Chapter 4

Federal and State Agency Comments

Chapter 4

Federal and State Agency Comments

This section contains copies of the comment letters received from federal and state government agencies, listed in Table 4-1. Each letter is followed by responses to the comments presented in that letter. Responses to comments are numbered individually in sequence, corresponding to the numbering assigned to comments in each comment letter. The responses are prepared in answer to the full text of the original comment.

Table 4-1. Federal and State Agency Comments Received on the SDIP Draft EIS/EIR

Code	Agency/Organization	Name
Federal		
EPA	U.S. Environmental Protection Agency	Duane James, Manager, Environmental Review Office
DAC	Congress of the United States, House of Representatives	Dennis A. Cardoza, 18th District, California
State		
CSCL	California State Council of Laborers	Jose Mejia, Director
CVRWQCB	Central Valley Regional Water Quality Control Board	Kenneth Landau, Acting Executive Officer
DBW	Department of Boating and Waterways	David L. Johnson, Deputy Director
DC	Department of Conservation	Dennis O'Bryant, Acting Assistant Director
DFG	Department of Fish and Game	Banky Curtis, Deputy Director, Habitat Conservation Division
DPC	Delta Protection Commission	Linda Fiak, Executive Director
DSOD	Department of Water Resources, Division of Safety of Dams	David A. Gutierrez, Chief
KMC	Assembly, California Legislature	Kevin McCarthy, Assembly Republican Leader, Thirty-Second District
MM	California State Senate	Michael Machado, Senator, 5th District
SLC	State Lands Commission, Division of Environmental Planning and Management	Stephen L. Jenkins, Assistant Chief
SWRCB	State Water Resources Control Board	Gita Kapahi, Chief Bay-Delta/Special Projects Unit

Comment Letter EPA

EPA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

February 22, 2006

Mr. Paul Marshall
California Department of Water Resources
Bay Delta Office
1416 Ninth Street
Sacramento, CA 95814

FEB 24 2006
000218

Subject: Draft Environmental Impact Statement (DEIS) for South Delta Improvements Program, Sacramento-San Joaquin Bay Delta, California (CEQ# 20050462)

Dear Mr. Marshall:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508) and Section 309 of the Clean Air Act. Our comments are provided in accordance with the EPA-specific extension to the comment deadline date from February 7, 2006 to February 21, 2006 granted by you and Ms. Sharon McHale, Reclamation Program Manager, (telephone conversation with between Laura Fujii and Sharon McHale, January 26, 2006).

The South Delta Improvements Program (SDIP) raises a number of important issues concerning the health of the largest estuary on the West Coast as well as the water supply for millions of Californians. In developing a response to these issues, the U.S. Bureau of Reclamation (Reclamation), as the federal lead agency, and the California Department of Water Resources (DWR), as the state lead agency, have taken a creative approach to decision-making for the SDIP. The lead agencies propose a staged decision-making process. Stage 1 decisions will involve only the physical/structural components of the project, and Stage 2 will address the operational components necessary to increase the permitted pumping capacity beyond the current 6,680 cubic feet per second (cfs) limit.

EPA supports this staged decision-making because it offers the best opportunity to make critical decisions about Stage 2 operational issues after scientific evaluations shed light on the pelagic organism decline in the Delta. We believe this approach is consistent with NEPA, especially given the lead agencies' commitment to develop supplemental NEPA/CEQA documentation, with appropriate public review processes, before any decisions are made about Stage 2. Given this NEPA commitment, EPA has followed the same staged process, and is evaluating and rating only Stage 1 of the DEIS. EPA will provide formal comments and rating of Stage 2 after the supplemental

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document and preferred alternative for Stage 2 are issued. Given that much of the analysis in this Stage 1 DEIS is applicable to the Stage 2 decision, EPA has provided initial comments on the analysis, so that the lead agencies can address concerns in advance of the Stage 2 NEPA document.

Based on our review, we have rated the proposed Stage 1 physical/structural component as Environmental Concerns – Insufficient Information (EC-2). A *Summary of EPA Rating Definitions* is enclosed. EPA supports the effort to address water quality, fishery, and water supply reliability issues in the south Delta. However, the Stage 1 DEIS does not analyze the effects of Stage 1 on implementation of Total Maximum Daily Load measures to improve dissolved oxygen, mercury accumulation, and salt/boron, significant water quality issues within the south Delta. We recommend establishment of a comprehensive water quality monitoring and assessment program, which is a Delta Improvements Package commitment. We are also concerned with the unspecified point in time for implementation of interim operations. We recommend increases in export pumping, proposed in interim operations, not be initiated until the Stage 2 decision is complete. EPA-1 EPA-2 EAP-3

EPA appreciates the opportunity to review this Stage 1 DEIS. We are available to discuss our Detailed Comments. When the Stage 1 FEIS is released for public review, please send two copies to the address above (mail code: CED-2). If you have questions, please contact me at 415-972-3988, or Laura Fujii, the lead reviewer for this project. Laura can be reached at 415-972-3852 or fujii.laura@epa.gov.

Sincerely,

Duane James, Manager
Environmental Review Office
Communities and Ecosystems Division

Enclosures:
Summary of EPA Rating Definitions
Detailed Comments

cc: Sharon McHale, Bureau of Reclamation
Les Grober, Central Valley Regional Water Quality Control Board
Dave Harlow, US Fish and Wildlife Service
Michael Aceituno, NOAA-Fisheries

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U.S. Environmental Protection Agency Rating System for
Draft Environmental Impact Statements
Definitions and Follow-Up Action*

Environmental Impact of the Action

LO – Lack of Objections

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

EC – Environmental Concerns

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

EO – Environmental Objections

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

EU – Environmentally Unsatisfactory

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

Adequacy of the Impact Statement

Category 1 – Adequate

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

Category 2 – Insufficient Information

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

Category 3 – Inadequate

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

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

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EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR SOUTH DELTA IMPROVEMENTS PROGRAM, SACRAMENTO-SAN JOAQUIN BAY DELTA, CA., FEBRUARY 22, 2006

Comments on Stage 1 Physical/Structural Component

Water Quality Analysis

Evaluate effect on methyl mercury production and mercury concentration. Delta waterways and the lower San Joaquin River are listed as impaired for "mercury." The Central Valley Regional Water Quality Control Board (Central Valley RWQCB) is preparing a Total Maximum Daily Load (TMDL) for mercury in the Delta. A recently released staff report (August 2005) discusses habitat, water management, and water quality conditions which can contribute to bioavailability of mercury and exposure at levels affecting human health and biota. This information is relevant for conditions in the South Delta Improvements Program (SDIP) project area and potential effects of the project.

Recommendation:
The Stage 1 Final EIS (Stage 1 FEIS) should provide information on mercury levels in the Delta. Evaluate the potential effects of SDIP on bioavailability of mercury, mercury exposure levels, and implementation of the mercury TMDL. The analysis should be consistent with the recommendations of the Central Valley RWQCB. Mitigation measures should be provided to address adverse conditions such as an increase in bioavailability of mercury that may be caused by SDIP. **EPA-4**

Evaluate effect on dissolved oxygen. The Stage 1 Draft EIS (Stage 1 DEIS) information on dissolved oxygen (DO) and its related TMDL is incomplete and outdated. Objectives for DO are minimum levels to protect fish. The State Water Resources Control Board (SWRCB) has approved the DO TMDL for the Stockton Deep Water Ship Channel as an amendment to the Basin Plan. This TMDL cites flow, channel geometry (which affects natural aeration processes), and oxygen demanding substances as contributing to the DO impairment. The Stage 1 DEIS also omits information on DO impairment in the Middle River and Old River (between the San Joaquin River and Delta Mendota Canal). For both of these rivers, the 303(d) listing identifies "hydrologic modification" as the cause of the DO impairment. SDIP Stage 1 operations could affect flow, channel geometry, and oxygen demanding substances and DO conditions in south Delta channels.

Recommendation:
The Stage 1 FEIS should evaluate the effect of Stage 1 operations on DO impairment in the Middle River, Old River, Stockton Deep Water Ship Channel and other south Delta channels. Potential effects on implementation of TMDL requirements for dissolved oxygen should be described and mitigated. **EPA-5**

Evaluate effect on implementation of the TMDL for salt and boron. Salt loading of source water is a key water supply issue. Under the salt/boron TMDL to meet objectives for the lower San Joaquin River at Vernalis, the Bureau of Reclamation (Reclamation) is responsible for mitigating the impacts of the salt load associated with its Delta Mendota

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Canal supply water. According to the TMDL, this can be done through dilution flows which increase assimilative capacity, or other mitigation measures. SDIP increases in Central Valley Project (CVP) deliveries to the San Joaquin Basin could influence salt loading and implementation of the salt/boron TMDL.

Recommendation:
The Stage 1 FEIS should document the salt/boron TMDL requirements and Reclamation obligation to mitigate salt loads. Evaluate the effect of Stage 1 SDIP deliveries on San Joaquin River and Basin salt loading. Stage 2 National Environmental Policy Act (NEPA) documentation should fully evaluate the impacts of increased deliveries on salt loadings and implementation of the salt/boron TMDL. EPA-6

Establish a comprehensive water quality monitoring and assessment program. Water quality modeling is based on monthly time steps making it difficult to accurately evaluate adverse effects on fish which may not survive a monthly average. For instance, the Stage 1 DEIS used a monthly average concentration of 10% below the DO objective (p. 5.3-24) to define "significant" impact. However, the DO objective is strictly a minimum of 5.0 milligrams/liter (mg/l)—not a monthly average. Thus, the proposed criteria for significant impact for the DO objective may not be appropriate.

The NEPA document should state that modeling indicates a potential for violation of water quality objectives and recognize the need for water quality monitoring and response to avoid violations. We note that water quality monitoring and response was a commitment made in the Delta Improvements Package Agreement which included the SDIP. EPA-7

Recommendations:
The Stage 1 FEIS should evaluate and propose the establishment of a comprehensive water quality monitoring, assessment, and response program. We recommend this monitoring program include measures to capture biological and water quality information for our collective efforts to improve fisheries and water quality. The Vernalis Adaptive Management Plan (VAMP) on the San Joaquin River included such an approach and is yielding useful information, even though this long-term experiment has not yet been completed.

Reclamation and Department of Water Resources (DWR) should consult with the Central Valley RWQCB and SWRCB regarding water quality analysis and monitoring for both Stage 1 and Stage 2 of the SDIP. EPA-8

Interim Operations
State the point in time for implementation of interim operations. The Stage 2 operational component description includes implementation of "an interim operations regime" pending full execution of Stage 2 operations (p. 2-2). The text is unclear regarding when "interim operations" would begin. It is our understanding that an increase to 8,500 cfs pumping levels will not occur during Stage 1, as initially considered in the EPA-9

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Stage 1 DEIS under interim operations (personal communication between Carolyn Yale, EPA, and Paul Marshall, California Department of Water Resources, February 15, 2006). We support this conservative approach. EPA-9

Substantial uncertainty remains regarding the cause for the recent pelagic organism decline. Given this uncertainty, it is unknown whether the proposed conditions for increased pumping under an interim operation regime are appropriate. Deferring operations decisions until after the Stage 2 decision would give biologists and project operators an opportunity to develop a scientifically supportable set of operating criteria.

Recommendation:
The Stage 1 FEIS should confirm that the interim operations regime will not be implemented in Stage 1. We recommend increases in export pumping proposed in interim operations not be initiated until the Stage 2 decision is complete. The Stage 1 FEIS should describe how the CVP and State Water Project (SWP) will be operated during Stage 1 and describe the key regulatory constraints and basis for this operations regime. The Stage 1 FEIS, as well as the Stage 2 NEPA document, should describe how operations will affect the water quality parameters discussed above, as well as address potential fisheries impacts.

Air Quality

Describe feasibility of mitigation for nitrogen oxide emissions. Construction- and dredging-related nitrogen oxides (NOx) emissions would be above the general conformity threshold in San Joaquin County. Mitigation for theses short-term increases includes acquiring NOx emission reduction credits (p. 5.9-11).

Recommendation:
The Stage 1 FEIS should describe the availability of NOx emission reduction credits and the ability to purchase sufficient credits to mitigate anticipated NOx exceedences. EPA-10

Cumulative Impacts Analysis

Include potential effects of the San Luis Unit Drainage Re-Evaluation Project in the cumulative impacts analysis. The cumulative impact analysis does not include the San Luis Unit Drainage Re-Evaluation Project (Table 10-1). This drainage project could significantly improve water quality and affect flows in the San Joaquin River, which, in turn, could cumulatively affect resources in the SDIP project area.

Recommendation:
The Stage 1 FEIS should include the potential effects of the San Luis Unit Drainage Re-Evaluation Project in the cumulative impacts analysis. Provide information on potential impacts on San Joaquin River water quality (e.g., salinity, DO) and flows. EPA-11

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Comments on Stage 2 Operational Component

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Stage 2 Operational Scenarios

EPA, with other state and federal CALFED agencies, endorsed in the CALFED ROD, the concept of using the 8,500 cubic feet per second (cfs) pumping capacity to provide operational flexibility to meet project water supply and water quality goals (CALFED ROD, p. 49). Support of the increased pumping regime was explicitly conditioned "upon avoiding adverse impacts to fishery protection and in-Delta water supply reliability." Further, the CALFED ROD called for the development and implementation of a plan to meet all existing water quality standards for which the CVP and SWP have responsibility before the end of 2002 (CALFED ROD, p. 70).

Much has happened since the adoption of the CALFED ROD. EPA believes that the framework put in place by the CALFED ROD (and subsequently endorsed in state and federal legislation) is still a valid approach to the question of using the 8,500 cfs pumping capacity. In sum, the CALFED ROD suggests that CVP and SWP can move to higher pumping capacity only if the issues of fisheries impacts, water quality standards compliance, and in-Delta water supply reliability are satisfactorily addressed.[1] With this framework in mind, EPA has the following comments on the analyses contained in the SDIP Stage 1 DEIS.

Explain the rationale for the operational scenarios. The Stage 1 DEIS does not provide the rationale for the operational scenarios evaluated. It is not apparent that the selected scenarios capture the key variables on which decisions balancing fisheries, water quality, and water supply are likely to be based.

Recommendations:

The Stage 1 FEIS should clarify the key objectives and decision factors distinguishing scenarios. Describe the intended environmental protection differences, if any, among the scenarios; such as Environmental Water Account (EWA) performance and conveyance of refuge water supplies. **EPA-12**

The Stage 2 NEPA document should fully evaluate the potential impacts of the proposed operational scenarios on environmental protection measures. Key objectives and decision factors distinguishing scenarios should be fully discussed, clearly delineating the rationale, environmental protection measures, and operational differences between operational scenarios.

Consider other operational scenarios. Investigations of the pelagic organism decline may provide information on CVP and SWP operational effects that could change the proposed operational scenarios. Furthermore, it is not clear how the current proposed scenarios represent a full, reasonable "range" of alternatives with respect to SDIP purposes. **EPA-13**

[1] The Delta Improvements Package Implementation Plan adopted by the California Bay Delta Authority on August 13, 2004 reiterated the CALFED ROD framework and added some additional specific tasks to accomplish on the way to approving increased pumping capacity.

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The current proposed scenarios have significant limitations. For example, Scenario B is presumably more fish protective by holding the December 1 to June 20 monthly pumping rate at a maximum of 6,680 cfs "except when fish densities allow higher diversions" (Stage 1 DEIS Table 2-3). If "fish densities" refers to salvage density, this is especially inappropriate for Delta Smelt. Due to the precariousness of Delta Smelt survival, the Delta Smelt Working Group has recommended avoiding reliance on fish densities as an operational trigger (Delta Smelt Working Group "Delta Smelt Risk Assessment Matrix").

In another example, the Stage 1 DEIS describes the trade-offs between water quality and fisheries protection when routing supply water through Old River when the Head of Old River Barrier (HORB) is open, versus drawing more supply water through the Central Delta (p. 5.3-27) when HORB is closed. Ways of resolving or reducing these trade-offs have not been discussed. EPA-14

Recommendations:
The Stage 1 FEIS should address the potential for other operational scenarios, and, in general, describe how the scenarios in the Stage 1 DEIS provide a full range of alternatives.

The Stage 2 analysis and accompanying NEPA document should consider other operational scenarios. Other operational rules may reduce or mitigate impacts and water quality/fisheries objectives trade-offs that may result from increased CVP and SWP pumping. The Stage 2 NEPA document should discuss in detail how the proposed operational scenarios represent a full, reasonable range of alternatives with respect to SDIP purposes.

Evaluate effect on the Environmental Water Account. The Environmental Water Account (EWA) is treated differently in various operational scenarios in the Stage 1 DEIS. For instance, Scenario B provides 1,820 cfs of dedicated conveyance in the summer period while Scenarios A and C provide 500 cfs during this period (Table 5.1-1, page 5 of 6). The reasons for these differences, and implications for EWA effectiveness, are not explained. Altering features of the EWA outside the bounds of the adopted and NEPA-evaluated program would be inappropriate.

Recommendations:
The Stage 1 FEIS should evaluate, in general, the effects of SDIP on the EWA. The Stage 1 FEIS should explain the relationship between the EWA-related operations variables and the adopted short-term EWA program. Describe the reasons for different operational components and their implications for EWA effectiveness. Explain whether the "size" of EWA assets is considered sufficient to mitigate for planned pumping increases. EPA-15

The Stage 2 NEPA document should provide a detailed analysis of effects of operational changes on the EWA, its effectiveness, and the ability of EWA assets to mitigate for proposed pumping increases. EPA-16

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Water Quality Analysis

Describe water quality effects of Stage 2. As stated above, different operational scenarios could have various effects on the ability to implement TMDLs and meet water quality standards. The consequences of these water quality impacts for ecosystem restoration and drinking water objectives, and protection of other beneficial uses, is of concern.

Recommendation:
The various Stage 2 operational scenarios may have different effects on the ability to meet water quality standards, TMDLs, and desired conditions in the Delta. These different effects should be analyzed and disclosed in the Stage 2 NEPA document. **EPA-17**

Evaluate effects on salt loading in the San Joaquin Basin and Tulare Basin. The Stage 1 DEIS does not address the impacts of changes in the quantity and quality of CVP supply water in the San Joaquin service areas and SWP water in the Tulare Basin. CVP exports to the San Joaquin Basin contribute significant loads of salt, exacerbating salinity management problems in the Basin. Under the adopted TMDL and Basin Plan Amendment for salinity and boron, Reclamation is responsible for helping to mitigate or reduce salt loads within areas draining to the San Joaquin River. Additionally, salinity problems in areas not draining to the San Joaquin River—notably, major portions of the San Luis Unit and SWP Tulare Basin service areas—can be affected by changes in project deliveries.

Recommendation:
The Stage 1 FEIS should evaluate, in general, the effects of operational changes on salt loading in the San Joaquin Basin and Tulare Basin. Include information on planned salinity control and flow measures and potential mitigation measures. **EPA-18**

The Stage 2 NEPA document should provide a detailed analysis of the effects of operational scenarios on the quantity and quality of CVP and SWP water supply deliveries and associated effects on salt loading throughout the south Delta, San Joaquin River Basin, and Tulare Basin. **EPA-19**

Evaluate effects on the Trinity River. The Trinity County Supervisors and Planning Department have expressed concerns regarding the potential effect of operational changes on Trinity River flows, reduction of long-term Trinity River exports, and restoration of Trinity River fisheries and habitat. The Trinity River is a key component of the CVP. Trinity River operations and constraints could influence the effectiveness of the SDIP.

Recommendations:
The Stage 1 FEIS should describe the concerns of Trinity County Supervisors and other interested parties and discuss potential measures that could address their concerns. **EPA-20**

We recommend the Stage 2 NEPA document fully address operational concerns raised in comments on this Stage 1 DEIS. **EPA-21**

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Mitigation

Describe expanded EWA and avoidance-and-crediting mitigation measures. The Stage 1 DEIS states that Stage 2 mitigation for fishery impacts would be an expanded EWA or avoidance-and-crediting system augmenting the current EWA program (p. ES-6).

Recommendations:

The Stage 1 FEIS should provide a general description of the expanded EWA and avoidance-and-crediting mitigation measures.

EPA-22

The Stage 2 NEPA document should include a more detailed description, including a discussion of the effectiveness and implementation of the current EWA program--its intent, its original design, how it is implemented, and the result of litigation. The Stage 2 NEPA document should clearly demonstrate that proposed mitigation measures, such as the expanded EWA, can mitigate for operational impacts.

General Comments

Compliance with the Clean Water Act Section 404 and 404 (b)(1) Guidelines. The Stage 1 DEIS states that the CALFED ROD includes a memorandum of understanding (MOU) which provides that "when a project proponent applies for a Section 404 individual permit for a CALFED project, the proponent is not required to reexamine program alternatives already analyzed in the Programmatic EIS/EIR. The Corps and EPA will focus on project-level alternatives that are consistent with the PEIS/EIR when they select the least environmentally damaging practicable alternative..." (p. 8-12; also p. 6-19). While this statement is generally correct, the MOU also establishes that new information regarding completeness or correctness of the program level documentation can alter this alternatives evaluation. Further, the MOU specifies that "[t]his Understanding is conditioned on the programs and related commitments of the CALFED Bay-Delta Program, including those related to water use efficiency, water transfers, and the Ecosystem Restoration Program, being implemented in the same manner as described in the Decision Documents." (MOU, ROD Attachment 4, p. 4, Additional Provision IIIG).

Recommendation:

The Stage 1 FEIS and Stage 2 NEPA document should provide a thorough analysis of compliance with the Clean Water Act Section 404 and 404(b)(1) Guidelines for their particular alternatives. If alternatives were evaluated in the CALFED Bay Delta Program Programmatic EIS, that analysis should be explicitly referenced in the Stage 1 FEIS 404 analysis.

EPA-23

Provide simplified graphs and tables. The Stage 1 DEIS provides many graphs and tables to illustrate the results of water supply and Delta tidal hydraulic model simulations. Graphs and tables in Chapter 5 Water Supply and Chapter 6 Biological Environment are very detailed and "busy," reducing their effectiveness in clearly conveying information and highlighting effects.

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Recommendation:

We recommend providing in the Stage 1 FEIS and Stage 2 NEPA document simplified graphs and tables that highlight key effects and information. For instance, simulated data for monthly range of reservoir storage and river flows (e.g., Figures 5.1-2 to 5.1-4) could be displayed with only the minimum, average and maximum data rather than data for all percentiles. EPA-24

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Responses to Comments

EPA-1

This general topic is covered in EPA-4, EPA-5, and EPA-6.

EPA-2

This general topic is covered in EPA-7 and EPA-8.

EPA-3

This general topic is covered in EPA-9.

EPA-4

Stage 1 of the SDIP will not have any effect on implementation of TMDL measures to reduce the accumulation of total or methyl-mercury in the Delta, because the project does not change or influence the sources of total mercury, nor does it change the processing of methyl-mercury that may occur within the Delta channels.

EPA-5

Stage 1 of the SDIP will have some possible effects on the implementation of TMDL measures to improve DO in the Stockton DWSC, as described in Section 5.3 of the SDIP Draft EIS/EIR. The general effects of San Joaquin River flow, which may be increased by operation of the fish control gate at the head of Old River, were evaluated. Impact WQ-13 discussion identifies beneficial effects of the SDIP on DO in the DWSC. Changes in the tidal flows (i.e., increased tidal flushing) in Old and Middle Rivers likely will have beneficial effects on the short periods of low DO that have been observed in these channels.

EPA-6

Please see Master Response Q, *Effects of the South Delta Improvements Program on San Joaquin River Flow and Salinity*.

EPA-7

DWR and Reclamation, co-signers of the DIP, have committed to establish a comprehensive water quality monitoring and assessment program as part of the DIP. This program is already largely underway as part of the D-1641 monitoring requirements and IEP ecological survey programs.

EPA-8

DWR and Reclamation have specific responsibilities under D-1641 and the more general IEP monitoring efforts both to participate in water quality monitoring and to provide assessment of conditions. Very specific requirements are associated with the salinity monitoring throughout the Delta. SDIP will not change these monitoring and assessment efforts.

Each of the permits Reclamation and DWR receive from the State and Regional Water Boards comes with monitoring and reporting requirements. Project proponents commit to these monitoring efforts and to consult with these Boards on the overall monitoring programs.

EPA-9

Please see Master Response M, *Interim Operations*.

EPA-10

Project applicants have the option of paying a fee to the San Joaquin Valley Air Pollution Control District to offset increases in emissions. The District uses those fees to purchase emission offsets. The price of those fees varies from year to year, with the current price approximately $15,000 per ton of oxides of nitrogen (NO_X). Adequate offsets are available as shown in following air district web page:

<http://www.valleyair.org/busind/pto/erc/rptAnnualCreditByRegion.pdf>.

EPA-11

Please see Master Response Q, *Effects of the South Delta Improvements Program on San Joaquin River Flow and Salinity*.

EPA-12

The three operational alternatives for Stage 2 were developed within the relatively narrow range of potential changes in CVP and SWP pumping, with a revised 8,500 cfs CCF diversion limit. This process of selection includes the 8,500 stakeholder process ending in fall 2002, and is fully described in Appendix A of the Draft EIS/EIR, "SDIP Alternatives Development and Screening."

EPA-13

Please see Master Response B, *Relationship between the South Delta Improvements Program and the Pelagic Organism Decline*.

EPA-14

Please see Master Response O, *Gate Operations Review Team*.

EPA-15 and EPA-16

Please see Master Response E, *Reliance on Expanded Environmental Water Account Actions for Fish Entrainment Reduction*.

EPA-17

The effects of each SDIP Stage 2 operational scenario on the San Joaquin River salt and boron TMDL are expected to be positive because the CVP Delta-Mendota Canal salinity will be reduced and can be further evaluated in the subsequent CEQA/NEPA document. All D-1641 EC objectives will be maintained for each scenario. Changes in other water quality variables are not expected to be substantial; no differences between the Stage 2 operational scenarios are likely to be identified.

EPA-18 and EPA-19

Please see Master Response Q, *Effects of the South Delta Improvements Program on San Joaquin River Flow and Salinity*.

EPA-20 and EPA-21

Please see Master Response N, *Trinity River Operations*.

EPA-22

Please see Master Response E, *Reliance on Expanded Environmental Water Account Actions for Fish Entrainment Reduction.*

EPA-23

Reclamation and DWR submitted a formal CWA application for an Individual Permit to the U.S Army Corps of Engineers, Sacramento District Regulatory Branch earlier in 2006 for the SDIP Stage 1 actions. A CWA permit is required because the constructing the fish and flow control gates and conducting conveyance and spot dredging will result in placing fill in the waters of the United States. Reclamation and DWR are currently in the process of completing the 404(b)(1) alternatives analysis on the SDIP Stage 1 actions. The 404(b)(1) analysis will be submitted to the Corps as part of the ongoing CWA permitting process. The 404(b)(1) analysis was not circulated with the SDIP EIS/EIR. The 404(b)(1) analysis includes a comprehensive evaluation of alternatives, including the alternatives evaluated in the SDIP EIS/EIR.

Alternatives 1, 2, and 3 of the CALFED Bay Delta Programmatic EIS/EIR, included the head of Old River flow control gate and the Middle River, Grant Line Canal, and Old River flow control gates.

EPA-24

The recommendation to use simplified graphics where possible is noted. The graphics in SDIP Draft EIS/EIR Sections 5.1, Water Supply, 5.2, Delta Hydraulics, 5.3, Water Quality, and 6.1, Fish, are designed to balance a simple presentation of the key effects with the need to provide complete information from the CALSIM and DSM2 model results. DWR and Reclamation will continue to look for ways to improve the presentation of model results during Stage 2 evaluations.

Comment Letter DAC

DAC

L. SNOW
XC Brian

DENNIS A. CARDOZA
18TH DISTRICT, CALIFORNIA

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February 7, 2006

Mr. Lester Snow
Director, Department of Water Resources
P.O. Box 942836
Sacramento, CA 94236-0001

Dear Director Snow,

I am writing to encourage the California Department of Water Resource to adopt the Department's proposed South Delta Improvements Program. As you know, two-thirds of California receives its water from the San Francisco Bay/Sacramento-San Joaquin Delta. Given the importance of this resource, it is crucial that we develop ways to better manage the Delta's water delivery system. The South Delta Improvements Program has long been recognized as a key step in better managing the Delta. This program is a major component of the CALFED Framework Agreement, Record of Decision and legislation authorized by the Congress in 2004.

The South Delta Improvements Program is a responsible and balanced plan to better utilize and integrate our existing water management infrastructure in the Delta. It will improve our state's water supply reliability, water quality and the overall health of the Bay-Delta ecosystem, and will benefit the Westside. The program will construct seasonal tidal gates to protect fish and improve water circulation and quality in the Delta, dredge select Delta channels to improve water deliveries for local farmers, and allow modest increases to the State Water Project deliveries. DAC-1

Currently, the state is constrained in its ability to use surplus water supplies. We have the infrastructure to move the water, but until SDIP is approved, the state's water managers cannot fully or responsibly use the existing system. SDIP calls for only a 3-5% increase in the average amount of water pumped from the Delta. More significantly, SDIP will provide the flexibility to shift the timing of water deliveries when surplus is available and when it is environmentally safe. SDIP will help protect important Delta environmental resources. Specifically, it will help protect fish species in the Delta channels. At the same time, by providing the state greater flexibility in how and when SDIP operates its system of pumps, fish are granted greater protections.

Water is the lifeblood of California – critical to our families, farms, and businesses. It is our responsibility to use this precious resource as wisely as possible through all possible best management practices, including water conservation, recycling and storage, to ensure California's water future. State and federal agencies must take a responsible, balanced approach to addressing our water resource needs that considers all of California's diverse, often competing, interests. SDIP is a key element in such a balanced approach.

DAC-1
cont'd

Sincerely,

Dennis Cardoza
Member of Congress

Response to Comment

DAC-1

The commenter's description of the project's benefits and support for the project are noted.

Comment Letter CSCL

L. Snow
Holmes
DEC 22 2005 00024 K. Kelly

CSCL

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Sacramento, CA 95814

Phone: (916) 447-7018
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Jose Mejia
Director

José A. Moreno
Northern California Business Manager

Mike Quevedo, Jr.
Southern California Business Manager

Rocco Davis
Regional Manager

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December 12, 2005

Mr. Lester Snow
Director
Department of Water Resources
P.O. Box 942836
Sacramento, CA 94236-0001

RE: South Delta Improvements Program

Dear Director Snow,

On behalf of The California State Council of Laborers, I am writing to express our organization's support for the Department of Water Resources' (DWR) South Delta Improvements Program (SDIP), a critical water supply, water quality and environmental project designed to meet California's diverse water needs. We have always played a key role on water issues throughout the years and understand the importance this is to the citizens of this great state. Traditionally we have been involved with the construction of facilities that have provided this priceless resource and understand the importance of this program. CSCL-1

We need a safe, reliable and high quality water supply to keep up with our rapidly rising population and fast-growing trillion-dollar economy. However, we have limited water supplies in our arid state, so we must better utilize our existing water resources and infrastructure; otherwise, we put our communities, farms, environment and businesses at great risk. Two-thirds of California receives its water from the San Francisco Bay/Sacramento-San Joaquin Delta. Given its importance, we need better ways to manage the Delta's water delivery system, as well as the water itself. In essence, we need to make every drop count.

In 2000, the state and federal governments initiated the historic CalFed Bay-Delta Program to manage the Bay-Delta's water resources and eco-system. A unique collaboration of interests supported the plan including environmental organizations, water agencies, business interests, farmers, state and federal water and fish agencies and labor groups. SDIP is the next step forward in this long-term planning effort for the Bay-Delta.

DEC 2 2 2005 00024

SDIP is a responsible and balanced plan to better utilize and integrate our existing water management infrastructure in the Delta. Collectively, it will improve our state's water supply reliability, water quality and the overall health of the Bay-Delta ecosystem. The program will construct seasonal tidal gates to protect fish, and improve water circulation and quality in the Delta, dredge select Delta channels to improve water deliveries for local farmers, and allow State Water Project deliveries to increase modestly.

Currently, the state is constrained in its ability to use surplus water supplies. We have the infrastructure to move the water, but until SDIP is approved, the state's water managers cannot fully or responsibly use the existing system. SDIP calls for only a 3-5% increase in the average amount of water pumped from the Delta. More significantly, SDIP will provide the flexibility to shift the timing of water deliveries when surplus is available and when environmentally safe to do so. SDIP is an ideal option for California to advance – it will not require building a new project or the construction of major new infrastructure. And, funding for the program has already been secured through passage of voter approved bonds in 2000 (Proposition 13). CSCL-1

Importantly, SDIP will help protect important Delta environmental resources. Specifically, it will help protect fish species in the Delta channels. At the same time, by providing the state greater flexibility in how and when SDIP operates its system of pumps, fish are granted greater protections.

Given all these points, SDIP is supported by a statewide, broad coalition of water, agriculture, business, planning organizations, and local government officials including the Association of California Water Agencies, State Water Contractors, California Chamber of Commerce, California Business Properties Association and the Western Growers Association.

Water is the lifeblood of California – critical to our families, farms, and businesses. It is our responsibility to use this precious resource wisely through all possible best management practices, including water conservation, recycling and storage, to ensure California's water future. It is imperative that we have a more flexible water delivery system so that we can continue to accommodate growth in our population and economy while relying on existing water supplies.

Again, we strongly support SDIP and encourage all key stakeholders to help advance this critically needed project.

Thank you.

Sincerely,

Jose Mejia

Director,
California State Council of Laborers Legislative Department

2

DEC 2 2 2005 00024

cc (*by facsimile)*: Hon. Governor Arnold Schwarzenegger, (916) 445-4633
Mr. Mike Chrisman, Secretary, California Resources Agency, (916) 653-8102
Mr. Joe Grindstaff, Director, California Bay-Delta Authority, (916) 445-7297
Mr. Dan Skopec, Deputy Cabinet Secretary, Office of the Governor, (916) 324-6358
Mr. Terry Tamminen, Cabinet Secretary, Office of the Governor, (916) 324-6358
Ms. Fiona Hutton, California's Water Future, (818)784-1222

O:/SnowltrDeptofResources.12122005

3

Responses to Comments

CSCL-1

The commenter's description of the project's benefits and support for the project are noted.

Comment Letter CVRWQCB

CVRWQCB

California Regional Water Quality Control Board
Central Valley Region
Robert Schneider, Chair

Alan C. Lloyd, Ph.D.
Agency Secretary

Arnold Schwarzenegger
Governor

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7 February 2006

Feb 07, 2006 00140

Mr. Paul Marshall
SDIP EIS/EIR Comments
State of California Department of Water Resources, Bay Delta Office
1416 Ninth Street
Sacramento, CA 95814

SUBJECT: COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT / ENVIRONMENTAL IMPACT REPORT (EIS/EIR) FOR THE SOUTH DELTA IMPROVEMENTS PROGRAM (SDIP)

Thank you for the opportunity to submit the following comments on the subject document. Comments are provided regarding the potential impacts of the SDIP on dissolved oxygen (DO) and mercury impairments in the Sacramento-San Joaquin Delta (Delta), and issues related to the Clean Water Act (CWA) Section 401 Water Quality Certification that will eventually be required for this project from the State Water Resources Control Board (State Water Board).

DISSOLVED OXYGEN BACKGROUND

Several water bodies within the boundaries of the Delta have been included on the State Water Board's CWA Section 303(d) list as impaired due to low DO conditions. Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff believes the physical and operational components of the proposed SDIP, along with existing State Water Project (SWP) and Central Valley Project (CVP) operations, have the potential to impact three of these impaired water bodies: Old River, Middle River, and the Stockton Deep Water Ship Channel (DWSC) portion of the San Joaquin River between Stockton and Disappointment Slough.

In January 2005, the Central Valley Water Board adopted *Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control Program for Factors Contributing to the Dissolved Oxygen Impairment in the Stockton Deep Water Ship Channel* (DO Control Program). In November 2005, the State Water Board approved the DO Control Program with minor modifications. The DO Control Program identifies reduced San Joaquin River flow through the DWSC as a major contributor to the DO impairment. It also recommends to agencies responsible for existing and future water resources facilities, which impact or have the potential to impact flow through the DWSC, that they evaluate and reduce their impacts on the DO impairment in the DWSC. The DO Control Program identifies the SDIP as a water resources project with the potential to impact flow through the DWSC. Also, the State Water Board in Water Right Decision D-1641 encouraged the parties involved in constructing and operating the barriers to consider the effects of the barriers on DO in the DWSC. In accordance with Central Valley Water Board and State Water Board regulatory guidance, and the requirements of the California Environmental Quality Act (CEQA) and the National

CVRWQ
CB-1

Environmental Policy Act (NEPA), an evaluation and mitigation of the impacts of the SDIP on DO conditions in the DWSC are required.

In 2002 the State Water Board adopted a revised 303(d) list of impaired water bodies. This list included DO impairments on Old River and Middle River within the Delta. Although the Central Valley Water Board has not yet developed control programs for these impairments, the EIS/EIR must evaluate and mitigate the potential impacts of the physical and operational components of the SDIP on these water bodies. **CVRWQ CB-2**

Central Valley Water Board staff has had numerous written and verbal interactions with Department of Water Resources (DWR) and U.S. Bureau of Reclamation staff during the preparation of the DO Control Program and the SDIP EIS/EIR. For reference, enclosed is a letter sent to DWR in October 2003 regarding some concerns we had with the administrative draft of the SDIP EIS/EIR. Also beginning in December 2003, Central Valley Water Board staff participated in California Bay Delta Authority (CBDA) sponsored Integrated Water Operations Forum & Framework (IWOFF) discussions aimed at developing the details of the Delta Improvements Package (DIP), of which the SDIP is a part. Central Valley Water Board staff participated in these meetings to provide input on the potential impacts of the proposed activities on the DO impairments in the Delta. For reference, enclosed is a letter sent to CBDA in November 2003, at the initiation of the IWOFF discussions, outlining our concerns regarding the proposed DIP actions. Many of the same concerns expressed in both these letters appear again in the comments below.

DISSOLVED OXYGEN COMMENTS

Comment #DO1 - References to Relevant Regulations Omitted **CVRWQ CB-3**

The following omissions in the SDIP EIS/EIR should be addressed:

a) There is no mention in Chapter 5.3, *Delta Water Quality Issues*, Page 5.3-6 of the DO impairments in Old and Middle Rivers, and DWSC, nor the ongoing and potential impacts of the existing Delta exports and the proposed operational alternatives on these impairments.
b) There is no mention of the DO impairments in Old and Middle Rivers in Chapter 5.3, *Delta Water Quality Variables*, Page 5.3-14 to 15.
c) In Chapter 5.3, *Assessment Methods*, at the end of the third bullet toward the bottom of the page 5.3-15, it should be clarified that the DO Control Program has been formally adopted by both the Central Valley Water Board and the State Water Board.
d) References to applicable sections of both the DO Control Program and Water Right Decision 1641 should be included in Chapter 8 *Compliance with Applicable Laws, Policies, and Plans and Regulatory Framework.*

Comment #DO2 - Significance Criteria **CVRWQCB-4**

In Chapter 5.3 (page 5.3-21) the EIR/EIS states, *"No change [of a water quality variable] is allowed if the baseline value exceeds the maximum objective."*

a) In the case of DO, it should be clarified that no change should be allowed if the baseline values are below the minimum objective.
b) By definition when a water body is listed as impaired on the State Water Board's CWA 303(d) list (as is the case for DO in the DWSC, Old and Middle Rivers) baseline values already violate the objective. By applying this proposed general significance criteria, no further decrease in the DO water quality variable in these portions of the Delta should be allowed.

Comment #DO3 – Applicable Criteria for Dissolved Oxygen
The following comments apply to the discussion of the DO criteria/objectives contained in Chapter 5.3 of the SDIP EIS/EIR (pgs. 5.3-23 to 24).

a) The Basin Plan DO objective applicable to the DWSC applies at all times and places. There is no allowance in the Basin Plan for a 10% cushion of monthly average violations as proposed in the EIR/EIS. Any reduction of the monthly estimated DO concentration below the objective, therefore, should be considered a violation of the applicable objectives and should be considered a significant impact.
b) Applying the general significance criteria on page 5.3-21 (and addressed in Comment #DO2 above), no change to the DO variable should be allowed by the proposed project when the baseline value already violates the objective.
c) The DO objective applicable at all times and places in Old and Middle Rivers is 5.0 mg/L. This objective needs to be established as a criterion in this section of the EIR/EIS, and analysis of the potential impacts of the proposed projects against this criteria need to be provided elsewhere in the EIR/EIS. No such criteria or analysis is currently provided in the EIR/EIS.

CVRWQC B-5

Comment #DO4 - Methods for Assessing Impacts on Dissolved Oxygen
As proposed in EIS/EIR Chapter 5.3 (pgs. 5.3-18), using flow vs. DO curves developed from existing data is a reasonable approach to evaluating the impact of activities that reduce DWSC flow on the DO impairment.

The flow vs. DO model proposed in the SDIP EIR/EIS, however, is seriously flawed. The conclusion that DO is 6.0 mg/L when flow is 1500 cubic feet per second (cfs) is not supported by even a visual inspection of the data, nor is the conclusion that DO is 3.0 mg/L when flow is 0 cfs. A statistically valid model of the observed flow vs. DO relationship that considers variability is required if this approach is to be used.

Also, the flow vs. DO data presented in this chapter is for 1983 to 2001. Data exists through 2004 and part of 2005, which includes periods of particularly low DO conditions in the DWSC. All the most recent data should be used.

CVRWQC B-6

Comment #DO5 – Incorrect Representation of Central Valley Water Board Report
The EIR/EIS states in Chapter 5.3, Alternative 2A, Stage 1, Impact WQ-13, Page 5.3-33 *"[o]nly flows of less than 1,500 cfs are assumed to have an effect on the DWSC DO concentrations"* and attributes this to the *Total Daily Maximum Load for Low Dissolved Oxygen in the San Joaquin River* (Central Valley Water Board, 2003). This is an incorrect citation and must be removed or modified. The cited document states *"[f]or net daily flow above 3,000 cfs, there were no violations of either the 5.0 or the 6.0 mg/L Basin Plan DO objectives. Below 3,000 cfs, the DO concentrations decrease with decreasing flow. At flows below 1,000 cfs, about half of the daily minimum DO concentrations were below 5.0 mg/L."* These same words were also used in the February 2005 final staff report for the DO Control Program. At no time has the Central Valley Water Board stated or endorsed 1,500 cfs as a flow rate that will address the DO impairment.

CVRWQ CB-7

Comment #DO6 - Balancing Operational Considerations

Chapter 5.3 (pg. 5.3-27) of the EIR/EIS describes the *"three major gate operation choices to provide maximum benefits from the tidal gate operations"*. Item 2 on this page describes the need to weigh the benefits of operating the head of Old River fish control gate to increase flow past Stockton (improving DO conditions in the DWSC) against the potentially negative impact of such operation on entrainment of larval and juvenile fish into the CVP and SWP pumps and the shifting of San Joaquin River salinity toward the Contra Costa Water District and SWP Banks facilities.

CVRWQCB-8

The balancing of competing positive and negative impacts is understandable, but choosing to protect one beneficial use at the expense of another is unacceptable. Mitigation of impacts for all beneficial uses must be provided. To the extent that the flow split to the San Joaquin River at the head of Old River is reduced below what would occur naturally at that point, mitigation measures must be implemented, by one means or another, at the same time those impacts occur.

The DO Control Program suggests that alternate measures may be considered by the Central Valley Water Board as a means of mitigating the impact of activities that reduce flow in the DWSC. If the head of Old River fish control gates must be opened to prevent fish entrainment and undesirable salinity impacts in the Delta, alternate measures (e.g. aeration) may provide an acceptable mitigation for the associated flow reduction in the San Joaquin River past Stockton. Before such alternate measures would be acceptable to the Central Valley Water Board, however, the effectiveness of such measures would need to be demonstrated.

It is understood that DWR is initiating the construction and operation of a demonstration aeration project at Rough and Ready Island in the DWSC. This project should provide useful information on the efficacy and the extent to which aeration can be used to improve DO conditions in the DWSC.

Comment #DO7 - Cumulative Impacts

Title 14. California Code of Regulations, Chapter 3 (CEQA Guidelines) at Section 15355 defines the cumulative impact from several projects as:

> *"... the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time."*

The SDIP EIS/EIR only evaluates the incremental impacts of the SDIP over and above baseline conditions. These baseline conditions (i.e. Alternative 1 - No Action) assume:

> *"... [a]ll of the temporary rock barriers (head of Old River fish control barrier, and Middle River, Grant Line Canal, and Old River flow control barriers) would continue to be installed and removed annually.*

The purpose of these ongoing temporary barrier operations, among other things, is to mitigate the water quality and quantity impacts of the current SWP pumping capacity of 6,680 cfs. According to the cumulative impact requirements of CEQA, the cumulative impact of the proposed SDIP components and the existing 6,680 cfs pumping capacity (a closely related past project) must therefore be evaluated and mitigated. Furthermore, as the temporary barriers were intended to provide mitigation for the impacts of

CVRWQCB-9

the existing pumping capacity, the permanent barriers, which will replace them, also need to mitigate the existing 6,680 cfs pumping capacity.

CVRWQ CB-9

As the evaluation of all water quality impacts in Chapter 5.3 are based on the baseline assumption of current pumping capacity of 6,680 cfs with temporary barrier operations, the resulting analysis is incomplete. The tidal hydraulics analysis in Appendix D would need to be reworked accordingly. The discussion of these cumulative impacts should also be included in Chapter 10, *Cumulative Impacts*.

Comment #DO8 - Appendix D, DSM2 Modeling Methods and Results

Aside from Comment #DO7 above, please consider the following improvements to the tidal hydraulic analysis in Appendix D:

a) It would be useful to extend the time period of the DSM2 simulations to include more recent years when we also have data from the ultrasonic velocity meter (UVM) in the San Joaquin River near Stockton. This UVM meter was installed by the U.S. Geological Survey in 1995 and would provide useful comparison to DSM2 output for the same period.

CVRWQ CB-10

b) Once consideration of current pumping and barrier operations are included, the explanation and presentation of the DSM2 flow modeling results needs to be improved. (e.g. the modeling results presented qualitatively in Figures 5.3-21 and 41 were difficult to interpret). More quantitative analysis needs to be performed and presented to support the conclusions made.

CVRWQCB-11

Comment #DO9 – Old River and Middle River DO Impairments

The draft SDIP EIS/EIR currently does not evaluate the impacts from various SDIP components (e.g. altered channel geometries in Delta waterways, or long-term barrier/pumping operations) on the Old River and Middle River DO impairments. Until such evaluation is performed, and the required mitigation measures are developed, the EIS/EIR is incomplete.

CVRWQCB-12

METHYL MERCURY BACKGROUND

The Delta is on the State Water Board's CWA 303(d) list because of elevated concentrations of methyl mercury in fish. The Central Valley Water Board submitted a technical Total Maximum Daily Load (TMDL) report to the U.S. Environmental Protection Agency (USEPA) in the summer of 2005 (http://www.waterboards.ca.gov/centralvalley/programs/tmdl/deltahg.html). A draft amendment to the *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins* (Basin Plan) will be presented to the Central Valley Water Board for possible adoption in the summer of 2006. The technical TMDL report identifies the SDIP as having the potential to increase methyl mercury concentrations in Delta fish.

Methyl mercury is a developmental neurotoxicant. Most at risk are human and wildlife fetuses and young. The primary route of exposure is from consumption of mercury-contaminated fish. Statistically significant positive correlations have been observed in the Delta and elsewhere between average annual unfiltered methyl mercury concentrations in water and aquatic biota. The relationship suggests that aqueous methyl mercury is an important factor controlling methyl mercury bioaccumulation in the aquatic food chain.

Aqueous methyl mercury is produced by sulfate reducing bacteria in sediment. Sulfate is used by these bacteria as the terminal electron acceptor in the oxidation of organic matter. Sulfate additions have been

observed to both stimulate and inhibit methyl mercury production (see TMDL report for details). It is not known how sensitive methyl mercury production in the Delta is to changes in sulfate concentration.

Sediment sulfate concentrations are determined by the concentration in overlying water. Primary sources of sulfate to the Delta are the Sacramento and San Joaquin Rivers and seawater intrusion. Sulfate concentrations in the Sacramento River are about 7 times lower than in the San Joaquin and about 450 times less than in seawater. Therefore, changes in both the mixture of Sacramento to San Joaquin River water and in the volume of carriage water will alter regional sulfate concentrations in Delta sediment. These changes may significantly influence methyl mercury production in sediment and subsequent bioaccumulation in fish.

Sulfate amendment studies should be undertaken with sediment collected throughout the year from the Delta to determine whether methyl mercury production is sensitive to changes in sulfate concentration. If the results suggest that methyl mercury production is a function of sulfate, then the net change in methyl mercury concentration in water and biota should be determined for each SDIP operational alternative and the results considered when selecting the preferred alternative.

METHYL MERCURY COMMENTS

Comment #Hg 1. References to relevant Regulations Omitted
There is no mention in Chapter 5.3, *Delta Water Quality Issues*, of the CWA 303(d) listing for mercury in the Delta, or the tributary San Joaquin River and Mud Slough.

CVRWQC B-13

Comment #Hg 2. Applicable Criteria for Mercury
Chapter 5.3 needs to mention that the draft methyl mercury amendment to the Basin Plan recommends a small and large fish methyl mercury tissue objective and an average annual unfiltered aqueous methyl mercury goal to meet the tissue objectives.

CVRWQC B-14

Comment #Hg 3. Methods for Assessing Methyl Mercury Impacts
Chapter 5.3 should include DSM2 modeling results to quantitatively determine how the SDIP alternatives change ambient sulfate concentrations at various locations in the Delta. The DSM2 sulfate results should be integrated with laboratory and field methyl mercury production results to predict the magnitude of change in water and fish tissue methyl mercury concentrations for each SDIP alternative.

CVRWQC B-15

Comment #Hg 4. Cumulative Impacts
As stated in Comment #DO7 above, the methyl mercury analysis in the SDIP EIS/EIR needs to consider the cumulative effects of both the SDIP and the existing SWP and CVP operations. Chapter 10 should also include an analysis of how changes in ambient Delta sulfate concentrations might affect methyl mercury production in water pumped onto Delta Islands and exported south to the San Joaquin Basin and Mud Slough. Finally, the cumulative impact on the Delta of methyl mercury from both the SDIP alternatives and from agricultural return flow from Delta Islands and the San Joaquin River basin should be evaluated.

CVRWQC B-16

GENERAL COMMENTS

Comment #G1 – Section 401 Water Quality Certification

GENERAL COMMENTS

Comment #G1 – Section 401 Water Quality Certification
Any project involving in-stream construction activity requires a CWA Section 404 permit from the U.S. Army Corps of Engineers. As part of this process, according to CWA Section 401, the State Water Board must certify that the proposed project will meet applicable water quality standards. An application for a Section 401 Water Quality Certification for the SDIP needs to demonstrate that this project has no impact on water quality, whether short-term (e.g. impacts from construction activities) or long-term (e.g. effects of new dredged channel geometry or long-term barrier/pumping operations). A certified SDIP EIS/EIR would need to be part of that application. To support a Section 401 Water Quality Certification, the SDIP EIS/EIR would at least need to address the DO and mercury related comments above.

CVWQCB -17

If there are any questions regarding these comments please contact Jerry Bruns by e-mail at jbruns@waterboards.ca.gov or by phone at 916-464-4831. Thank you.

Sincerely,

Kenneth D. Landau
Acting Executive Officer

Enclosures (2)

cc: Jerry Bruns, Central Valley Water Board
Les Grober, Central Valley Water Board
Sue McConnell, Central Valley Water Board
Chris Foe, Central Valley Water Board
Gita Kapahi, State Water Board, Division of Water Rights

California Regional Water Quality Control Board

Central Valley Region

Robert Schneider, Chair

Winston H. Hickox
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TO: Paul Marshall
Department of Water Resources
Bay-Delta Office

FROM: Mark Gowdy
San Joaquin River TMDL Unit

DATE: 31 October 2003

SIGNATURE:

SUBJECT: ADMINISTRATIVE DRAFT ENVIRONMENTAL IMPACT STATEMENT / REPORT, SOUTH DELTA IMPROVEMENTS PROJECT (SDIP)

Thank you for the opportunity to comment on the subject document. Although, Regional Board staff did not have time for a detailed review, following are general comments relating to potential impacts on the dissolved oxygen impairment in the Stockton Deep Water Ship Channel (DWSC).

Water quality impact WQ-19 properly identifies reduced flow in the San Joaquin River past Stockton as having a potential impact on DWSC dissolved oxygen concentrations. Discussion of the assessment methods or significance criteria in Chapter 5.3 or elsewhere in the document was not found. For example, justification was not provided to support the assumption that only flows less than 1,500 cfs have an effect on DWSC dissolved oxygen concentrations. The analysis supporting the assessment of water quality impact WQ-19 should be provided, including detail on the nature of the potential impact during different months and flow conditions for the various alternatives.

Mitigation measure WQ-3 has the potential to provide some or all of the required mitigation for water quality impact WQ-19, however, a more detailed description of Old River tidal gate operations is required. It is the position of Regional Board staff that the SDIP facilities be operated, at all times, to either maintain flow rates in the San Joaquin River past the head of Old River that would exist without the full effect of the CVP and SWP pumping projects, or provide an alternate form of mitigation for that portion of the flow that cannot be maintained because of other project constraints.

A detailed review of the document was not possible in the time provided. Staff will continue to evaluate the material presented on the hydraulics governing the flow split at the Head of Old River and other topics. Additional comments will be provided on the public review draft.

Please feel free to contact me at (916) 255-6317 or by e-mail at gowdym@rb5s.swrcb.ca.gov to discuss our comments further.

California Environmental Protection Agency

Recycled Paper

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption.
For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at http://www.swrcb.ca.gov/rwqcb5

California Regional Water Quality Control Board

Central Valley Region

Robert Schneider, Chair

Terry Tamminen
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Arnold Schwarzenegger
Governor

TO: Patrick Wright
Executive Director
California Bay-Delta Authority

FROM: Les Grober
San Joaquin River TMDL Unit

DATE: 17 November 2003

SIGNATURE:

SUBJECT: CONSIDERATIONS FOR PROPOSED ACTIONS IN THE SOUTH DELTA

California Bay-Delta Authority staff is preparing a draft resolution and staff report for consideration by the Authority at its 11 December 2003 meeting regarding a proposed set of actions in the South Delta that implement the CALFED Record of Decision. It is our understanding that the resolution will direct the staff of the Authority and various CALFED implementing agencies to develop a public process, including hearings and CEQA/NEPA strategy, for implementing this set of actions. The Central Valley Regional Water Quality Control Board (Regional Board) has regulatory authority over a number of legal requirements that may apply to different components of the proposed set of actions. At the request of Bay-Delta Authority staff, Regional Board staff has prepared an overview of regulatory concerns that should be considered by the public planning process for the these actions.

Impact on Dissolved Oxygen Impairment in the Stockton Deep Water Ship Channel (DWSC)
Proponents of the proposed set of actions in the South Delta have indicated the dissolved oxygen impairment in the DWSC will be addressed comprehensively as part of the CALFED process that implements the actions. Regional Board staff has determined that the dissolved oxygen impairment in the DWSC is caused by the combined effects of i) loads of oxygen demanding substances to the channel from upstream, ii) reduced flow through the channel caused by upstream reservoir operations and other diversions, and iii) the altered geometry of the channel itself. In order to achieve a balanced evaluation of alternatives, the CALFED process addressing this impairment will need to give consideration to the way each of these factors contribute to the problem and the potential ways they can be mitigated.

A TMDL implementation plan was developed by the Dissolved Oxygen TMDL Steering Committee and submitted to Regional Board staff in February 2003. With some further development, this implementation plan could provide an acceptable framework for a well-balanced evaluation of the causes and alternative solutions to this impairment. The studies outlined in this plan can provide entities responsible for the various contributing factors with the information needed to develop the required mitigation measures. Having the California Bay-Delta Authority manage the execution of this plan as part of the CALFED process would provide the leadership and coordination these efforts require.

Impacts on Old and Middle River Dissolved Oxygen Impairments

Old River (between the San Joaquin River and the Delta Mendota Canal) and Middle River (between the San Joaquin River and the Victoria Canal) have been included on the State Board's 303(d) list as impaired due to low dissolved oxygen conditions. Although the Regional Board has not commenced TMDLs to evaluate the causes and potential solutions to these impairments, it is very likely that flow conditions in the South Delta have an impact on how oxygen demand is exerted in these channels. The planning required for the set of actions in the South Delta need to include consideration of potential impacts on these impairments.

Impact on San Joaquin River Water Quality

Delta water delivered to the San Joaquin River via the Delta Mendota Canal is one of the largest sources of salt in the river. The effect that increases in salinity of Delta water has on the San Joaquin River salinity impairment must be considered. The San Joaquin River is currently listed as impaired for salt, boron, selenium, diazinon, chlorpyrifos, organochlorine pesticides, mercury, and unknown toxicity. The water quality impacts of sediment, pesticides, selenium, and other pollutants must also be considered with regard to the augmentation of San Joaquin River flow by recirculating flow from the State and Federal water projects via the Newman Wasteway. The planning process for this project will need to consider the water quality impact on Newman Wasteway and the San Joaquin River. Waste Discharge Requirements may also be required from the Regional Board.

Section 401 Water Quality Certifications and Waste Discharge Requirements

Under Clean Water Act (CWA) Section 404, projects that propose to discharge fill or dredged material into a water of the U.S. must obtain a permit from the U.S. Army Corps of Engineers (USACOE). If such a project has the possibility to affect water quality, the project must also apply for a Water Quality Certification under Section 401 of the CWA. In California, the State and Regional Boards are responsible for providing these CWA Section 401 certifications, which are enforceable orders under California law. In order to issue a CWA Section 401 certification, it must be found that the project will, in accordance with the Basin Plan, protect beneficial uses, comply with numeric water quality objectives, and not violate anti-degradation policy of State Board Resolution No. 68-16. Waste Discharge Requirements may also be required from the Regional Board for the disposal of dredging spoils.

The improvements addressed by the draft Bay-Delta Authority resolution include the proposed South Delta Improvement Projects (SDIP). The SDIP involves dredging and construction of other in-stream structures in the South Delta and will require a CWA Section 404 permit from the USACOE and a CWA Section 401 certification from Regional Board staff. In order to obtain this certification, the project will need to provide mitigation for any negative impact it may have on any water quality conditions in the Delta, including dissolved oxygen impairments in the DWSC and Old and Middle Rivers. It is the position of Regional Board staff that the SDIP must provide mitigation for the entire effect of State Water Project and Central Valley Project pumping on flows in the San Joaquin River.

Impacts on NPDES Permitted Facilities

The determination of effluent limitations for NPDES permitted wastewater facilities may consider the amount of flow available in the receiving waterbody for dilution of constituent concentrations present in the discharge. If flow in a receiving waterbody for a wastewater facility is decreased by the proposed set of actions in the South Delta, that facility could potentially be faced with more stringent NPDES effluent

limitations for which costly improvements or operational changes may be required. The planning process for improvements in the South Delta must include consideration of such potential impacts.

To the extent that these considerations can be addressed in the Bay-Delta Authority resolution and/or staff report it will provide assurance to the State and Regional Boards and various other agency and non-agency watershed stakeholders that they will be addressed in a thorough and well-balanced fashion under the leadership of the California Bay-Delta Authority. We appreciate the consideration given to our concerns by you and your staff and look forward to participating constructively in the upcoming planning process.

cc: Gita Kapahi - State Water Resources Control Board

Responses to Comments

CVRWQCB-1

The potential effects of the SDIP tidal gate operations on the Stockton DWSC DO concentrations are fully described and evaluated in Section 5.3.

CVRWQCB-2

Data for DO in Middle and Old River channels are very limited (See Figure 5.3-7). DO changes in these channels are speculative; however, the increased tidal flushing that will be provided with the tidal gate operations described in Section 5.2 will likely improve the periods of low DO that have been measured in these channels.

CVRWQCB-3

The effects of the SDIP on the DWSC localized area of low DO are fully described under Impact-WQ-13. No documentation exists on the causes and extent of impairment of low DO in Middle or Old River. The section describing RWQCB DO TMDL efforts in Section 5.3 has been modified as suggested. References in Chapter 8 of the Draft EIS/EIR have been added for the DO TMDL Implementation Plan and D-1641.

CVRWQCB-4 and CVRWQCB-5

Changes in Section 5.3 have been made to clarify that the DO objective is a minimum DO concentration and that no change in DO is allowed if the DO is already less than the DO objective. The significance criteria for DO are no changes if the DO is already below the objective and no reductions of more than 0.5 mg/l, when the baseline DO is greater than the objective plus 0.5 mg/l. The Basin Plan DO objective is 5.0 mg/l at all times in Middle And Old River channels. However, because no tool is available for evaluating potential changes in DO concentrations in Middle River and Old River channels, no DO impacts are identified for these channels.

CVRWQCB-6 and CVRWQCB-7

The simplified relationship between flow and DO was not given directly in the RWQCB staff report. The relationship between DWSC flow and DO that was assumed for the impact analysis is reasonable for comparative impact evaluations. This relationship is the general pattern shown in the referenced RWQCB staff report. The assumptions used in the SDIP Draft EIS/EIR

assessment are clearly stated, but the text has been changed so that the relationship is not directly attributed to the RWQCB staff report.

CVRWQCB-8

Please see Master Response O, *Gate Operations Review Team*.

The future ability to increase DO with an oxygenation device in the DWSC will perhaps make these adaptive management decisions for the head of Old River gate somewhat easier. As a separate project from SDIP, DWR is proceeding with construction and testing of a full-scale pure oxygen aeration system for the Stockton DWSC. Construction is on schedule to have the facility completed by fall 2006 and begin testing and operational monitoring in spring 2007.

CVRWQCB-9

Please see Master Response H, *Cumulative Impact Baseline Conditions*.

CVRWQCB-10

In Appendix D, Figures D-23 and D-24 show comparisons of the DSM2 results and the Stockton tidal stage and tidal flow for the calibration periods of 1997–1999 and February 1996. The comparisons are generally good, although measured flows and stages appear to be higher than the simulated values for the high flow period of February 17–March 2, 1996. A more focused evaluation of the modeling results compared to the measured flows at the USGS Stockton (Garwood Bridge) station is available in the Temporary Barriers Program monitoring reports for 2003 and 2004.

CVRWQCB-11

The description of the likely effects of the SDIP gate operations on flows and DO in the DWSC is in Section 5.2 of the SDIP Draft EIS/EIR. Additionally, Figure 5.3-21 indicates that Stockton flows will generally be increased with the proposed gate operations. Because the flows during the summer and fall period (June–October) will be higher, it is assumed that DO in the DWSC will increase. Figures 5.3-22 and 5.3-41 show the assumed changes in the DO from the baseline to Stage 1 and Stage 2 operations. More quantitative evaluation of the performance results (i.e., changes in DO in the DWSC) for the head of Old River gates will be made as part of the GORT review and adaptive management decisions.

CVRWQCB-12

Please see the response to comment CVRWQCB-2.

CVRWQCB-13 to CVRWQCB-16

Only those water quality variables that might reasonably be affected by SDIP south Delta tidal gate operations or increased exports were selected for impact assessment. Because the projects do not discharge wastewater and SDIP does not significantly change circulation patterns in Delta water ways, there are no reasonably likely connections between SDIP facilities or operations and total mercury or methyl mercury concentrations. Because there are no established assessment methods for total or methyl mercury in the Delta no computer modeling to simulate effects has been conducted.

CVRWQCB-17

DWR and Reclamation intend to submit an application for Clean Water Act Section 401 water quality certification to the State Water Board prior to implementation of Stage 1 of the SDIP. Measures to ensure that the project would not have any short-term or long-term effects on water quality are included in the SDIP Draft EIS/EIR. The State Water Board will issue a conditional permit, which may include additional measures to ensure that there is no overall degradation of water quality. Additionally, the comments in your letter regarding mercury and DO have been addressed in the Final EIS/EIR, which will become a portion of the 401 certification application.

Comment Letter DBW

STATE OF CALIFORNIA-THE RESOURCES AGENCY — ARNOLD SCHWARZENEGGER, *Governor*

DEPARTMENT OF BOATING AND WATERWAYS
2000 EVERGREEN STREET, SUITE 100
SACRAMENTO, CA 95815-3888
(888) 326-2822
www.dbw.ca.gov

FEB 09 2006 00169

DBW

February 3, 2006

Mr. Paul Marshall
SDIP EIS/EIR Comments
Department of Water Resources
Bay Delta Office
1416 Ninth Street
Sacramento, CA 95814

Dear Mr. Marshall:

The mission of the Department of Boating and Waterways (DBW) is to provide safe and convenient public access to California's waterways and leadership in promoting the public's right to safe, enjoyable, and environmentally sound recreational boating.

The Department is the lead agency for controlling Water Hyacinth and *Egeria densa* in the Sacramento-San Joaquin Delta, its tributaries, and the Suisun Marsh. These non-native aquatic plants form dense mats of vegetation that obstruct navigation channels, marinas, irrigation systems, and water intake structures. These weeds have a negative impact on the Delta ecosystem. They displace native plants; block light needed for photosynthesis, and reduce the amount of dissolved oxygen in the water, and deposit silt and organic matter at several times the normal rate.

The Department of Boating and Waterways reviewed the Draft South Delta Improvements Program EIS/EIR and has the following comments:

1. Table 6.2-S on page 6.2-1, VEG-4: Spread of noxious weeds as a result of gate construction and channel dredging: The mitigation measure to avoid introduction and spread of new noxious weeds may reduce the risk to less than significant for non established noxious weeds, however, it will not reduce the impacts to less than significant for existing noxious weeds particularly *Egeria densa*. If *Egeria* is present in the dredging areas (which is highly likely) dredging the area will spread it. *Egeria* reproduces by the spread of plant fragments. The dredging process will likely create fragments, many capable of creating new colonies of *Egeria*. The presence of vessels (especially the propellers) and other equipment in areas of *Egeria* infestations is likely to create fragments capable of generating new colonies in new locations. **DBW-1**

2. The DBW strongly recommends cleaning all vegetation off of equipment used in the water before entering another site to reduce the risk of spreading invasive vegetation by the equipment. **DBW-2**

3. The installation of the Department of Water Resources (DWR) temporary rock dams, if done prior to July 1, enabled the DBW to begin spraying to control invasive vegetation early. The current proposal for permanent dams and the method of **DBW-3**

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operation will most likely jeopardize early spraying based on concerns from National Oceanic and Atmospheric Administration (NOAA Fisheries). This loss of time will make control of both *Egeria densa* and Water Hyacinth much more difficult. DBW would like to work with DWR concerning the issue. DBW-3

4. Water Hyacinth is a floating plant and will drift around until some obstacle contains it. The rock dams function as an obstacle. Hyacinth plants back up behind the dams for extended periods of time. This has allowed the build up of a hyacinth seed bank. These areas will function as a nursery for hyacinth with the proposed dams and their operation. This will likely cause an increase in the spread of hyacinth. Hyacinth is currently a problem at the Clifton Court Forebay. The proposed project will likely increase this problem due to the seed bank that now exists. DBW-4

5. With the placement of permanent operable flow control gates and vessel locks, there is a potential and likely need for developing boating regulations to control the speed, direction, and size of vessels that will use the locks. Section 660 and 662 of the Harbors and Navigation Code address the areas and limitations of boating regulations enacted by political subdivisions of the state, including among others, cities, counties, and other state agencies, such as DWR. The four areas allowed include, establishing speed zones, establishing time-of-day use, establishing special use areas, as described in section 651 (v) of the Harbors and Navigation Code which are not in conflict with state laws. (For reference to these laws, please use the following web-site: http://www.leginfo.ca.gov/calaw.html.) DBW-5

6. In conjunction with the need to regulate vessel traffic in the areas with restricted passage, such as through the proposed boat locks, there may be a need to post signs, buoys, lights, or other markers, to control vessel traffic or to provide information for vessel operators, such as informing the vessel operators about speed limits, hours or days of operation, limitation on vessel by length of width, preferred channel, or other safety information. Such waterways markers must be placed in accordance with the federal waterways marking system or with the state's waterway marking system. DBW-6

   The U.S. Coast Guard's Waterways Management Unit in Alameda, California, may be contacted at (510) 437-3073.

   If the Coast Guard determines it does not have jurisdiction for this project then the state's waterway marker regulations should be used to place any waterway markers, signs or buoys necessary to manage the vessel traffic in these areas. The state's waterway marker regulations may be accessed by using the following link:

   http://government.westlaw.com/linkedslice/search/default.asp?RS=GVT1.0&VR=2.0&SP=CCR-1000, or you may call Mike Sotelo, of our regulations unit at (916) 263-0787 for a copy of the regulations.

Mr. Paul Marshall
February 3, 2006
Page Three

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7. The width, length, and depth of the proposed locks should be of sufficient dimensions to facilitate the vast majority of vessels using the areas in question. Data to this end should be provided in the final EIS/EIR. **DBW-7**

8. The installation of boat locks on the waterways may cause delays in these restricted areas which could have an impact on recreational boaters and the surrounding environment. Vessel traffic on the Delta during the summer months may become heavy or congested with vessels trying to transit the locks. Vessels may have to drop anchor or tie up to the shoreline while they wait their turns. The waiting or staging of vessels to pass through the locks would likely create a need for restrooms, rest areas, and litter control. Human waste and/or litter would have negative impacts on the water and land environment. Therefore, it is recommended that these potential impacts be mitigated. **DBW-8**

   The types of mitigation we suggest would include the construction of restrooms, drinking fountains to keep vessel operators and their passengers hydrated, and other enhancements, such as landscaping and shade trees.

Thank you for the opportunity to comment on the Draft EIS/EIR. We would be pleased to work with you on any of the issues discussed in this letter. If you have any questions please feel free to contact me at (916) 263-0780.

Sincerely,

David L. Johnson
Deputy Director

Responses to Comments

DBW-1

DWR commits to working with the Department of Boating and Waterways (DBW) to consider chemical treatment of any Egeria beds in the vicinity of the dredging or construction area prior to dredging to reduce the risk of fragmentation and spreading.

DBW-2

An environmental commitment has been added to Chapter 2 of the SDIP Draft EIS/EIR to ensure that vegetation is removed from equipment used in the water.

DBW-3

DWR commits to working with the DBW to support the aquatic weed control program. The proposed gates can be operated to more fully close off each canal for some time period. The more effective closure of the canal will both prevent fish from entering the area and prevent aquatic weed spray from being flushed out. These combined effects have the potential of reducing impacts on fish and improving weed control.

DBW-4

The SDIP operable gates will no longer cause water hyacinth to back up. Water hyacinth will continue drifting toward the trash racks at the DMC Tracy intake and at the Skinner Fish Facility within CCF. Normal removal and disposal techniques will continue to be used.

DBW-5

DWR will work with DBW to develop these regulations.

DBW-6

The design of the boat locks at the gate structures includes signs, navigational lights, warning signs, and water level recorders, as described in Chapter 2 of the SDIP Draft EIS/EIR.

DBW-7

The boat locks are designed to pass multiple large boats. Boat surveys conducted by DWR indicate that the size of the boat locks will be adequate to allow passage of most boats using Delta waterways. DWR's personnel performed a study that determined the proposed locks would pass all Delta rental houseboats except for one very large houseboat 65 feet long. (McQuirk pers. comm.)

The bottom hinge lift gate designs can also be used to pass barges when upstream stage does not need to be maintained artificially high.

DBW-8

The proposed boat locks are designed to pass a number of smaller boats (which typically use the area) at a time. Four boats up to 30 feet in length can be passed in a single turn. The cycle time for the proposed lock is approximately 15 minutes (depending on the differential head). This equates to passage of about 16 large recreational boats an hour. Operators will be told to make notes of average wait times for boat lock users. If wait times become significant, other measures can be installed to reduce potential impacts on the environment. Public restrooms and trashcans are included in the current plans for the boat lock facilities.

Comment Letter DC

STATE OF CALIFORNIA, RESOURCES AGENCY — ARNOLD SCHWARZENEGGER, GOVERNOR

DEPARTMENT OF CONSERVATION

DIVISION OF LAND RESOURCE PROTECTION

DC

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

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FEB 0 6 2006 00119

January 31, 2006

Mr. Paul Marshall
Department of Water Resources
South Delta Branch
1416 9th Street
Second Floor
Sacramento, CA 95814

Ms. Sharon McHale
U.S. Department of the Interior
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

Subject: SCH# 2002092065 – Draft Environmental Impact Statement/Report for the South Delta Improvements Program

Dear Mr. Marshall and Ms. McHale:

The Department of Conservation's Division of Land Resource Protection (Division) monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act, California Farmland Conservancy Program, and other agricultural land conservation programs.

The California Department of Water Resources and the U.S. D.I. Bureau of Reclamation have agreed to jointly pursue the development of the South Delta Improvement Project to address regional and local water supply needs as well as the fish and wildlife needs. Project objectives and purposes include a reducing in the movement of Central Valley fall/late fall juvenile Chinook salmon into the south Delta via Old River, maintaining adequate water levels and water quality for agricultural diversions in the south Delta, and increasing water deliveries and delivery reliability for water contractors, fish and wildlife by increasing diversion at Clifton Court Forebay to 8,500 cfs. The following construction and operation activities are proposed:

- A fish control gate at the head of Old River
- Up to three flow control structures to improve existing water level and circulation patterns for south Delta water users
- Flow control gates at Middle River, Grant Line Canal and Old River

The Department of Conservation's mission is to protect Californians and their environment by: Protecting lives and property from earthquakes and landslides; Ensuring safe mining and oil and gas drilling; Conserving California's farmland; and Saving energy and resources through recycling.

FEB 0 6 2006 00119

- Dredging of various (minimally Victoria, North and Grant Line) channels and in the Middle River, Grant Line Canal and in Old River to improve conveyance
- Extension of up to 24 agricultural diversion intake facilities

Four alternatives, including the No Action alternative are considered and analyzed.

We offer the following comments:
Land and Water Use is discussed in Chapter 7.1. The land use in the vicinity of Old River Gate, Middle River at North Canal, Grant Line Canal at Delta Mendota Canal, Old River at Delta-Mendota Canal Gate, West Canal, Middle River, and Old River is predominantly agricultural. Impacts associated with land uses were assessed by basing the compatibility of construction and operation the project on adjacent land uses and the compatibility with local land use plans and policies. A Farmland Conversion Impact Rating prepared resulted in less than significant impacts to agricultural resources. The document cites nine CALFED programmatic mitigation measures that will be implemented to alleviate impacts to agricultural resources, as the project progresses.

The final EIS/R and any other documents prepared that support this project, such as the Delta Regional Ecosystem Restoration Implementation Plan should provide a detailed discussion of those agricultural lands that would be acquired and whether termination of Williamson Act contracts would result in order to accommodate the project, or Plan. It should also further discuss whether such Williamson Act contract termination would affect nearby properties also under contract. If any part of the project's affected acreage is under Williamson Act contract, and any part of it is to continue under contract after project completion, the document should discuss the proposed uses for those lands. Uses of contracted land must meet compatibility standards identified in Government Code Sections 51238 - 51238.3; otherwise, contract termination (see paragraph above) must occur prior to the initiation of the project. Although this information may be more appropriately included in another section of the document, it should be briefly discussed in the Land Use/Environmental Setting section of the EIR/S. DC-1

Please note that any acquisition of contracted land by a public agency must meet the requirements set forth in Government Code sections 51290 to 51295. Specific findings would need to be reported to the Department of Conservation in the required notice to the Director. The requirements for findings may, under certain circumstances, be waived under Government Code section 15993 (h).

Thank you for the opportunity to review this document. Please contact Jeannie Blakeslee at (916) 323-4943 if you have any questions regarding these comments.

Sincerely,

Dennis O'Bryant
Acting Assistant Director

Responses to Comments

DC-1

The text in Section 7.1 of the SDIP Draft EIS/EIR has been modified to provide quantitative information regarding Williamson Act contracts and land use changes.

Comment Letter DFG

DFG

State of California
Memorandum

FEB 07 2006 00155

Date: February 7, 2006

To: Paul Marshall, South Delta Program Manager
Department of Water Resources
1416 Ninth Street, 2nd Floor, 215-30
Sacramento, CA 95814

From: Banky Curtis, Deputy Director
Habitat Conservation Division
Department of Fish and Game
1416 Ninth Street, 12th Floor
Sacramento, CA 95814

Subject: Department of Fish and Game Comments on the October 2005, South Delta Improvements Program Draft Environmental Impact Report/Statement

The Department of Fish and Game (Department) appreciates the opportunity to review and provide comments on the October 2005, South Delta Improvements Program Draft Environmental Impact Report/Statement (DEIR/S). Our comments are divided into two categories, general and specific. The general comments will be presented in the body of this memorandum with the specific comments in an attached table.

The South Delta Improvements Program (SDIP), as currently proposed, has been separated into two distinct "Stages" with Stage 1 consisting of the installation and operation of permanent gates (three agricultural barriers and one fish barrier), conveyance and spot dredging in selected channels, and the extension of up to twenty-four agricultural diversions. Stage 2 consists of the proposed increase of State Water Project (SWP) permitted pumping levels from 6,680 cfs up to 8,500 cfs. It is the Department's understanding that, until such time more information is produced by the Pelagic Organisms Decline Working Group (POD) on the reasons for the decline in the abundance of several pelagic species, the Department of Water Resources (DWR) will delay the implementation of Stage 2 of the SDIP.

San Joaquin River Basin Salmon: In addition to sharing the heightened concern over the decline of several pelagic organisms occupying the upper Sacramento-San Joaquin estuary, the Department is also very concerned about the future viability of Chinook salmon in the San Joaquin River basin. Therefore, we request additional analysis be included in the supplemental environmental documentation preceding a Stage 2 decision. **DFG-1**

FEB 07 2006 00155

Abundance of the adult salmon runs in the basin's tributaries remain depressed despite extensive physical channel and habitat restoration work in the tributaries, increasingly restricted salmon harvest in ocean and inland waters, and ongoing implementation of the Vernalis Adaptive Management Program to meet water quality objectives in the Delta. Studies have documented consistently poor survival of salmon smolts migrating through the Delta in recent years. The specific mechanisms for this low survival remain unknown but it is clear that a) survival rates for San Joaquin fall-run smolts migrating through the south Delta are significantly lower than survival of Sacramento basin fall-run smolts migrating through the north and central Delta during the same season and b) extremely low survival of fall-run Chinook salmon migrating through the south Delta is a significant factor in the continued depression and decline in adult fall-run escapement in the San Joaquin tributaries.

As the DEIS/R points out, operation of the gate at the head of Old River **may help** increase the survival of these migrating salmon by reducing their movement into the south Delta via Old River, thus shunting them away from Central Valley Project (CVP) and SWP export facilities and keeping a greater proportion of flow in the San Joaquin River channel, to facilitate their downstream movement. However, it is not clear to us that this gate will be operated throughout the juvenile salmon out migration period and thus it may not contribute to resolving the many problems, such as inadequate flows, confused hydrodynamics in Delta channels causing delays in migration, and poor water quality affecting these juvenile salmon as they migrate to and through the Delta. We also have concerns that even with the operational flexibility afforded by a permanent head of Old River gate, there may be circumstances when listed species such as delta smelt will govern how the gate needs to be operated, diminishing any potential benefits for San Joaquin salmon. DFG-2

The Department and others are interested in eliminating the factors limiting San Joaquin salmon survival and recovery of healthy production levels in all water years. The Department, as well as the federal fishery agencies and stakeholders, continue to seek habitat improvements and flow enhancements in tributary watersheds essential for the recovery and long-term viability of anadromous species. The Department recently presented its views on the importance for salmon of spring San Joaquin River flow into the Delta during State Water Resources Control Board's workshops as part of periodic review of the Bay Delta Water Quality Control Plan and expects to continue seeking improvements. DFG-3

We must continue to investigate the factors affecting survival of salmon smolts in the Delta and upstream migration of adult salmon into the San Joaquin basin. Existing and newly obtained information must then be applied both to operation of permanent gates and to future analyses and Stage 2 decisions regarding the operational component of the SDIP. DFG-4

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The Department looks forward to working with DWR, Reclamation, and others to achieve meaningful progress on this topic, as well as on the pelagic organism decline, in anticipation of a future Stage 2 SDIP decision and associated permitting on the operational component. DFG-4

The Department requests that DWR develop a series of avoidance, minimization or mitigation measures that can be implemented should a conflict develop between fish and wildlife resources as a result of either the operation or non-operation of the SDIP structural components. These measures should be designed so that they offset the impacts arising from conflicting environmental needs imposed or exacerbated by the SDIP and the operation of the gates and their interaction with the existing or increased level of pumping during Stage 2. DFG-5

Adaptive Management: Adaptive Management in the document refers to both a real-time management scheme for operations (e.g. page 5.2-28) and a process for modifying mitigation measures (e.g. 6.1-114). Prior to relying on "Adaptive Management" as an environmental commitment or a mitigation measure, the Department requests that more specificity be added to the EIR on all parts of the adaptive management framework in response to the following:

1. The conceptual models for fish species in Chapter 6 are very comprehensive, but are quite broad and do not show how the specific operations of the gates and pumps will be studied, including whether or not the Department's existing monitoring program for gate operations is deemed incorporated, whether additional uncertainties are to be addressed, and what other monitoring programs will be carried out relative to those uncertainties. DFG-6

2. What parameters and resources will be monitored? What data reporting, analysis, and synthesis systems will be instituted?

3. What are the decision-making systems and how will monitoring information be used? Specifically, the process for final decision making regarding gate operations needs to be defined. The existing document (e.g. pages 2-29 and 2-30) refers to a Gate Operations Review Team with representatives from DWR, the US Bureau of Reclamation, the US Fish and Wildlife Service, the National Marine Fisheries Service, the Department, and "possibly others as needs change." However, the document does not explain whether recommendations from the fisheries agencies with respect to gate operations, particularly head of Old River gate operations ostensibly to benefit species, are advisory or binding. In the event of conflicts between water level, water quality and fish resources, whether or not the advice of the Department and other trustee agencies for fish and wildlife must be followed will determine the degree to which the impacts of operations could adversely affect fish and wildlife.

FEB 07 2006 0055

The document states the SDIP effectiveness monitoring and relevant monitoring (and research) will be conducted by the CALFED Science Program to evaluate the effectiveness of compliance mitigation measures. The Department believes the SDIP monitoring program should be consistent with the CALFED process but not rely on it. Given the independent nature of the CALFED Science Program and uncertainties regarding program funding and priorities, it does not appear that reliance on the Science Program to conduct this type of compliance monitoring is feasible or appropriate. As the lead agencies on the Project, DWR and Reclamation are responsible for developing and implementing a project-specific monitoring program. DFG-7

Article 21: The Department is requesting the assumptions and modeling regarding Article 21 deliveries be updated to accurately reflect the extent, timing, and impacts of those Article 21 deliveries on species. DFG-8

Intertie: The Department is requesting that DWR conduct and include an analysis of the potential impacts associated with the implementation and operation of the Intertie as it relates to SWP and CVP joint operations. This analysis should acknowledge that even without a change in the authorized pumping level of the CVP, the Intertie could potentially change the timing and amount of CVP deliveries above historic export amounts by wheeling CVP water over to the California Aqueduct at a point before the existing constriction in the Delta Mendota Canal as a result of subsidence. In addition, the Department would also like to see an analysis conducted that looks at potential impacts associated with the SWP moving water to the Delta Mendota Canal. DFG-9

SDIP EIR/S and the Action Specific Implementation Plan: The comments provided in this memorandum and its attachment should also be incorporated in the Action Specific Implementation Plan (ASIP) for the SDIP. The ASIP forms the foundation for the department's proposed Natural Community Conservation Plan (NCCP) approval and permit on the Stage 1 decision. And, while there is a separate process to develop the SDIP ASIP, it is important to keep these two documents tied closely together. We look forward to working with DWR to develop conservation and minimization measures that, when implemented, will ensure the species covered in the NCCP are adequately conserved. DFG-10

Future Comments on the Implementation of Stage 2: It is our understanding the comments we are providing on the Stage 1 portion of the SDIP, will not preclude the Department from providing further comments on the "Stage 2" component of the SDIP and any inter-related Stage 1 component operations. Moreover, incidental take coverage for the proposed Stage 2 of the SDIP will require that DFG, as a Responsible Agency under the California Environmental Quality Act, have an opportunity to review, comment, and ensure that conservation measures are adequate to conserve and manage covered species. DFG-11

FEB 07 2006

This could include, for example, amending the NCCP on Stage 1. If our understanding of the review process for the Staged Components of the SDIP is incorrect please advise us immediately.

This memorandum, together with the attached table, concludes the Department's comments on the SDIP DEIR/S. Thanks again for the opportunity to review and comment. If you have any questions regarding the contents of this memorandum please contact Mr. Jim Starr of my staff directly at 209-942-6070 or email him at jstarr@delta.dfg.ca.gov.

Attachment

cc: **Department of Fish and Game**
Sacramento
Dr. Diana Jacobs
Ms. Tina Cannon
Mr. Jim White
Mr. Scott Cantrell

Central Valley Bay Delta Branch
Dr. Perry Herrgesell
Mr. Frank Wernette
Mr. Jim Starr

San Joaquin Valley - Southern Sierra Region 4
Mr. Bill Loudermilk
Ms. Patricia Brantley
Mr. Dean Marston
Mr. Dale Mitchell

US Fish and Wildlife Service - Sacramento
Mr. Ryan Olah

National Marine Fisheries Service - Sacramento
Mr. Jeffery Stuart

Section _____
Agency _____DFG_____
Commentor Name _____

SDIP Draft EIR/S
Comment Form

	Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
DFG-12	1	1a/ES-4	Physical/Structural Component Actions; second bullet	Delete the word "inefficient", so that it reads as follows: Replace ~~inefficient~~ seasonal barriers with permanent operable flow control gates on Middle River, Grant Line Canal, and Old River	
DFG-13	2	1a/ES-5	3rd paragraph	The first sentence states DWR and Reclamation are proposing SDIP as a "self-mitigating project". We suggest you don't use this term and instead state that significant adverse impacts will be fully mitigated to a level of less-than-significant.	
DFG-14	3	1a/ES	Table ES-3	The table should include costs for the SDIP monitoring program and science needs in addition to the fishery investigations already included in the table.	
DFG-15	4	1a/1-10	Ongoing Protection of Fish Resources and Other Environmental Resources	This section only discusses Central Valley fall- and late fall-run Chinook salmon. The export facilities also impacts winter-run and spring-run Chinook salmon, as well as, steelhead and delta smelt.	This section should be expanded to include these and other fish species that occur in the Sacramento-San Joaquin Delta.
DFG-16	5	1a/1-11	South Delta fish Protection; 2nd paragraph	The second sentence states that the "barrier is installed and operated April through mid-June and possibly extended to July 1". This is not correct.	Revise to read as follows: "barrier is installed and operated April through mid-~~June~~ *May* and possibly extended to ~~July~~ June 1".

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SDIP Draft EIR/S
Comment Form

	Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
DFG-17	6	1a/1-15	Recent Fish Declines in the Delta and Estuary; 1st full paragraph on page	This section needs to be updated to reflect the current status of the POD studies.	Update with current information.
DFG-18	7	1a/1-15	Recent Fish Declines in the Delta and Estuary; 2nd full paragraph on page; 1st sentence	Reword sentence as follows: Scientific Studies, such as described above, are *underway* ~~needed~~ to determine the cause of the decline in pelagic fish.	
DFG-19	8	1a/1-15	Recent Fish Declines in the Delta and Estuary; 2nd full paragraph on page; 4th sentence	Delete the sentence beginning "Although" to the end of the paragraph.	These statements do not belong in this section. In addition, DWR and Reclamation are participants, not the sole investigators, in the investigation of pelagic species decline
DFG-20	9	1a/1-30	Effects on South Delta Water Users	The option of using low head pumps was taken off the table by DWR early in the negotiations and has not been evaluated by the DFG as a component of the South Delta Improvements Program.	Remove the entire second paragraph in this section.

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SDIP Draft EIR/S
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	Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
DFG-21	10	1a/2-4	Decision Stages	It would improve the document to clarify the decision stages of SDIP, particularly the Stage 1 decision. The Stage 1 decision will clarify regulatory approval to pump at 6680 cfs along with the construction and operation of permanent gates.	Describe the project as occurring in stages and define the components of each stage. Stage 1 - installation and operation of gates and Stage 2 increased exports to 8,500 cfs.
DFG-22	11	1a/2-15	1st full paragraph	The text characterizes water transfers as potentially resulting in indirect effects in the Delta. During IWOFF meetings some members argued that water transfers should be analyzed as a direct impact in the delta. Was a consensus view reached? How were these opposing views reconciled?	
DFG-23	12	1a/2-23	Gate Design and Construction Detail; 2nd paragraph; last sentence	See comment number 9	Remove this sentence
DFG-24	13	1a/2-29	Last Paragraph; 2nd sentence	Edit: "...to minimize impacts ~~of~~ on resident threatened and endangered species ..."	
DFG-25	14	1a/2-39	Table 2-7	The table should include costs for the SDIP monitoring program and science needs in addition to the fishery investigations already included in the table.	
DFG-26	15	1a/2-50	Environmental Training; last paragraph	The end of the Environmental Training section beginning with, "DWR would operate the gates...", contains information relevant to boating awareness and does not belong in this section.	Move this entire section and associated bullets to a new section titled "Boater Awareness"

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SDIP Draft EIR/S
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	Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
DFG-27	16	1a/3-9	Mitigation Measures	The text states that not all of the CALFED Programmatic EIS/EIR mitigation measures will be implemented as part of SDIP.	It would clarify matters to say only those CALFED programmatic-level mitigation measures that are relevant to SDIP have been incorporated into the SDIP EIS/R.
DFG-28	17	Ia/4	Table 4-1	Fish Impact 38: "beneficial impact" of contaminant spills (after mitigation) to green sturgeon appears to be a typographical error.	Correct error.
DFG-29	18	Ia/4	Table 4-1	Fish Impact 46 and associated mitigation implies there is no potential for impact to migrating juvenile salmon from the San Joaquin Basin in the period prior to April 15.	Sampling at Mossdale on the SJR indicates that on average from 1988-2004, 17 percent of juveniles migrating downstream into the Delta from mid-March through mid-June do so prior to mid-April and about 10 percent do so after May 31. The VAMP period covers 31 days in mid-April to mid-May. Hence, the proposed mitigation from May 16 – May 31 fails to alter operations-related effects on more than a quarter of the migrating salmon population, on average.
DFG-30	19	Ia/4	Table 4-1	Fish Impact 47: Potential increased entrainment risk for the juvenile winter-run and spring-run Chinook should also be recognized as occurring in January and February.	-

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SDIP Draft EIR/S
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	Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
DFG-31	20	1a/4	Table 4-1	Also the Level of Significance and the determination of a Beneficial Impact as indicated for effects of Gate Operation on Juvenile and Adult Chinook salmon, Steelhead, Striped bass, Splittail, Green Sturgeon migration and, Delta smelt spawning and rearing habitat and entrainment is misleading and no substantial supporting evidence.	Provide a better analysis/assessment of the impacts and develop a Threshold of Significance for SJR Fall-run Chinook salmon.
DFG-32	21	1a	Figure 4-2	Figure 4-2 does not conform to the text on pages 4-7 through 4-9. It appears that the legend and bars on the right side of the figure (SDIP Additional Delta Exports) have got CVP and SWP labeled backwards. The additional exports described in the text and figure do not exactly match the quantities in Tables 5.1-5a through 5.1-7b either (for example, compare SWP Table A and Article 21 additional deliveries for Alternative 2C, as described in: Table 5.1-7b; the text on page 4-8; and, as shown in Figure 4-2). Also, it would clarify information in the Figure 4-2 to add "SWP/CVP combined exports" as a footnote to "SDIP Additional Delta Exports" in the legend and in the title.	

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	Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
DFG-33	22	1b/5.1-4	Table 5.1-1	The CALSIM assumptions used for Article 21 demand described in Table 5.1-1 (and Table 5.1-50) are lower than what is being used for the LT EWA EIS/R. For example, the higher Article 21 demand impacts one existing mechanism for fish protection, EWA, by constraining EWA winter fish actions, reducing EWA's ability to spill debt (thereby increasing EWA debt), and increasing the level of pumping that must be offset by EWA (thus requiring EWA to acquire more assets without any increased level of fish protection). This issue was the subject of numerous IWOFF and WOMT meetings in the spring/summer 2005. Article 21 demands have increased significantly in recent years and the time period of Article 21 deliveries is broader than the November-March period. If the SDIP document is not updated to represent these higher Article 21demands it will under-represent the impact on fish species of existing 6680 pumping. Updated information regarding this higher Article 21 demand will be needed for both the EIS/R and the ASIP.	
DFG-34	23	1b/5.1-4	Table 5.1-1; p. 6 of 6	Under EWA, shouldn't EWA fish actions and assets be shown for each SDIP scenario?	
DFG-35	24	lb/5.1-36	Table 5.1-4, etc.	The differences in part C of this and other similar tables are calculated as (part B minus part A), not as (A-B) as indicated.	Correct the table legend.

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SDIP Draft EIR/S
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	Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
DFG-36	25	Ib/5.1-50	Article 21	The first paragraph states the CALSIM model assumed a monthly maximum Article 21 delivery of 50 TAF to MWD and an additional 84 TAF to Kern County. The second paragraph states the maximum possible Article 21 deliveries are 536 TAF/yr, if full monthly deliveries are made in 4 out of 5 months. In Table C2.4 (SWP Article 21 target demands) of the Benchmark Studies Assumptions, Appendix C2, it states MWD's target demand is 200 TAF and others demand is 1008 TAF. The maximum SWP's contractors' Article 21 demands are 1208 TAF/yr. Why are the Article 21 demands described in the EIS/R and Benchmark Studies Assumptions different?	
DFG-37	26	Ic/6.1-3	Summary of Significant Impacts; last sentence	DFG does not accept the proposal that "if these facility upgrades and procedural changes are determined to be equivalent to the avoidance and crediting system described above, these salvage facility and procedural changes may be substituted for the pumping restrictions as alternative cost-effective mitigation"	Delete this sentence. DFG believes that any changes made to the export facilities will not substitute for operations restrictions that are implemented. Impacts to salvageable sized fish may benefit; however those smaller life stages will not benefit from changes to the facility and procedures.

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SDIP Draft EIR/S
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	Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
DFG-38	27	Ic/6.1-27	Delta Smelt; 1st paragraph; last sentence	This statement sound like it is predetermining if the project has an effect on a delta smelt prior to it being evaluated.	Reword as follows: To the extent of salinity intrusion into the Delta, as represented by the change in *the* location of X2, will be evaluated to *determine if there is an* ~~confirm minimal~~ effect on spawning habitat.
DFG-39	28	Ic/6.1-43		The estimation for impact level of entrainment loss compared to the estimated annual Juvenile Chinook salmon expected to enter the Delta was a combination of Sac and San Joaquin river systems.	Separately evaluate entrainment impacts upon SJR salmon population
DFG-40	29	1c/6.1-83	3rd full paragraph	This paragraph is very hard to understand. It needs to be clarified and it may also help to include a graphical figure.	
DFG-41	30	1c/6.1-114		The text states that SDIP effectiveness monitoring and relevant monitoring (and research) will be conducted by the CALFED Science Program to evaluate the effectiveness of mitigation measures.	Comment: This approach is suggestive of the CALFED CMARP, which has never been fully developed. We don't think SDIP should depend on the Science Program to conduct this type of compliance monitoring nor do we believe it is appropriate. DWR and Reclamation are responsible for developing and implementing the monitoring program.

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	Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
DFG-42	31	1c/6.1-114	Last # on page, top of page 6.1-115	The text states that resource agencies may also recommend modifications [to mitigation measures] to DWR and Reclamation for review. If DWR and Reclamation concur with the proposed modifications, they will be implemented.	Comment: We suggest you revise this statement. If such changes to mitigation measures are required to avoid the permitted level of take of covered species or to avoid jeopardy, they are non-discretionary.
DFG-43	32	IIb, Appendix J-18	Paragraph 2	4,600 + 10,300 = 14,900, not 15,900.	Please correct the text.
DFG-44	33	IIb, Appendix J-23 and 29	J-23, Para. 2 J-29, Para. 5	The fraction of particles passing Chipps Island provides an estimate of fish survival only if entrainment is the only source of mortality.	Provide an explanation of important limitations in the interpretation of PTM results. (This is not to say the PTM approach has no value.)
DFG-45	34	IIb, App, J-29	J-29, Para. 6	The text suggests that real fish may be even "smarter" than the trained active particles and be more successful in avoiding entrainment using behaviors in addition to tidal surfing. This may be true. But it may also be true that the advantages of tidal surfing implied by active particle PTM results may be overstated because the fish being represented by the particle may not simply be navigating from point A in the direction of point B at the maximum rate possible. For example, the need to physiological adjust to increasing salinity for a fish moving from the Delta to the lower estuary may constrain the rate of travel relative to that of a surfing particle.	Provide appropriate caveats to interpretation of model results.

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SDIP Draft EIR/S
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	Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
DFG-46	35	IIb, App. J-34	J-34, last Para.	The Delta Smelt Equivalents calculation may be the first ever done. Necessarily it requires some simplifying assumptions. The approach may have value but seems to suffer from at least one obvious problem in assuming that daily or monthly mortality is constant among the various life stages over the course of a year. More likely the mortality rate of adult fish in much lower than that of newly-hatched larvae. Survival rate should increase as the larvae grow to be juveniles and then sub-adults.	We recognize that robust data on stage specific mortality rates are lacking. Bennett (2005) made some estimates. At least explain how deviations from this and other simplifying assumptions used in your method could affect your results and conclusions.
DFG-47	36	2b/J-34	Delta Smelt Equivalents; 1st sentence	The text states: Although delta smelt were not a species of interest in 1986, they are of great interest now. Comment: This is a value-laden statement that should be revised.	Delete fish sentence

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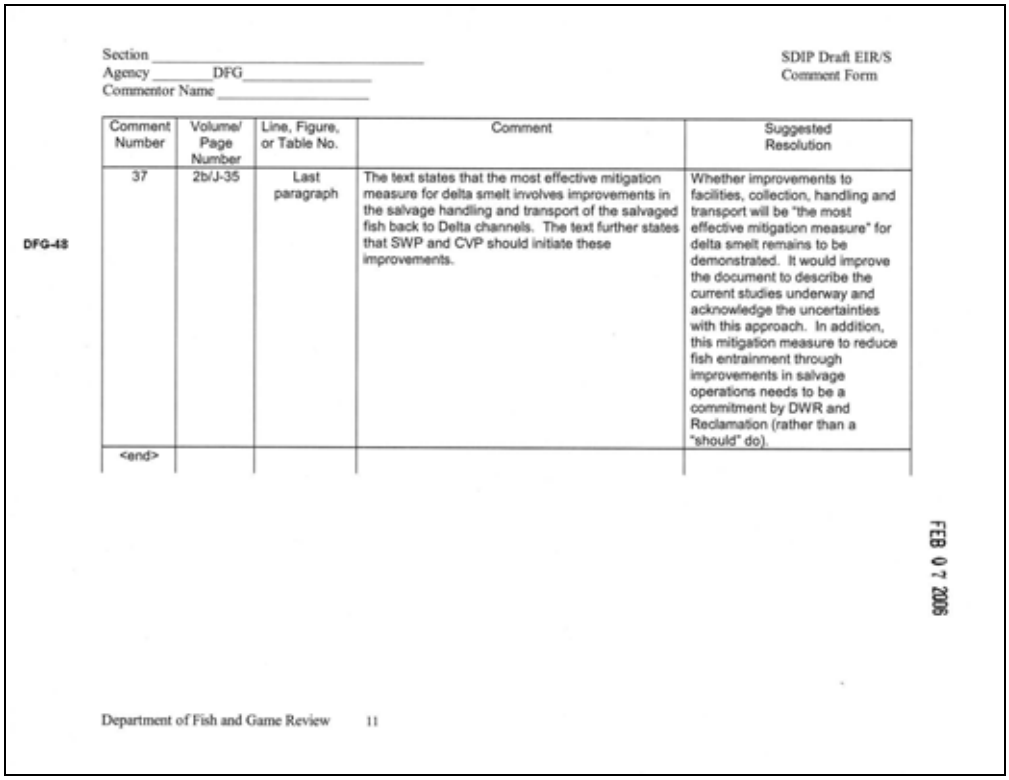

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Comment Form

Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
37	2b/J-35	Last paragraph	The text states that the most effective mitigation measure for delta smelt involves improvements in the salvage handling and transport of the salvaged fish back to Delta channels. The text further states that SWP and CVP should initiate these improvements.	Whether improvements to facilities, collection, handling and transport will be "the most effective mitigation measure" for delta smelt remains to be demonstrated. It would improve the document to describe the current studies underway and acknowledge the uncertainties with this approach. In addition, this mitigation measure to reduce fish entrainment through improvements in salvage operations needs to be a commitment by DWR and Reclamation (rather than a "should" do).
<end>				

DFG-48

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Responses to Comments

DFG-1

The potential benefits of the head of Old River fish control gate on the population of the fall-/late fall–run Chinook salmon in the San Joaquin River tributaries have been fully described in Section 6.1 of the SDIP Draft EIS/EIR. No additional information is needed for the evaluation of Stage 2 operational scenarios. Any new information from the evaluation and assessment of VAMP, river habitat restoration actions, and improved salvage facilities and handling procedures will be included in the Stage 2 evaluations.

DFG-2

Please see Master Response O, *Gate Operations Review Team*.

DFG-3 and DFG-4

The efforts of DFG to improve habitat conditions in the San Joaquin and south Delta and to investigate the pelagic organism decline are recognized. Involvement of DFG in the Stage 2 decision process is anticipated.

DFG-5 and DFG-6

Please see Master Response O, *Gate Operations Review Team*.

DFG-7

DWR will not rely solely on CALFED Science monitoring and research. DWR and Reclamation will use the existing salvage monitoring and other ongoing IEP monitoring programs and results from the additional support being given to IEP for POD investigations. DWR and Reclamation are not proposing additional monitoring and research. Specific mitigation of Stage 2 entrainment impacts is described in Section 6.1 of the SDIP Draft EIS/EIR. The possibility that future CALFED Science Program evaluations, IEP studies, or POD investigations may identify more effective mitigation measures, and that these may be substituted for the expanded EWA or the "avoidance and credit" alternative mitigation measures, is also described in Section 6.1. The proposed mitigation measures are independent of CALFED Science Program funding, and would be replaced only if more effective mitigation is identified in future studies.

DFG-8

Please see Master Response P, *Effects of the South Delta Improvements Program on State Water Project Article 21 Deliveries*.

DFG-9

The effects of the DMC–California Aqueduct Intertie project are not evaluated as part of the SDIP because the Intertie is a separate project, which has been and is being evaluated independently. However, the cumulative effects of the SDIP, including Intertie, are evaluated in Chapter 10 of the SDIP Draft EIS/EIR.

DFG-10

The SDIP Draft EIS/EIR was developed concurrently with the SDIP Action-Specific Implementation Plan (ASIP). Comments received from DFG that are applicable to the ASIP have also been addressed in the ASIP.

DFG-11

During the Stage 2 decision-making process, DWR and Reclamation will provide a document pursuant to CEQA and NEPA for public and agency comment. This

will provide a second opportunity for discussions and comments regarding the operational component of the SDIP.

DFG 12

The adjective *inefficient* is used in this sentence to describe briefly the inadequacy of the temporary rock barriers used currently in the south Delta. These temporary structures inefficiently move water upstream during a flood tide. Consequently, the inefficient water movement causes some stagnation of the water in Middle River and Old River near the city of Tracy. Stagnation in turn causes water quality problems in the form of low DO, which is bad for fish, and higher salinity, which may be detrimental for agricultural uses.

The proposed permanent gates transfer water much more efficiently because the structure does not restrict tidal flow when the gates are open, thus allowing greater volumes of water to circulate the south Delta.

The use of the adjective in this sentence will remain because it describes the project action appropriately.

DFG 13

In an executive summary it is sometimes useful to use succinct phrases to convey one's point. In this phrase we simply meant to convey that mitigation was a part of the project in addition to the project objectives. Admittedly, this simple statement does not describe the conditions in which the project will mitigate and to what degree those mitigation actions will be effective. Details of mitigation are left for later chapters. The use of "self-mitigating" as a simple description of project intent will remain.

DFG-14

The costs of all aspects of the project mitigation monitoring and science needs are included in the overall costs presented in Table ES-3 of the SDIP Draft EIS/EIR. Additional monitoring and science needs are included in the ASIP to meet the requirements of the California Endangered Species Act (CESA). The costs of these additional science needs are presented in Table 2-5 of the SDIP ASIP.

DFG-15

The SDIP clearly has potential impacts on species other than fall-run Chinook salmon. While the section referred to (1a/1-10) does refer to fall-run Chinook

salmon, many other sections of the document address the needs of other fish species.

DFG-16

The text has been revised per your comment.

DFG-17

Please see Master Response B, *Relationship between the South Delta Improvements Program and the Pelagic Organism Decline*.

DFG-18

The text has been revised per your comment.

DFG-19

The purpose of the document is not simply to describe project elements and impacts but to describe interaction between project elements and other efforts. It was our attempt to describe how the SDIP interacted with the POD studies. This sentence was included to add clarity to project elements in light of the studies described in this section. The sentence is not factually incorrect and will remain.

DFG-20

DWR and Reclamation intend to construct the gates so that they are compatible with actions that may become necessary in the future, such as the operation of low head pumps. Should low head pumps be needed at these gates, additional compliance with CEQA, NEPA, CESA, and ESA may be required.

DFG-21

The text on page 2-4 does describe elements in each stage of the SDIP. To clarify the elements in this section:

Stage 1 will include:

1. Making a decision involving the physical/structural component or to continue installing the temporary barriers. Of the options available, we could do nothing or we could construct some permanent facilities. If permanent

facilities were to be constructed, the existing SWP and CVP operation rules are assumed to be continually in effect.

i. The "Do Nothing" option would assume the continual use of existing SWP and CVP operational rules, including the permitted limit for SWP diversions at CCF, plus continued installation of temporary barriers in the south Delta

ii. The decision involving the physical/structural component would include dredging specified in the project, extensions of 24 agricultural diversions, and select from one of the following options:

   a. One gate at the Head of Old River

   b. Three gates, Head of Old River, Old River near Tracy, and Middle River;

   c. Four gates, Head of Old River, Old River near Tracy, Middle River, and Grant Line Canal;

Stage 2 will include a decision either to continue with existing SWP and CVP operation rules or to select a method of changing the operational rules to meet project objectives. Because DWR and Reclamation have committed to present a second environmental document for Stage 2, the range of potential operational rules remains open. If the Stage 1 decision is to continue the installation of the temporary barriers, proceeding with Stage 2 and addressing both the physical/structural component and the operational component would be considered.

DFG-22

The SDIP Stage 2 operational decision may allow more water transfers through the Delta during the months of July–September because the unused permitted pumping capacity will be greater than under current conditions during these months of relatively low fish density. The potential effects on fish entrainment, Delta salinity, and other environmental resources that might be affected by these potential transfers were evaluated. The differences among direct effects, indirect effects, and cumulative effects are difficult to define and may not have been resolved at the Integrated Water Operations Forum & Framework (IWOFF) meetings. However, based on the best available information, DWR and Reclamation have attempted to estimate the effects of transfers. Section 5.1 of the SDIP Draft EIS/EIR describes these potential impacts as indirect project effects, which must be mitigated.

DFG-23

DWR and Reclamation intend to construct the gates so that they are compatible with actions that may become necessary in the future, such as the operation of

low head pumps. Should low head pumps be needed at these gates, additional compliance with CEQA, NEPA, CESA, and ESA may be required.

DFG-24

The text has been revised per your comment.

DFG-25

The costs of all aspects of the project monitoring and science needs are included in the overall costs presented in Table ES-3 of the SDIP Draft EIS/EIR. Additional monitoring and science needs are included in the ASIP to meet the requirements of CESA. The costs of these additional science needs are presented in Table 2-5 of the SDIP ASIP.

DFG-26

The text has been revised per your comment.

DFG-27

The text has been revised per your comment.

DFG-28

Typographical error acknowledged. No beneficial impact on green sturgeon is expected.

DFG-29 and DFG-30

Please see Master Response E, *Reliance on Expanded Environmental Water Account Actions for Fish Entrainment Reduction.*

DFG-31

Improvements to the fish barrier at the head of Old River are expected to improve the exclusion of fish from Old River relative to the exclusion provided by the existing temporary structure. However, the head of Old River gate will be operated primarily to exclude juvenile fall-run Chinook salmon. Therefore

effects on steelhead, splittail, striped bass, and delta smelt have been characterized as "No Impact" in the summary of impacts Table 4-1 of the SDIP Draft EIS/EIR because there are no analytical tools to determine the extent of benefit to these fish.

DFG-32

The summary text describes changes in deliveries for CVP and SWP for both 2001 and 2020 conditions, while Figure 4-2 of the SDIP Draft EIS/EIR is specific for 2020 conditions. However, the values in Figure 4-2 are difficult to match with the tables in Section 5.1. The values in Figure 4-2 are exports on the left, but deliveries on the right. This has been clarified in the revised Figure 4-2.

DFG-33

Please see Master Response P, *Effects of the South Delta Improvements Program on State Water Project Article 21 Deliveries*.

DFG-34

The EWA fish protection actions were developed for each water year type in the baseline condition CALSIM simulations. These same protections (level of pumping during 1-week periods of protection) were then held constant for each alternative. Therefore, the entrainment effects during weeks of simulated protection were held constant, and entrainment impacts would occur only in weeks without specified protections. The entrainment impact analysis considered only the increased pumping simulated each month outside these specified EWA protection periods.

DFG-35

Your comment is correct. The affected tables in Section 5.1 should be labeled as "B–A".

DFG-36

Please see Master Response P, *Effects of the South Delta Improvements Program on State Water Project Article 21 Deliveries*.

DFG-37

The current SDIP-proposed mitigation for Stage 2 effects includes the modification of operations, either through the long-term EWA or through the Avoidance and Crediting System described in Section 6.1 of the SDIP Draft EIS/EIR. No other mitigation is proposed at this time.

DFG-38

The sentence on page 6.1-27 has been changed as suggested.

DFG-39

Adults from each system were estimated from escapement and then juveniles estimated from assumptions in Table 6.1-2 of the SDIP Draft EIS/EIR. San Joaquin adult Chinook salmon production is shown in Table J-20. Runs cannot be distinguished in the salvage data; therefore we have no information to directly separate entrainment. The assumption that the Chinook salmon juvenile salvage is dominated by San Joaquin River fish is based on the correspondence of the high salvage density with periods of greatest trawling catches at Mossdale. It appears that a large fraction of the San Joaquin River fish end up in the CVP and SWP salvage.

DFG-40

Pleas see Master Response E, *Reliance on Expanded Environmental Water Account Actions for Fish Entrainment Reduction*.

DFG-41

The text in SDIP Draft EIS/EIR Section 6.1, Fish, has been modified to state that DWR and Reclamation would implement a mitigation monitoring program consistent with the CALFED Science Program.

DFG-42

Acknowledged. Required mitigation measures are non-discretionary.

DFG-43

The text has bee corrected.

DFG-44 and DFG-45

The limitations on interpreting Particle Tracking Module (PTM) results for fish entrainment assessment are described in the text of Appendix J. The differences between passive and active fish behavior are described. Actual fish behavior is not well understood, so the particle tracking provides only a partial evaluation of fish entrainment risk.

DFG-46

The delta smelt adult equivalent calculations are used only as an example for interpreting entrainment impacts. Before delta smelt loss calculations could be included in the four-pumps agreement procedures for estimating mitigation for entrainment losses, additional investigation and quantification of delta smelt life history (e.g., growth and mortality rates) would be required.

DFG-47

Sentence on page J-34 was removed as suggested.

DFG-48

These mitigation measures are introduced as suggestions of changes in operations and facilities that could be used in addition to EWA actions. However, the current SDIP proposed mitigation for Stage 2 effects includes the modification of operations, either through the expanded long-term EWA or through the Avoidance and Crediting System described in Section 6.1 of the SDIP Draft EIS/EIR. No other mitigation is proposed at this time. The improvement in salvage handling and transport is regarded as a potentially effective mitigation measure that may be proposed in the Stage 2 decision document. These are currently being studied by DWR, Reclamation, and DFG.