, the baseline for analyses presented in the Draft PEIS/R was developed using the best available information, remains the most defensible baseline, and has not been revised in the Final PEIS/R. At the time the sensitivity analyses were completed in support of the Final PEIS/R, Reclamation and NMFS continued to discuss and work toward the representation of the 2008 and 2009 RPAs into a singular CalSim-II baseline. However, a representation that sufficiently captures the range of potential RPA implementation scenarios was available at the time the sensitivity analyses were developed, allowing for an evaluation of the potential for the 2008 and 2009 RPAs to change the anticipated effects of the program alternatives from those presented in the Draft PEIS/R.

The sensitivity analyses presented in Appendix C of this Final PEIS/R were performed to represent a comprehensive range of RPA implementation scenarios and evaluate the potential for the 2008 and 2009 RPAs to change the anticipated effects of the program alternatives from those presented in the Draft PEIS/R, which are based on the conditions evaluated in the 2005 USFWS and 2004 NMFS BOs. The CalSim-II simulations for the sensitivity analyses presented in Appendix C to the Final PEIS/R were developed to identify the range of potential operation changes that could occur under any RPA implementation scenario. CalSim-II output from these simulations was then used in analyzing the potential for the RPAs to change the anticipated effects to related resources using the same set of tools and information used in the Draft PEIS/R, including Delta hydrodynamics (using DSM2), groundwater (using the Schmidt Tool and mass balance method), agricultural economics (using CVPM), regional economics (using IMPLAN), and long-term power system power generation to reflect the updated surface water model. The sensitivity analyses results demonstrate that the overall impact mechanisms and significance determinations presented in the Draft PEIS/R would not change under a baseline that includes the RPAs set forth in the 2008 USFWS CVP/SWP Operations BO and 2009 NMFS CVP/SWP Operations BO (2009a).

In comparison to the results presented in the Draft PEIS/R, the results of the sensitivity analyses presented in Appendix C to the Final PEIS/R do not identify new significant environmental impacts or a substantial increase in the severity of an environmental impact, and do not create a feasible project alternative or mitigation measure that would clearly lessen environmental impacts of the action alternatives (including the proposed project). Therefore, inclusion of the sensitivity analyses in the Final PEIS/R does not

trigger a need to recirculate a revised Draft PEIS/R under either NEPA or CEQA. Rather, the sensitivity analyses demonstrate that the overall impact mechanisms and significance determinations presented in the Draft PEIS/R would not change under a baseline that includes the RPAs set forth in the 2008 USFWS CVP/SWP Operations BO and 2009 NMFS CVP/SWP Operations BO, confirming that the analyses and conclusions presented in the Draft PEIS/R are thorough, accurate, and unlikely to change in light of the RPAs. For the reasons set forth above, Reclamation and DWR believe that the PEIS/R provides a thorough, appropriate analysis of all relevant impacts of the action alternatives (including the proposed project) and the alternatives as required by NEPA and CEQA.

SLDMWA-29a: This comment introduces four concerns regarding the requirements of NEPA and CEQA to fully analyze "potential impacts for the whole project, including direct, indirect, secondary, and cumulative impacts, and both short-term and long-term." The concerns are addressed in responses to comments SLDMWA-29b through SLDMWA-29e.

SLDMWA-29b: The commenter states that the analysis of water supply impacts in Chapter 13.0, "Hydrology – Surface Water Supplies and Facilities Operations," of the Draft PEIS/R is incomplete because it does not address possible water supply impacts in greater detail. It is inferred based in part on similar assertions in comment SLDMWA-27c that the commenter is requesting a summary of potential water supply impacts to CVP and SWP contractors. An analysis of the potential impacts to CVP contractors and SWP contractors requires a detailed recirculation plan. Reclamation is in the process of developing a Recapture and Recirculation Plan, pursuant to Paragraph 16 of the Settlement, in consultation with the Settling Parties, Third Parties, and the State and will conduct a subsequent site-specific evaluation of implementation of the Recapture and Recirculation Plan, in compliance with NEPA and CEQA, as appropriate. Because sufficient details to support project-level evaluation were not available at the time the Draft PEIS/R was prepared, the Draft PEIS/R presents a program-level evaluation of recirculation.

For all action alternatives, the Draft PEIS/R identifies the volume of water recaptured pursuant to Paragraph 16(a) as the amount of additional water that would be exported under action alternatives in comparison to total exports under the No-Action Alternative (under identical regulatory constraints). This approach meets all south-of-Delta contractual obligations that otherwise would be met under the No-Action Alternative before recaptured water would be considered available for recirculation. This analytical approach is consistent with the provisions of Paragraph 16(a) of the Settlement and with Section 10004(a)(4).

The commenter also states that the Draft PEIS/R incorrectly references material located in appendices to the Draft PEIS/R, particularly Appendix J, "Surface Water Supplies and Facilities Operations," of the Draft PEIS/R. Section 1502.18 of the CEQ Regulations states that if an agency prepares an appendix to an environmental impact statement the appendix shall "(a) Consist of material prepared in connection with an environmental impact statement (as distinct from material which is not so prepared and which is

incorporated by reference (Sec. 1502.21)). (b) Normally consist of material which substantiates any analysis fundamental to the impact statement. (c) Normally be analytic and relevant to the decision to be made. (d) Be circulated with the environmental impact statement or be readily available on request." State CEQA Guidelines, Section 15147 states that "[p]lacement of highly technical and specialized analysis and data in the body of an EIR should be avoided through inclusion of supporting information and analyses as appendices to the main body of the EIR." Accordingly, the appendices appended to the Draft PEIS/R contain two main types of material; (1) technical and specialized analyses that support the material and conclusions presented in the main body of the Draft PEIS/R, and (2) information and material intended to aid interpretation and understanding of analyses of specific resources presented in the Draft PEIS/R. The inclusion of the material presented in the appendices, and references made to the appendices throughout the main body of the Draft PEIS/R, is appropriate and consistent with Section 1502.18 of the CEQ Regulations and State CEQA Guidelines, Section 15147.

Appendix J is composed of several attachments that contain both types of material. The Additional Changes to Central Valley Project and State Water Project Operations Attachment contains information regarding changes to flows, storages, and diversions at select facilities within the CVP and SWP. This includes simulated changes in Class 1, Class2, Section 215, and Paragraph 16(b) water supply deliveries, and simulated changes in San Luis Reservoir storage volumes. These results are summarized where relevant in the main body of the Draft PEIS/R. Appendix J also provides information used in developing the Draft PEIS/R that may assist the reader in understanding the material presented in the Draft PEIS/R. This includes the following attachments:

- **Central Valley Project and State Water Project Contracts Attachment –** This attachment contains information regarding the total Friant Division long-term contracts, a summary of CVP contract amounts for service areas south of the Delta, and annual SWP Table A amounts.

- **Diversions Attachment –** This attachment lists San Joaquin River diversions within the Restoration Area. Diversions are organized by reach and information is provided regarding location, diversion and discharge type, screens, primary use, and estimated capacity.

- **Exceedence Curves Attachment –** This attachment contains exceedence curves of all gages discussed in Section 13.1, "Environmental Setting," of the Draft PEIS/R.

- **Rating Tables Attachment –** This attachment contains rating tables of select gages discussed in Section 13.1, "Environmental Setting," of the Draft PEIS/R.

- **Water Year Types Attachment –** This attachment explains water year types referred to in the Draft PEIS/R, including Sacramento Valley, San Joaquin Valley, and San Joaquin River Restoration water year types.

For the reasons set forth above, in response to SLDMWA-27c, and in MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, no revisions to the PEIS/R are necessary. For additional information relevant to this comment, see response to comment SLDMWA-27c, and MCR-6.

SLDMWA-29c: The commenter states that the thresholds for significance of water supply impacts presented in Chapter 13.0, "Hydrology – Surface Water Supplies and Facilities Operations," of the Draft PEIS/R are insufficient because they do not include a threshold "that acknowledges that any adverse impacts to Third Parties are significant." For all action alternatives, the Draft PEIS/R identifies the volume of water recaptured pursuant to Paragraph 16(a) of the Settlement as the amount of additional water that would be exported under action alternatives in comparison to total exports under the No-Action Alternative (under identical regulatory constraints). This approach meets all south-of-Delta contractual obligations that otherwise would be met under the No-Action Alternative before recaptured water would be considered available for recirculation. This analytical approach is consistent with the provisions of Paragraph 16(a) of the Settlement and with Section 10004(a)(4). Reclamation is committed to completing the Recapture and Recirculation Plan consistent with the provisions of Paragraph 16(a) of the Settlement and Section 10004(a)(4), as described above. All actions evaluated at a program level of detail in the PEIS/R, including recirculation, would require separate analysis pursuant to NEPA and CEQA, as appropriate at a project level of detail before implementation.

Paragraph 16(a) requires that the Recapture and Recirculation Plan be "implemented in a manner that does not adversely impact the Secretary's ability to meet statutory and contractual obligations existing as of the Effective Date of this Settlement." 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 portions of recaptured water 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.

Settlement implementation would result in reduced frequency and volume of flood releases from Millerton Lake, potentially reducing the annual average diversion of flood flows at downstream locations, including Mendota Pool and the Delta. Historically, portions of these flood releases have been diverted at Mendota Pool to satisfy CVP demands. San Joaquin River flood flows diverted at Mendota Pool provide deliveries in lieu of CVP water supplies from the DMC. This increases the portion of CVP water exported from the Delta that is available for delivery to other south-of-Delta water service contractors. Similarly, Reclamation considers availability of flood flows entering the Delta from the San Joaquin River and other rivers in water contract allocations for south-of-Delta water service contractors. Reclamation is in the process of developing the

Recapture and Recirculation Plan, which will describe the specific procedures necessary to accomplish recirculation consistent with the provisions of Paragraph 16(a) of the Settlement and with Section 10004(a)(4). Reclamation is developing the Recapture and Recirculation Plan in consultation with the Settling Parties, Third Parties, and DWR, and will conduct a subsequent site-specific evaluation of any changes to existing recirculation, from implementation of the Recapture and Recirculation Plan, in compliance with NEPA and CEQA, as appropriate.

Because no water supply impacts to Third Parties are anticipated to occur as a result of implementing the Settlement consistent with the Act, a significance threshold related to the provisions of Section 10004(a)(4) is not necessary for evaluating potential water supply impacts in the PEIS/R. The significance thresholds defined in Chapter 13.0 of the Draft PEIS/R and referenced by the commenter are sufficient for the purposes of identifying the remaining potential program-level surface water supply impacts under NEPA and CEQA, as well as the potential project-level impacts, as described in response to comment SLDMWA-27c. For additional information relevant to this comment, see response to comment SLDMWA-27c, and MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R.

SLDMWA-29d: The commenter states that the analysis of water supply impacts in Chapter 13.0, "Hydrology – Surface Water Supplies and Facilities Operations," of the Draft PEIS/R is lacking critical information because does not provide "a meaningful recognition of potential water supply reductions specific to non-Friant CVP and SWP contractors." An analysis of the potential impacts to CVP contractors and SWP contractors, as requested by the commenter, requires a detailed recirculation plan. Reclamation is in the process of developing a Recapture and Recirculation Plan, pursuant to Paragraph 16 of the Settlement, in consultation with the Settling Parties, Third Parties, and the State and will conduct a subsequent site-specific evaluation of implementation of the Recapture and Recirculation Plan, in compliance with NEPA and CEQA, as appropriate. Because sufficient details to support project-level evaluation were not available at the time the Draft PEIS/R was prepared, the Draft PEIS/R presents a program-level evaluation of recirculation.

For all action alternatives, the Draft PEIS/R identifies the volume of water recaptured pursuant to Paragraph 16(a) as the amount of additional water that would be exported under action alternatives in comparison to total exports under the No-Action Alternative (under identical regulatory constraints). This approach meets all south-of-Delta contractual obligations that otherwise would be met under the No-Action Alternative before recaptured water would be considered available for recirculation. This analytical approach is consistent with the provisions of Paragraph 16(a) of the Settlement and with Section 10004(a)(4). Reclamation is committed to completing the Recapture and Recirculation Plan consistent with the provisions of Paragraph 16(a) of the Settlement and Section 10004(a)(4).

Several possible causes of CVP and SWP surface water supply impacts are evaluated in the Draft PEIS/R, as described in detail in response to comment SLDMWA-27c. For additional information relevant to this comment, see response to comment SLDMWA-

27c, and MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R.

SLDMWA-29e: The commenter states that the analysis of water supply impacts in Chapter 13.0, "Hydrology – Surface Water Supplies and Facilities Operations," of the Draft PEIS/R is incomplete because it does not discuss "potential impacts to other 'CVP and SWP contractors'." For all action alternatives, the Draft PEIS/R identifies the volume of water recaptured pursuant to Paragraph 16(a) as the amount of additional water that would be exported under action alternatives in comparison to total exports under the No-Action Alternative (under identical regulatory constraints); this information is presented in Tables 13-109 and 13-110, as noted by the commenter. This approach meets all south-of-Delta contractual obligations that otherwise would be met under the No-Action Alternative before recaptured water would be considered available for recirculation. This analytical approach is consistent with the provisions of Paragraph 16(a) of the Settlement and with Section 10004(a)(4).

An analysis of the potential impacts to CVP contractors and SWP contractors, as suggested by the commenter, requires a detailed recirculation plan. Reclamation is in the process of developing a Recapture and Recirculation Plan, pursuant to Paragraph 16 of the Settlement, in consultation with the Settling Parties, Third Parties, and the State and will conduct a subsequent site-specific evaluation of implementation of the Recapture and Recirculation Plan, in compliance with NEPA and CEQA, as appropriate. Because sufficient details to support project-level evaluation were not available at the time the Draft PEIS/R was prepared, the Draft PEIS/R presents a program-level evaluation of recirculation. Reclamation is committed to completing the Recapture and Recirculation Plan consistent with the provisions of Paragraph 16(a) of the Settlement and Section 10004(a)(4).

Additionally, the commenter states that the Draft PEIS/R must present a comparison of anticipated water supply deliveries to San-Luis and Delta Mendota Water Authority with and without the action alternatives. As described in detail in response to comment SLDMWA-27c, water supply deliveries to San-Luis and Delta Mendota Water Authority would not change as a result of Settlement implementation.

Settlement implementation would result in reduced frequency and volume of flood releases from Millerton Lake, potentially reducing the annual average diversion of flood flows at downstream locations, including Mendota Pool and the Delta. Historically, portions of these flood releases have been diverted at Mendota Pool to satisfy CVP demands. San Joaquin River flood flows diverted at Mendota Pool provide deliveries in lieu of CVP water supplies from the DMC. This increases the portion of CVP water exported from the Delta that is available for delivery to other south-of-Delta water service contractors. A reduction in flood releases under the action alternatives was observed in the detailed CalSim-II modeling results analyzed in the Draft PEIS/R. Results of surface water operational modeling conducted in support of the analyses in the Draft PEIS/R also demonstrate that the total 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 portions of recaptured

water would be available for recirculation without causing adverse effects to water supply allocations.

For the reasons set forth above, in response to comment SLDMWA-27c, and in MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, no revisions to the PEIS/R are necessary and recirculation is not necessary. See response to comment SLDMWA-27c, and MCR-6 for additional information relevant to this comment.

SLDMWA-30a: The commenter states that the analysis of water supply impacts in Chapter 13.0, "Hydrology – Surface Water Supplies and Facilities Operations," of the Draft PEIS/R is inadequate because it does not analyze "the possibility of reduced water supplies to third parties." For all action alternatives, the Draft PEIS/R identifies the volume of water recaptured pursuant to Paragraph 16(a) as the amount of additional water that would be exported under action alternatives in comparison to total exports under the No-Action Alternative (under identical regulatory constraints); this information is presented in Tables 13-109 and 13-110, as noted by the commenter. This approach meets all south-of-Delta contractual obligations that otherwise would be met under the No-Action Alternative before recaptured water would be considered available for recirculation. This analytical approach is consistent with the provisions of Paragraph 16(a) of the Settlement and with Section 10004(a)(4).

An analysis of the potential impacts to CVP contractors and SWP contractors, as suggested by the commenter, requires a detailed recirculation plan. Reclamation is in the process of developing a Recapture and Recirculation Plan, pursuant to Paragraph 16 of the Settlement, in consultation with the Settling Parties, Third Parties, and the State and will conduct a subsequent site-specific evaluation of implementation of the Recapture and Recirculation Plan, in compliance with NEPA and CEQA, as appropriate. Because sufficient details to support project-level evaluation were not available at the time the Draft PEIS/R was prepared, the Draft PEIS/R presents a program-level evaluation of recirculation. Reclamation is committed to completing the Recapture and Recirculation Plan consistent with the provisions of Paragraph 16(a) of the Settlement and Section 10004(a)(4).

As described in detail in response to comment SLDMWA-27c, 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 portions of recaptured water 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.

Additionally, the commenter states that the SJRRP will affect flood flows and thereby decrease water supply for San-Luis and Delta Mendota Water Authority. Settlement implementation would result in reduced frequency and volume of flood releases from Millerton Lake, potentially reducing the annual average diversion of flood flows at

downstream locations, including Mendota Pool and the Delta. Historically, portions of these flood releases have been diverted at Mendota Pool to satisfy CVP demands. San Joaquin River flood flows diverted at Mendota Pool provide deliveries in lieu of CVP water supplies from the DMC. This increases the portion of CVP water exported from the Delta that is available for delivery to other south-of-Delta water service contractors. A reduction in flood releases from Friant Dam could result in a reduction in water contract allocations to the south-of-Delta water service contractors because flood releases have previously been considered in the contract water allocations of the south-of-Delta water service contractors. A reduction in flood releases under the action alternatives was observed in the detailed CalSim-II modeling results analyzed in the Draft PEIS/R. Results of surface water operational modeling conducted in support of the analyses in the Draft PEIS/R also demonstrate that the total 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 portions of recaptured water would be available for recirculation without causing adverse effects to water supply allocations.

For the reasons set forth above, in response to comment SLDMWA-27c, and in MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, no revisions to the PEIS/R are necessary and recirculation is not necessary. See response to comment SLDMWA-27c, and MCR-6 for additional information relevant to this comment.

SLDMWA-30b: The commenter states that the SJRRP will affect flood flows and thereby decrease water supply for San-Luis and Delta Mendota Water Authority. As described in detail in response to comment SLDMWA-27c, 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 portions of recaptured water 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.

Settlement implementation would result in reduced frequency and volume of flood releases from Millerton Lake, potentially reducing the annual average diversion of flood flows at downstream locations, including Mendota Pool and the Delta. Historically, portions of these flood releases have been diverted at Mendota Pool to satisfy CVP demands. San Joaquin River flood flows diverted at Mendota Pool provide deliveries in lieu of CVP water supplies from the DMC. This increases the portion of CVP water exported from the Delta that is available for delivery to other south-of-Delta water service contractors. A reduction in flood releases under the action alternatives was observed in the detailed CalSim-II modeling results analyzed in the Draft PEIS/R. Results of surface water operational modeling conducted in support of the analyses in the Draft PEIS/R also demonstrate that the total 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 portions of recaptured

water would be available for recirculation without causing adverse effects to water supply allocations.

For the reasons set forth above, in response to comment SLDMWA-27c, and in MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, no revisions to the PEIS/R are necessary and recirculation is not necessary. See response to comment SLDMWA-27c, and MCR-6 for additional information relevant to this comment.

SLDMWA-30c: The commenter presents data based on CalSim-II modeling output provided to the commenter by Reclamation, but does not provide the calculations or tools used to arrive at the conclusions presented in the comment. Without this supporting information, Reclamation cannot verify the results presented by the commenter. However, Reclamation acknowledges that a reduction in flood releases from Friant Dam under the action alternatives in comparison to the No-Action Alternative was observed in the detailed CalSim-II modeling results analyzed by Reclamation in the Draft PEIS/R. (the specific modeling scenario used by the commenter is summarized on pages 3-15 through 3-25 of Appendix I, "Supplemental Hydrological and Water Operations Analyses," of the Draft PEIS/R; specific output is presented in the Water Operations Action Simulation Results – CalSim Attachment to Appendix I of the Draft PEIS/R). As described in detail in response to comment SLDMWA-27c, Settlement implementation would result in reduced frequency and volume of flood releases from Millerton Lake, potentially reducing the annual average diversion of flood flows at downstream locations, including Mendota Pool and the Delta. Historically, portions of these flood releases have been diverted at Mendota Pool to satisfy CVP demands. San Joaquin River flood flows diverted at Mendota Pool provide deliveries in lieu of CVP water supplies from the DMC. This increases the portion of CVP water exported from the Delta that is available for delivery to other south-of-Delta water service contractors.

Paragraph 16(a) requires that the Recapture and Recirculation Plan be "implemented in a manner that does not adversely impact the Secretary's ability to meet statutory and contractual obligations existing as of the Effective Date of this Settlement." 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 portions of recaptured water 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. This finding demonstrates that portions of recaptured water would be available for recirculation without causing adverse effects to water supply allocations. Reclamation is in the process of developing the Recapture and Recirculation Plan, which will describe the specific procedures necessary to accomplish recirculation consistent with the provisions of Paragraph 16(a) of the Settlement and with Section 10004(a)(4).

For the reasons set forth above, in response to comment SLDMWA-27c, and in MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, no revisions to the PEIS/R are necessary. For additional information relevant to this comment, see response to comment SLDMWA-27c, and MCR-6.

SLDMWA-30d: This comment summarizes comments SLDMWA-30a through SLDMWA-30c. See responses to comments SLDMWA-30a through SLDMWA-30c. For the reasons set forth above in responses to comments SLDMWA-30a through SLDMWA-30c, and in MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, no revisions to the PEIS/R are necessary.

SLDMWA-31: Changes in San Joaquin River flows at Vernalis can invoke changes in operations of storage facilities on San Joaquin River tributaries between the Merced River confluence and Vernalis, which can in turn affect water users using diversions in the south Delta. For example, when water quality conditions at Vernalis improve due to relatively large spring Restoration Flows, as indicated by reductions in estimated concentrations of salinity, less water would be released from New Melones Reservoir to meet San Joaquin River water quality targets, resulting in less water being released from the reservoir. As discussed on pages 13-154 through 13-174 of the Draft PEIS/R, this affect would result in average increases in storage at tributary facilities of less than 5 percent. Other legal and regulatory considerations, such as the 2009 NMFS CVP/SWP Operations BO (2009a), can also influence releases from New Melones, as described in Appendix C, "CVP/SWP Long-Term Operations Sensitivity Analyses," of this Final PEIS/R.

The commenter concludes that a reduction in releases from New Melones would translate to a reduction in water supply deliveries to Third Parties, because recapture of Interim and Restoration flows would reduce the amount of water exported from the Delta that is available for south-of-Delta CVP and SWP contractors. As described in detail in response to SLDMWA-27c, Paragraph 16(a) requires that the Recapture and Recirculation Plan be "implemented in a manner that does not adversely impact the Secretary's ability to meet statutory and contractual obligations existing as of the Effective Date of this Settlement." 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. Reclamation is in the process of developing a Recapture and Recirculation Plan in consultation with the Settling Parties, Third Parties, and the State, and will conduct a subsequent site-specific evaluation of any

changes to existing recirculation, from implementation of the Recapture and Recirculation Plan, in compliance with NEPA and CEQA, as appropriate.

For the reasons set forth above, in response to SLDMWA-27c, and in MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, no revisions to the PEIS/R are necessary. For additional information relevant to this comment, see response to comment SLDMWA-27c, and MCR-6.

SLDMWA-32: As described in the Draft PEIS/R, Interim and Restoration flows would have a less than significant impact on surface water quality conditions at Mendota Pool. EC and water temperature conditions at the Mendota Pool would be similar to the No-Action Alternative during the irrigation season and higher during other periods because the proposed Mendota Pool Bypass would convey San Joaquin River flows around the Mendota Pool, increasing the proportion of DMC contributions to Mendota Pool inflow. From April 22 through April 28, 2010, Water Year 2010 Interim Flows recapture at Mendota Pool and low irrigation demands at Mendota Pool reduced Delta deliveries via the DMC. Seepage drainage water returned to the DMC resulted in electrical conductivity levels that would not permit the Mendota Pool pump-in program to operate. The water delivered to the Mendota Pool from the DMC did not thoroughly mix with low-salinity releases from Friant Dam and resulted in water in Fresno Slough and the irrigation canal headworks in the Mendota Pool containing higher salinity levels than those desired by irrigators that divert from Mendota Pool. Reclamation, SLDMWA, and the Exchange Contractors adjusted operations to close the DMC at Check 21, meet Arroyo Canal demands through the Firebaugh Wasteway, and dilute high salinity in Mendota Pool/Fresno Slough with low-salinity San Joaquin River water. Reclamation met demands at Mendota Pool with deliveries from Friant Dam. The situation that occurred in Water Year 2010 was not unique and has occurred historically (prior to Interim Flows). The situation was a result, in part, of the low demands at that time by the irrigators in the Mendota Pool likely due to cooler and wetter weather conditions.

Reclamation, SLDMWA, and the Exchange Contractors currently monitor surface water quality conditions in the San Joaquin River, DMC, and Mendota Pool, and groundwater quality conditions in the region under various programs using existing water quality sensors and water quality monitoring data in the DMC at Check 21, upstream from the Pool (San Joaquin River below Bifurcation gage), and downstream (San Joaquin River near Dos Palos gage). The existing water quality sensors and water quality monitoring data are adequate to monitor water quality and address this unique situation, if it were to occur again in the future. Under the action alternatives, water quality criteria established to meet suitability requirements for irrigation and wetland deliveries would continue to be met through coordinated activities by Reclamation, SLDMWA, and the Exchange Contractors, including the Mendota Pool Water Quality Response Plan (SJRRP 2011i).

Section 1502.21 of the CEQ Regulations states that, "Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described. No material may be incorporated by reference unless it is reasonably available for inspection by potentially

interested persons within the time allowed for comment." State CEQA Guidelines, Section 15148, states, "Preparation of EIRs is dependent upon information from many sources, including engineering project reports and many scientific documents relating to environmental features. These documents should be cited but not included in the EIR." The Mendota Pool Water Quality Response Plan was not used to develop the Draft PEIS/R, and is therefore not cited, but is publicly available online at www.restoresjr.net. Text has not been revised.

SLDMWA-33a: Implementation of any of the action alternatives would not change the operational criteria of the Delta facilities. As described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, Interim and Restoration flows would be recaptured at existing facilities within the Restoration Area or the Delta consistent with applicable laws, regulations, BOs, and court orders in place at the time the water is recaptured under all action alternatives. Recapture of Interim and Restoration flows at existing facilities within the Restoration Area or in the Delta is analyzed at a project level of detail in this PEIS/R. Additional recapture on the San Joaquin River between the Merced River and the Delta, including recapture at existing facilities (under Alternatives B1, B2, C1, and C2) or new facilities (under Alternatives C1 and C2), is analyzed at a program level of detail in the Draft PEIS/R.

Reclamation is in the process of developing a Recapture and Recirculation Plan, pursuant to Paragraph 16 of the Settlement, in consultation with the Settling Parties, Third Parties, and the State and will conduct a subsequent site-specific evaluation of implementation of the Recapture and Recirculation Plan, in compliance with NEPA and CEQA, as appropriate. Because sufficient details to support project-level evaluation were not available at the time the Draft PEIS/R was prepared, the Draft PEIS/R presents a program-level evaluation of recirculation. For all action alternatives, the Draft PEIS/R identifies the volume of water recaptured pursuant to Paragraph 16(a) as the amount of additional water that would be exported under action alternatives in comparison to total exports under the No-Action Alternative (under identical regulatory constraints). As described in detail in response to comment SLDMWA-27c, 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 portions of recaptured water 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.

For the reasons set forth above, in response to SLDMWA-27c, and in MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, no revisions to the PEIS/R are necessary. For additional information relevant to this comment, see response to comment SLDMWA-27c, and MCR-6.

SLDMWA-33b: The statement referenced in the comment, "recirculation would be subject to available capacity and existing operational constraints within CVP/SWP storage and conveyance facilities," is followed by a statement defining "available

capacity" as capacity that remains after satisfying all statutory and contractual obligations to existing water service or supply contracts, exchange contracts, settlement contracts, transfers, or other agreements involving or intended to benefit CVP/SWP contractors served water through CVP/SWP facilities. This definition would encompass existing obligations to San-Luis and Delta Mendota Water Authority member agencies. Implementation of any of the action alternatives would not change the operational criteria of the Delta facilities. As described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, Interim and Restoration flows would be recaptured at existing facilities within the Restoration Area or the Delta consistent with applicable laws, regulations, BOs, and court orders in place at the time the water is recaptured under all action alternatives. Recapture of Interim and Restoration flows at existing facilities within the Restoration Area or in the Delta is analyzed at a project level of detail in this PEIS/R. Additional recapture on the San Joaquin River between the Merced River and the Delta, including recapture at existing facilities (under Alternatives B1, B2, C1, and C2) or new facilities (under Alternatives C1 and C2), is analyzed at a program level of detail in the Draft PEIS/R.

Reclamation is in the process of developing a Recapture and Recirculation Plan, pursuant to Paragraph 16 of the Settlement, in consultation with the Settling Parties, Third Parties, and the State and will conduct a subsequent site-specific evaluation of implementation of the Recapture and Recirculation Plan, in compliance with NEPA and CEQA, as appropriate. Because sufficient details to support project-level evaluation were not available at the time the Draft PEIS/R was prepared, the Draft PEIS/R presents a program-level evaluation of recirculation. For all action alternatives, the Draft PEIS/R identifies the volume of water recaptured pursuant to Paragraph 16(a) as the amount of additional water that would be exported under action alternatives in comparison to total exports under the No-Action Alternative (under identical regulatory constraints). As described in detail in response to comment SLDMWA-27c, , 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 portions of recaptured water 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.

For the reasons set forth above, in response to SLDMWA-27c, and in MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, no revisions to the PEIS/R are necessary. For additional information relevant to this comment, see response to comment SLDMWA-27c, and MCR-6.

SLDMWA-33c: 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 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 predicted for Alternatives A1 through C2, are expected to result in no net change in fish entrainment. The potential for this finding to change with implementation of the 2008

USFWS CVP/SWP Operations BO and 2009 NMFS CVP/SWP Operations BO (2009a) is evaluated in Appendix C, "CVP/SWP Long-Term Operations Sensitivity Analysis," of this Final PEIS/R. Appendix C concludes that while implementation of the BOs would affect the timing and quantity of water diverted under the action alternatives, the impact conclusion would not change from the Draft PEIS/R, and would remain less than significant. Text has not been revised.

SLDMWA-34a: Based on the commenter's statement, Sections 10004 and 10011 of the Act are provided below for reference, including italicized type added for reference to sections related to Third Parties:

> *SEC. 10004. IMPLEMENTATION OF SETTLEMENT.*
>
> *(a) (4) Implement the terms and conditions of paragraph 16 of the Settlement related to recirculation, recapture, reuse, exchange, or transfer of water released for Restoration Flows or Interim Flows, for the purpose of accomplishing the Water Management Goal of the Settlement, subject to—*
>
> *(A) applicable provisions of California water law;*
>
> *(B) the Secretary's use of Central Valley Project facilities to make Project water (other than water released from Friant Dam pursuant to the Settlement) and water acquired through transfers available to existing south-of-Delta Central Valley Project contractors; and*
>
> *(C) the Secretary's performance of the Agreement of November 24, 1986, between the United States of America and the Department of Water Resources of the State of California for the coordinated operation of the Central Valley Project and the State Water Project as authorized by Congress in section 2(d) of the Act of August 26, 1937 (50 Stat. 850, 100 Stat. 3051), including any agreement to resolve conflicts arising from said Agreement.*
>
> *(5) Develop and implement the Recovered Water Account as specified in paragraph 16(b) of the Settlement, including the pricing and payment crediting provisions described in paragraph 16(b)(3) of the Settlement, provided that all other provisions of Federal reclamation law shall remain applicable.*
>
> *SEC. 10011. CALIFORNIA CENTRAL VALLEY SPRING RUN CHINOOK SALMON.*
>
> *(b) REINTRODUCTION IN THE SAN JOAQUIN RIVER.—California Central Valley Spring Run Chinook salmon shall be reintroduced in the San Joaquin River below Friant Dam pursuant to section 10(j) of the Endangered Species Act of 1973 (16 U.S.C. 1539(j)) and the Settlement, provided that the Secretary of Commerce finds that a*

permit for the reintroduction of California Central Valley Spring Run Chinook salmon may be issued pursuant to section 10(a)(1)(A) of the Endangered Species Act of 1973 (16 U.S.C. 1539(a)(1)(A)).

(c) FINAL RULE.—

(1) DEFINITION OF THIRD PARTY.—For the purpose of this subsection, the term ''third party'' means persons or entities diverting or receiving water pursuant to applicable State and Federal laws and shall include Central Valley Project contractors outside of the Friant Division of the Central Valley Project and the State Water Project.

(2) ISSUANCE.—The Secretary of Commerce shall issue a final rule pursuant to section 4(d) of the Endangered Species Act of 1973 (16 U.S.C. 1533(d)) governing the incidental take of reintroduced California Central Valley Spring Run Chinook salmon prior to the reintroduction.

(3) REQUIRED COMPONENTS.—The rule issued under paragraph (2) shall provide that the reintroduction will not impose more than de minimus: water supply reductions, additional storage releases, or bypass flows on unwilling third parties due to such reintroduction.

The issuance of a 10(a)(1)(A) permit, the 10(j) designation of an experimental spring-run Chinook population, and the issuance of a 4(d) rule governing incidental take of the reintroduced population are described in Chapter 2.0, "Description of Alternatives," of the Draft PEIS/R, and evaluated at a program level of detail in Chapters 4.0 through 26.0. The Act requires that the 10(j) designation and 4(d) rule are in place prior to the release of spring-run Chinook salmon within the Restoration Area. Both the experimental population designation and the 4(d) rule will require additional future analysis to address the specific environmental impacts of implementing this action.

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 was 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 a public draft EA on the issuance of a permit as requested by USFWS. As required by Section 10011 of the Act, NMFS will issue a final rule pursuant to Section 10(j) of the ESA, 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 the reintroduction of spring-run Chinook salmon would be addressed in the subsequent project-specific NEPA analysis, and possibly CEQA analysis, to evaluate the effects of the authorization of the Section 10(j) Special Rule.

The potential for increased entrainment of listed fish in the Delta is addressed in Chapter 5.0, "Biological Resources – Fisheries," of the Draft PEIS/R.

SLDMWA-34b: Under Section 10(j) of the ESA, the Secretary of Commerce can authorize the release of an experimental population outside a species' current range, but within its historical range, when (1) the experimental population is geographically separate from the nonexperimental population, and (2) the designation will further conservation of the listed species. Several comments raised concerns about the potential liability of landowners for harming reintroduced listed species, and the potential placement of restrictions and prohibitions on Federal and private activities to protect the reintroduced fish. As stated in the Draft PEIS/R, USFWS submitted a 10(a)(1)(a) Enhancement of Species Permit application to NMFS on September 30, 2010, for introducing an experimental population of spring-run Chinook salmon, consistent with the schedule identified in the Settlement. NMFS will issue a final rule pursuant to Section 10(j) of the ESA by April 30, 2012.

The term "take" is defined by the ESA as "to harass, harm, pursue, hunt, shoot, wound, trap, capture, or collect, or attempt to engage in any such conduct." A population designated as experimental is treated as threatened regardless of the species' designation elsewhere in its range. Section 4(d) of the ESA allows NMFS to adopt regulations necessary to provide for conservation of a threatened species. This provides flexibility for NMFS to customize prohibitions and regulate activities to conserve threatened species, potentially without involving many or all restrictions that apply to endangered species. Exact requirements depend on the species' biology and conservation needs, and threats being managed. Under the 4(d) rule for reintroducing spring-run Chinook salmon to the Restoration Area, NMFS would create a set of protective regulations specific to the experimental population. Under the 4(d) rule, NMFS may elect to allow take for the experimental population if the take is incidental to a lawful activity, such as agricultural activities, and is unintentional or not due to negligent conduct. NMFS is currently developing a document describing considerations for issuing a 4(d) rule as part of Settlement implementation.

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

SLDMWA-35a: As described in detail in response to comment SLDMWA-27c, 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 portions of recaptured water 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.

Settlement implementation would result in reduced frequency and volume of flood releases from Millerton Lake, potentially reducing the annual average diversion of flood

flows at downstream locations, including Mendota Pool and the Delta. Historically, portions of these flood releases have been diverted at Mendota Pool to satisfy CVP demands. San Joaquin River flood flows diverted at Mendota Pool provide deliveries in lieu of CVP water supplies from the DMC. This increases the portion of CVP water exported from the Delta that is available for delivery to other south-of-Delta water service contractors. A reduction in flood releases under the action alternatives was observed in the detailed CalSim-II modeling results analyzed in the Draft PEIS/R. Results of surface water operational modeling conducted in support of the analyses in the Draft PEIS/R also demonstrate that the total 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 portions of recaptured water would be available for recirculation without causing adverse effects to water supply allocations.

For the reasons set forth in response to comment SLDMWA-27c and in MCR-6, "Third-Party Concerns and Outreach," in Chapter 2.0, "Master Comment Responses," of this Final PEIS/R, no revisions to the PEIS/R are necessary and recirculation is not necessary. See response to comment SLDMWA-27c, and MCR-6 for additional information relevant to this comment.

SLDMWA-35b: As described in detail in response to comment SLDMWA-27c, 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 portions of recaptured water 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 surface water supply impacts to any non-Friant Division south-of-Delta water service contractors. Therefore, groundwater pumping would not increase and the rate of subsidence would not change as a result of Settlement implementation. See response to comment SLDMWA-27c for additional information relevant to this comment.

SLDMWA-35c: This comment is substantially similar to SLDMWA-35a and SLDMWA-35b; see responses to comments SLDMWA-35a and SLDMWA-35b.

SLDMWA-36: For the reasons set forth in responses to comments SLDMWA-1 through SLDMWA-35c, Reclamation and DWR believe that the PEIS/R includes a legally adequate project description, thoroughly analyzes all potential impacts from connected actions of the SJRRP, and analyzes a reasonable range of alternatives that would avoid or minimize at least one of the environmental impacts of the project. Therefore, recirculation of the PEIS/R is not required. See responses to comments SLDMWA-1 through SLDMWA-35c.

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