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

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 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

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

Environmental Impact of the Action

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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.

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.

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.

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

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.

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.

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.

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

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.

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.

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.

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.

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.

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[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.

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.

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.

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.

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.

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.
>
> 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.

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.
>
> We recommend the Stage 2 NEPA document fully address operational concerns raised in comments on this Stage 1 DEIS.

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.