



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

April 25, 2011

William N. Brostoff
U.S. Army Corps of Engineers
San Francisco District
1455 Market Street
San Francisco, CA 94103-1398

Subject: Draft Supplemental Environmental Impact Statement (DSEIS)/ Subsequent Environmental Impact Report for the Sacramento River Deepwater Shipping Channel (SRDWSC), Contra Costa, Solano, and Yolo Counties, California, February 2011 (CEQ 20110055)

Dear Mr. Brostoff:

The U.S. Environmental Protection Agency (EPA) has reviewed the above project pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), our NEPA review authority under Section 309 of the Clean Air Act, and the provisions of the Federal Guidelines (Guidelines) promulgated at 40 CFR 230 under Section 404(b)(1) of the Clean Water Act (CWA). We thank the U.S. Army Corps of Engineers (USACE) for agreeing to accept EPA's comments through April 25, per your email communication with Tom Kelly, of my staff.

EPA has rated the DSEIS as *Environmental Concerns – Insufficient Information (EC-2)* (please see the enclosed "Summary of EPA Rating Definitions"). Primary among our concerns is that the DSEIS (1) does not sufficiently consider the beneficial use of dredged sediments produced by the project, consistent with USACE-led interagency sediment management planning efforts in the Delta; (2) does not fully assess the likely water management consequences of water quality impacts from the project; and (3) does not address potentially significant direct and secondary impacts to listed fish species.

EPA has participated in the USACE-led Delta Long Term Management Strategy (LTMS) process, along with other State and federal agencies, the Ports, dredging community, and local interests, for more than 4 years. An analogous partnership, also under USACE leadership, has shown success in San Francisco Bay. One of the primary objectives of the Delta LTMS, as stated in the February 2007 Charter, is to identify opportunities for the beneficial use of Delta sediments for levee rehabilitation and ecosystem restoration. The proposed Sacramento River Deepwater Shipping Channel (SRDWSC) project does not reflect these goals, despite being one of the most significant dredging projects in the Delta. The SDEIS proposes to stockpile 10 million cubic yards of sediment immediately adjacent to the SRDWSC, but offers little evidence that proposed stockpiles are anything other than disposal sites. We recommend the Final Supplemental Environmental Impact Statement (FSEIS) reevaluate placement sites, prioritize beneficial reuse locations over strategic stockpiling, and consider disposal sites as the lowest priority, consistent with USACE and EPA national policy.

EPA is also concerned that the project's salinity impacts are not fully disclosed in terms of water management effects. The text of the SDEIS, which concludes that the project does not have water quality impacts (p. 131), contradicts the data provided in Appendix L, which presents modeled water quality violations. The model indicates that violations will occur at many locations, including the Delta drinking water intakes for the Contra Costa Water District, Central Valley Project (CVP), and the State Water Project (SWP), which, collectively, serve millions of people. The California State Water Resources

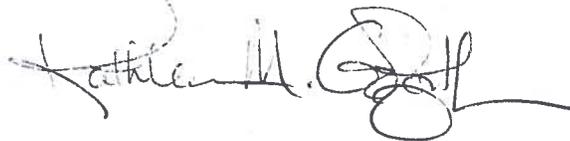
Control Board requires the U.S. Bureau of Reclamation (USBR) and the California Department of Water Resources (DWR) to operate the CVP and SWP in a manner that ensures water quality standards are met at the impacted monitoring locations. It is likely that these agencies would need to release additional water from dams to address the impacts of the proposed project. We recommend USACE work closely with the USBR and DWR to evaluate this connected action in the FSEIS.

Likely increases in freshwater releases could have substantial indirect effects on endangered fish, such as winter-run salmon. In addition, Delta smelt, a State and federally listed endangered species, appear to spawn most regularly in and around the proposed project area. Although the DSEIS states that USACE and the Port are consulting with the U.S. Fish and Wildlife Service, the document does not present any analysis of the impacts to Delta smelt or winter-run salmon.

We have enclosed detailed comments to provide additional information on these concerns, as well as our concerns about compensatory mitigation, mercury and methylmercury, air emissions, and cumulative impacts.

We appreciate the opportunity to review the SDEIS and look forward to continued coordination with USACE. When the FSEIS is published, please send a copy to me at the address above (Mail Code: CED-2). If you have any questions, please contact me at (415) 972-3521 or contact Tom Kelly, the principal reviewer for the project, at (415) 972-3856 or kelly.thomasp@epa.gov.

Sincerely,



Kathleen M. Goforth, Manager
Environmental Review Office
Communities and Ecosystems Division

Enclosures: Summary of Rating Definitions
Detailed Comments

cc: Lieutenant Colonel Torrey DiCiro, U.S. Army Corps of Engineers,
San Francisco District
Tom Sheeler, Port of West Sacramento
Matt Jones, Yolo-Solano Air Pollution Control District
Karen Huss, Sacramento Metropolitan Air Pollution Control District
Genevieve Sparks, Central Valley Regional Water Quality Control Board
Becky Victorine, U.S. Bureau of Reclamation
Mike Chotkowski, U.S. Bureau of Reclamation
Kari Kyler, California Water Resources Control Board
Lucinda Shih, Contra Costa Water District
Steve Culberson, U.S. Fish and Wildlife Service
Maria Rea, National Marine Fisheries Service

Beneficial Use of Dredged Material

National Dredging Policies and the Delta LTMS Program

The National Dredging Team (NDT) was established in 1995 to implement the National Dredging Policy, in part through the 2003 "Action Agenda" recommendations¹. These recommendations included maximizing the beneficial use of dredged material for environmentally-sound projects. The NDT in turn established Regional Dredging Teams (RDTs) with a goal to maximize beneficial reuse of dredged materials². The interagency Delta Long Term Management Strategy (Delta LTMS) is an official RDT, with the participation of State and federal agencies, the Ports, the dredging community, and local interests. Since USACE funds, chairs, and manages the Delta LTMS, it should have drawn from the Delta LTMS and its goals more directly in the development of the SDEIS for the proposed project.

The Delta LTMS program was initiated to develop a dredged material management plan for the Delta, largely in response to well documented concerns about vulnerability of levees to failure due to storms, floods, earthquakes, and sea level rise³. The importance of the beneficial use of dredged materials to the maximum extent practicable is the first goal listed in the Delta LTMS's 2007 Charter signed by USACE. The SRDWSC project (together with the proposed Stockton Deep Water Ship Channel project) will generate many times the volume of dredged material than that of all other Delta dredging projects combined for many years to come, making management of dredged sediment from these projects the *de facto* long term management strategy for the region. For that reason, the Delta LTMS has looked to both projects to implement the LTMS's long term goal for beneficial use. We discussed this need specifically in our July 29, 2008 scoping comments (attached, and incorporated as part of these comments).

Recommendation:

The FSEIS should discuss USACE policies and programs that promote beneficial use to the maximum extent practicable, and their relation to the SRDWSC project.

The Delta LTMS goal of maximizing use of dredged material to maintain Delta levees should be used as a primary evaluation factor in the selection of dredged material placement sites.

Stockpiling

The DSEIS proposes little or no direct use of any of the 10 million cubic yards of dredged material that the SRDWSC project will generate. It proposes placement at 10 locations (Table 19) that have received dredged material from past maintenance or the original SRDWSC construction in 1990. Of these 10 proposed sites, nine are stockpiles adjacent to the channel itself. Only S20, also adjacent to the channel, is listed as a placement and reuse site, but there is only anecdotal evidence from the property manager that any reuse has in fact occurred, and neither reuse dates nor quantities are provided. This suggests that dredged material placement decisions evaluated in the DSEIS were

¹ http://water.epa.gov/type/oceb/oceandumping/dredgedmaterial/about_actionagenda.cfm

² Identifying, Planning, and Financing Beneficial Use Projects Using Dredged Material, Beneficial Use Planning Manual, U.S. Environmental Protection Agency (EPA 842-B-07-001) and U.S. Army Corps of Engineers, October 2007

³ For example, See Calfed Bay-Delta Levees at <http://calwater.ca.gov/calfed/newsroom/Levees.html>

driven by convenience and cost, without including a range of practicable beneficial placement options.

EPA supports strategic stockpiling, consistent with Delta LTMS goals. If stockpiling allows for subsequent planned beneficial use of materials, we consider it strategic placement, but the DSEIS offers no evidence that the nine proposed stockpiles are anything other than disposal sites. Consequently, EPA does not agree that stockpiling, as proposed in the DSEIS, equates to beneficial use, as suggested on page 58 of the SDEIS. We believe the approach described in the SDEIS is inconsistent with the goals of the Delta LTMS and EPA policies encouraging beneficial use, and note that it appears inconsistent with USACE national policies.

Recommendation:

The FSEIS should include criteria differentiating dredged material disposal sites from strategic stockpiles by emphasizing the likelihood of sediment reuse, including need, accessibility, and practicability of using dredged material for specific projects in the vicinity of stockpile sites.

Placement Site Selection

EPA is concerned that the DSEIS eliminated practicable beneficial use sites from consideration, and does not demonstrate the proposed project would comply with the Clean Water Act (CWA) Section 404(b)(1) Guidelines (Guidelines). Potential beneficial use placement sites should be retained in the analysis and evaluated in terms of the costs to the overall project as well as the benefits of the reuse. The DSEIS includes a project objective to “maximize the potential for beneficial use of dredged material as practicable” (p. ES-3). Although we agree with the objective, the DSEIS does not prioritize beneficial use of dredged material.

The DSEIS uses a three-tier screening process to narrow the range of placement sites from 120 to the 10 selected sites. The screening criteria give equal weight to the three types of placement locations (disposal, stockpile, and reuse sites), resulting in the elimination of potentially practicable beneficial use sites.

- The Tier 1 Criteria (page 61-62) eliminated sites needing more than 10,000 feet of pipeline to access them (i.e, requiring a booster pump) due to cost and "likely...unpredictable delays." Aside from estimating a \$3 per cubic yard cost for a booster pump, the DSEIS provides no evaluation of whether those increased costs could render any or all such sites impracticable as defined in the Guidelines. Tier 1 Criteria also eliminate sites for which the route of the hydraulic pipeline itself might affect adjacent land uses. In EPA's experience, dredged material transport pipelines are relatively easy to successfully route around various kinds of obstacles (including many of the examples listed on DSEIS page 61) without significantly affecting other uses. In other cases, some temporary effects might be acceptable. Overall, we believe Tier 1 screening eliminated 90 potential sites from detailed analysis without proper justification.
- The Tier 2 Criteria (p. 65) eliminate further placement sites that would require the use of mechanical dredging equipment. These criteria appear to have been applied incorrectly in at least one location, the Montezuma Wetlands Restoration Project placement site. While Montezuma normally receives sediment by mechanical dredging equipment, the SDEIS provides no reason the site could not accommodate direct hydraulic pipeline placement (e.g., of material from the western reaches of the deepening project). In fact, direct placement is likely to reduce facility charges normally associated with this site. Additionally, no booster pump is needed to reach this site.

- The Tier 3 Criteria (p. 65-66) used a reach-specific evaluation to eliminate four more sites based on “redundant capacity” in areas with closer suitable sites, but the criteria did not consider the priorities among placement site locations. For example, these criteria eliminated VS-PR1, a placement and reuse site, in favor of an apparent disposal site.

The Placement Site Report (Appendix I), prepared as supporting information for the DSEIS, did not include consideration of any potential commercially held property (including locations separately approved for various construction projects). Following the completion of the Placement Site Report, a commercial site owner offered to reuse sediment for construction and levee reinforcement (p. 70-71). In light of the value of commercial placement sites, the FSEIS should further explore potential commercial sites available for reuse of dredged materials from the project.

Recommendations:

The FSEIS should re-evaluate potential beneficial use and placement sites, based on a revised set of screening criteria. The revised screening process in the FSEIS should be based on giving highest priority to selection of beneficial use sites (“placement and reuse” sites). Second priority should be given to strategically-located stockpiles, at or in close proximity to specific reuse needs and opportunities (so that a minimum of subsequent rehandling of the material will be needed for the reuse). Lowest priority should be given to disposal sites (i.e. no expectation for reuse).

The existing Montezuma Wetlands Restoration Project should be carried forward for detailed evaluation in the FSEIS, and the operators of the site contacted regarding costs and logistics of direct hydraulic placement.

The FSEIS should supplement the Placement Site Report with additional information on commercial sites available for reuse of dredged materials from the project.

Future Maintenance Dredging

The DSEIS does not address future maintenance dredging. The document says that a Dredged Material Management Plan (DMMP) addressing maintenance dredging for the next 20 years will be included with the FSEIS (p. 42). Unfortunately, no description of the DMMP is provided. We are particularly concerned that the selection of placement sites for the deepening project material will constrain or otherwise affect the choice of potential placement sites for material from future maintenance dredging of the channel. Since the 10 placement sites proposed in the DSEIS will be essentially filled with deepening material (with little or no expectation that material from those sites will be removed for beneficial use), those sites would not be available for long-term management of much maintenance material. Given that the DSEIS screening criteria already identified the closest and least costly sites for the deepening material, other sites for maintenance material may be further away (and more costly), or perhaps entirely new sites may need to be developed over time that may involve wetland losses or other impacts.

Recommendation:

The DMMP's evaluation of future placement sites should be integrated with the FSEIS evaluation of initial placement sites in order to identify the maximum degree of beneficial use of material from the deepening and future maintenance dredging combined.

Water Quality

Water Quality Standards

The SDEIS is internally inconsistent regarding impacts to water quality. The project’s impact on drinking water intakes in Section 3.1 substantially differs from the analysis in Appendix L. Section 3.1 of the DSEIS defines significance criteria in this context as “a violation of water quality standards, including adopted TMDLs, which would impair beneficial uses of water” (see WQ-1, p. 131). Although Section 3.1 of the DSEIS states that “[n]o drinking water intakes exist within the study area; therefore, drinking water would not be affected by any of the alternatives,” Appendix L contradicts this statement and notes the following modeled violations of water quality standards at drinking water intakes (based on modeling of 1994-95 water conditions):

Drinking Water Intakes with Predicted Salinity Increases Above Water Quality Standards for Municipal <i>(from information presented in Appendix L page 257-8, and 552-3)</i>				
Drinking Water Intake (Interagency Station Number)	Modeled Violations under the No Action Alternative (Year 0)	Additional Modeled Violations due to the Proposed Alternative (Year 0)	Modeled Violations under the No Action Alternative (Year 50)	Additional Modeled Violations due to the Proposed Alternative (Year 50)
Contra Costa Rock Slough Export (CHCCC06)	86	4	37	4
West Canal at the mouth of Clifton Court Forebay (CHWST0)	27	4	0	0
Delta Mendota Canal at the Tracy Pumping Plant (CHDMC004)	7	5	0	0
Contra Costa Old River Export (ROLD034)	48	2	8	8

Although the SDEIS modeling indicates the project would result in water quality violations, EPA does not expect these to occur, based on California State Water Resources Control Board’s Revised Decision 1641. This decision requires the U.S. Bureau of Reclamation (USBR) Central Valley Project and the Department of Water Resources (DWR) State Water Project to manage their water projects to comply with all delta water quality standards.

The likely impact of the project would be the need for additional water releases by USBR or DWR to achieve Delta water quality standards. Neither this requirement, nor the likely connected action(s) required of USBR and DWR to comply with it, are discussed in the DSEIS. The impacted intake locations collectively provide water to millions of people, and represent water quality compliance points for the State Water Resources Control Board’s Revised Decision 1641.

Appendix L also shows that the project’s effect on agricultural water quality is relatively small, but it still created modeled violations. These are demonstrated by Figure 5.6-16 – Old River at Tracy

Road Bridge (ROLD059) in Appendix L, which estimates 13 days of violation (of the agricultural water quality standard) without the project in Year 50 and 14 days of violation with the project.

Recommendation:

The FSEIS should discuss the proposed project's apparently significant increases in salinity in critically dry years.

USACE should work closely with the USBR and DWR to evaluate connected actions resulting from the project, such as upstream release of water to ensure water quality standards are achieved, and discuss such connected actions in the FEIS.

The FSEIS should clarify whether the connected action would require the purchase of existing water rights by the project proponent to ensure water quality standards are achieved.

The quantity of water needed to meet water quality standards should take into consideration reductions in water delivery that occur in critically dry water years and account for modeling uncertainty.

Although the 1994-95 is the driest year with available data necessary for modeling, the FSEIS should include a narrative discussion of the potential effects of the projects during more severe and prolonged droughts.

Rare and Endangered Species Impacts

Delta smelt, a state and federally listed endangered species, appear to spawn most regularly in and around the Sacramento Deep Water Ship Channel. The project has the potential to greatly affect this habitat. The DSEIS states that USACE and the Port are consulting with the U.S. Fish and Wildlife Service, but does not present any analysis of the impacts to Delta smelt or winter-run salmon.

As mentioned in the *Water Quality Standards* comments above, the likely impact of modeled violations would be the need for additional water releases by USBR or DWR to ensure that water quality standards in the Delta are achieved. This action, providing greater flows to offset the impact of the channel deepening project, could also affect carryover storage in upstream reservoirs and thereby affect both the yield of reservoirs and the protection of spawning conditions for salmon below the reservoirs (including endangered winter-run salmon that rely on cold water releases from Shasta Dam). This impact is not discussed in the DSEIS.

Recommendation:

The FSEIS should ensure that that all designated beneficial uses under the Clean Water Act will remain adequately protected, including habitat support functions for species of concern.

The FSEIS should discuss the effects of the connected action on carryover storage in reservoirs, and the subsequent reduction in cold water availability, including impacts on water supply, habitat and listed winter-run salmon.

Compensatory Mitigation

We are concerned that the compensatory mitigation, proposed in the DSEIS for wetland and riparian impacts appears to be inconsistent with the 2008 federal Mitigation Rule (40 CFR 230, subpart J).

The DSEIS identifies a mitigation site owned by the Port (a portion of lower Prospect Island), but proposes preservation only, without enhancement. A preservation-only approach does not meet the requirements of CWA Section 404, including the federal Mitigation Rule, unless the property to be preserved is under imminent threat of impact or loss. The SDEIS provides no documentation that the Port's property is under such threat and is critical to preserve.

Recommendation:

The FSEIS should describe how proposed mitigation approaches are in compliance with the 2008 Mitigation Rule, and propose additional measures (including an alternate location) to mitigate for aquatic impacts as necessary.

Mercury and Methylmercury

The Central Valley Regional Water Quality Control Board (CVRWQCB) approved Resolution R5-2010-0043 on April 22, 2010 for control of methylmercury and total mercury in the Sacramento-San Joaquin Delta Estuary (i.e. the methylmercury Total Maximum Daily Load or TMDL). This Resolution adopting the TMDL has not been approved by the State Water Resources Control Board or EPA, however the State Board is currently taking public comment, and approval of the Resolution is expected to be considered at the June, 2011 State Board Hearing. Since approvals may be forthcoming in the near future, we recommend including a discussion of how the project will comply with the TMDL's requirements.

The SDEIS states that "The Central Valley RWQCB is currently developing a TMDL for mercury levels to meet water quality standards for the Delta" (p. 120). Consequently, the SDEIS does not discuss compliance with the CVRWQCB's amendments, such as: "1) Employ management practices during and after dredging activities to minimize sediment releases into the water column; and 2) Ensure that under normal operation circumstances, including during wet weather, dredged and excavated material reused at upland sites, including the tops and dry-side of levees, is protected from erosion into open waters." The SDEIS should also discuss compliance with the other methylmercury TMDL requirements, including characterizing the total mercury mass of material removed from Delta waterways, and conducting monitoring studies to evaluate management practices to minimize methylmercury discharges from dredge return flows and dredge material reuse sites. The DSEIS does discuss recent and ongoing mercury studies (p. 120-121), which may address the CVRWQCB's above requirement to monitor and study management practices. The TMDL anticipates comprehensive study plans and reports by stakeholder groups to further define and discuss these requirements.

Recommendations:

The FSEIS should discuss compliance with each of the CVRWQCB TMDL requirements, including:

- characterize the total mercury mass and concentration of material to be removed;
- describe the results of recent studies on the relationship between dredging and methylation of mercury;
- management practices to minimize sediment releases to the water column;
- ensure that dredged and excavated material at upland sites is protected from erosion into open waters; and
- participate and assist with stakeholder study plans and reports as required.

If appropriate based on recent studies or new information, the FSEIS should revise mitigation measures or best management practices to minimize the discharge of mercury and methylmercury during dredging, transport, disposal, stockpiling or reuse of sediment.

Air Emissions

Reducing Truck Traffic and Highway Congestion

In describing the DWSC deepening project, the Port of West Sacramento website states⁴

“Channel Deepening

The proposed channel deepening project at the Port of West Sacramento will allow more modern, fuel efficient, fully loaded cargo ships to travel the channel to transport cargo from the Bay Area to West Sacramento. The project will reduce 24,585 annual truck trips off the I-80 corridor.”

A City of West Sacramento press release⁵ states, “[t]he project will reduce regional freeway congestion and air emissions.” While reducing truck trips and freeway congestion is environmentally beneficial, increased cargo ships could have a negative effect on the Sacramento Valley Air Basin.

Recommendation:

The FSEIS should evaluate the net air quality effect of trucking and traffic changes associated with the project.

Projected Baseline Emissions

The DEIS baseline emissions for NO_x, in 2009, from ocean going vessels (including harbor craft) are 37 tons per year (Appendix P, p. 35). The State Implementation Plan (SIP) for the Yolo-Solano Air District lists 0.09 tons per day, or 33 tons per year⁶ of emissions from ocean going vessels for 2008. While these values differ slightly, EPA is more concerned about projected emissions. The DEIS baseline (and project) estimates 83 (57) tons per year of NO_x emissions in 2018 and 91 (63) tons per year in 2023, but the Yolo-Solano SIP estimates 2020 emissions at 0.06 tons per day, or 22 tons per year. While we are not questioning the DEIS emissions estimate for ocean going vessels, we do note their inconsistency with the SIP.

Recommendation:

The project proponent should work with the Air District to correct SIP emissions data for all criteria pollutants.

Cumulative Impacts to Air Quality

The Port of Sacramento, along with the Port of Stockton and the Port of Oakland, were recently awarded a Department of Transportation, Maritime Administration (MARAD) grant⁷. MARAD’s Marine Highway Corridors project⁸ also discusses a proposal to remove 180,000 truck trips from Interstate 580, 80 and 205. These projects should be discussed in terms of their cumulative impacts.

⁴ “City of West Sacramento - Air Quality.” *City of West Sacramento - Homepage*. Port of West Sacramento. Web. 15 Mar. 2011. <http://www.cityofwestsacramento.org/city/port/environment/air_quality.asp>.

⁵ Port of West Sacramento Channel-Deepening Funding in President’s 2010 Budget <<http://www.cityofwestsacramento.org/civica/inc/displayblobpdf2.asp?BlobID=3985>>

⁶ See <http://www.arb.ca.gov/app/emsinv/emssumcat.php>

⁷ California Green Trade Corridor Transportation Investment Generating Economic Recovery (TIGER) Federal Register 75 (November 9, 2010) page 79602

⁸ See http://www.marad.dot.gov/documents/Marine_Highway_Corridors13_Sep_10.pdf

While EPA acknowledges the air quality benefits of the project's increased cargo shipping efficiency, we believe the reduced shipping cost, which is the sole economic benefit quantified in the SDEIS, will provide an economic benefit that allows existing port operations to increase shipping and draw new port operations. This economic growth is noted in the previously mentioned City of West Sacramento press release, which highlights the deepening project as helping to "generate tremendous private investment in Northern California and create the family wage jobs that are greatly needed to restore our nation's economy." The cumulative effects analysis should consider both the expansion of existing businesses, due to reduced shipping costs, and other investments in new port operations.

Recommendation:

The FSEIS should discuss plans to ship freight from the Port of Oakland, and other west coast ports, to the Port of Sacramento.

The FSEIS should discuss cumulative impacts associated with reasonably anticipated growth of existing and new port operations. The FSEIS should also describe any added indirect air emissions associated with growth.

Miscellaneous Comment

The lower chart of Figure 8 (Changes in X2 [km]) is inconsistent with Figure 11, which is intended to be a cumulative plot of data in Figure 8.

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

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

"EC" (Environmental Concerns)

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

"EO" (Environmental Objections)

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

"EU" (Environmentally Unsatisfactory)

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

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

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

"Category 2" (Insufficient Information)

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

"Category 3" (Inadequate)

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

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

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

July 29, 2008

William Brostoff, Ph. D.
U.S. Army Corps of Engineers,
San Francisco District
1455 Market Street
San Francisco, CA 94103-1398

Subject: Notice of Intent to Prepare a Draft Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report for the Sacramento River Deep Water Ship Channel, California.

Dear Dr. Brostoff:

The U.S. Environmental Protection Agency (EPA) has reviewed the Notice of Intent to Prepare a Draft Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report for the Sacramento River Deep Water Ship Channel Project (Project), 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. These comments were also prepared under the authority of, and in accordance with, the provisions of the Federal Guidelines (Guidelines) promulgated at 40 CFR 230 under Section 404(b)(1) of the Clean Water Act (CWA) and EPA's ocean dumping regulations promulgated at 40 CFR 220-227 under the Marine Protection, Research and Sanctuaries Act (MPRSA). Our detailed comments are enclosed and are largely based on, and consistent with, our May 21, 2008 scoping comments on the San Francisco Bay to Stockton (John F. Baldwin and Stockton Ship Channels) Navigation Improvement Project.

The NOI states that the intent of the U.S. Army Corps of Engineers (Corps), in coordination with the Port of Sacramento (Port), is to evaluate the action of resuming construction of navigational improvements to the Sacramento River Deep Water Ship Channel (Channel). The NOI further states that the proposed federal action involves deepening the existing Federal navigation channel from 30 feet to 35 feet and widening portions of the channel to improve navigational efficiency for movement of goods and safety. While not stated in the NOI, EPA understands that the Project could yield seven (7) million cubic yards of dredged material. Given the scale and scope of this Project, EPA is concerned that the proposed action, if not thoroughly evaluated and designed to address broader goals, could have highly significant adverse impacts to the San Francisco Bay (SF Bay) and Sacramento/San Joaquin Delta (Delta) ecosystems, as well as to human uses of the Delta and its water. However, EPA also believes that this EIS is an important opportunity to advance wise planning of the Delta and its unique resources, in a manner that optimizes many uses, including efficient goods movement. We are

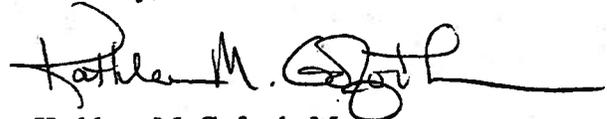
particularly interested in the potential impacts that this proposed Project may have on existing and planned efforts - such as the Bay-Delta Conservation Plan and Delta Conveyance - to protect and enhance ecological resources, the human environment, water supply, and water quality, as well as efforts to ensure beneficial reuse of dredging material in the SF Bay and Delta.

Specific to beneficial reuse of dredging material, EPA considers the proposed Project an excellent opportunity to identify significant beneficial reuse projects in the context of a regional dredged material management plan. Beneficial reuse in a regionally managed context is particularly important due to the millions of cubic yards of material from the Project, existing stockpiled dredge material in the Delta, and the future San Francisco Bay to Stockton (John F. Baldwin and Stockton Ship Channels) Navigation Improvement Project. As such, it provides a timely opportunity to further develop the San Francisco Bay and Delta Long Term Management Strategies (LTMSs) for dredged material, and use the LTMSs process for permit coordination.

We greatly appreciate the Corps' interest in early coordination with EPA and other interested parties to assess Project alternatives. Toward that end, we recommend a collaborative process to address the complexities of this effort and collectively identify critical resource issues and appropriate efforts with which to coordinate during the development of alternatives. We strongly encourage the Corps and the Port to initiate this collaborative approach with members of the CALFED Bay-Delta Program, Delta Vision, and the Delta and SF Bay Long Term Management Strategies due to their important roles in the future of the Delta and SF Bay. In particular, it will be important to work with these efforts and their participating agencies on matters such as defining baseline conditions, alternatives formulation, and evaluation of effects in the SF Bay and Delta.

EPA looks forward to future Project coordination with the Corps. Please note that our detailed comments provided are focused on areas of particular interest to EPA given the information available in the NOI and at the Project website. We will continue to provide input prior to and after public release of the Draft EIS and Final EIS. Please send two copies of the Draft EIS to this office at the same time it is officially filed with our Washington D.C. Office. If you have any questions, please contact me, at 415-972-3521, or Paul Amato, the lead reviewer for this project. Paul can be reached at 415-972-3521 or amato.paul@epa.gov.

Sincerely,



Kathleen M. Goforth, Manager
Environmental Review Office

Enclosure: EPA's Detailed Comments

cc:

Mr. Mike Luken, Port Manager, Port of Sacramento

Ms. Roberta Goulart, Executive Officer, Contra Costa Water Agency

Mr. Will Travis, Director, Bay Conservation and Development Commission

Ms. Jessica Hamburger, Bay Conservation and Development Commission

Ms. Pamela Creedon, Executive Officer, Central Valley Regional Water Quality Control Board
Mr. Bruce Wolfe, Executive Officer, San Francisco Bay Regional Water Quality Control Board
Mr. Les Grober, State Water Resources Control Board, Division of Water Rights
Mr. Sergio Guillen, Department of Water Resources
Mr. Paul Marshall, Department of Water Resources
Mr. Leo Winternitz, Deputy Director Strategic Planning
Ms. Linda Fiack, Executive Director, Delta Protection Commission
Mr. Chuck Armor, Regional Manager, California Department of Fish & Game
Ms. Sandy Morey, Regional Manager, California Department of Fish & Game
Ms. Maria Rea, Area Supervisor, National Marine Fisheries Service
Mr. Dick Butler, Area Supervisor, National Marine Fisheries Service
Ms. Susan Moore, Field Supervisor, U.S. Fish and Wildlife Service
Colonel Thomas C. Chapman, District Engineer, U. S. Army Corps of Engineers,
Sacramento District
Lieutenant Colonel Craig Kiley, District Engineer, U.S. Army Corps of Engineers,
San Francisco District
Brigadier General John McMahon, South Pacific Division Engineer,
U.S. Army Corps of Engineers
CALFED Agencies

ENVIRONMENTAL PROTECTION AGENCY'S DETAILED COMMENTS ON THE NOTICE OF INTENT (NOI) TO PREPARE AN ENVIRONMENTAL IMPACT STATEMENT (EIS) FOR THE SACRAMENTO RIVER DEEP WATER SHIP CHANNEL (PROJECT),

Purpose and Need

The purpose and need statement in the EIS should be clearly stated and briefly describe the underlying purpose and need to which the U.S. Army Corps of Engineers (Corps) is responding in proposing alternatives, including the proposed action. (40 C.F.R. 1502.13.) The statement of purpose and need should explain why the Corps and Port of Sacramento (Port) are undertaking the proposed Project, and the objectives that the action is intended to achieve. Based on information provided in the NOI, at a minimum, it appears that the purpose and need of the Project are to accommodate larger deep-draft vessels and increase navigational safety. The EIS should clarify whether the purpose and need include expansion of existing facilities at the Port of Sacramento or other locations along the channel, and if so, why this is needed; or whether this is considered a connected action for the purposes of the EIS.

Range of Alternatives

According to the NOI, the overall range of alternatives to be considered in the EIS includes No Action, Increased Use of Lighter Aboard Ships (barges), Increased Use of Intermodal Transportation, and Project Depths Shallower than 35 Feet. The DEIS must present the environmental impacts of the proposed action and alternatives in comparative form, sharply defining the issues and providing a clear basis for choice by decision makers and the public (40 CFR 1502.14). The alternatives analysis should describe all alternatives that were considered and explain why certain alternatives were not carried forward for further analysis in the DEIS. The alternatives analysis should assess the ability of each alternative to meet the Project purpose and need, and describe the environmental and social advantages and disadvantages of each of these alternatives in meeting the purpose and need.

The EIS should also describe the planning horizon that the Project alternatives are intended to serve. In other words, describe how long the Corps and the Port intend the Project alternatives to serve the Project needs stated in the DEIS.

We strongly recommend that the definition of the baseline conditions for "no action" (that is, without project conditions) be coordinated with the CALFED agencies that are also conducting impact analyses for proposed projects affecting the Delta. In particular, establishing common baseline assumptions regarding water management projects and their operations is an important step in modeling water movement into and within the Delta, and will provide a common basis for evaluating impacts of alternatives. Use of a common baseline will also assist evaluation of Project effects in combination with other proposed projects affecting the Delta.

Regional Coordination

Because of the scale and scope of the Project, as well as potential environmental effects, EPA strongly encourages the Corps and the Port to coordinate with efforts, plans and projects

currently underway to address ongoing environmental concerns in the Delta and Bay. Among these are the CALFED California Bay-Delta Program, Delta Vision, and the Delta and SF Bay Long-Term Management Strategies (LTMSs). As you know, the Corps and EPA already participate in CALFED and LTMS coordination efforts, while the Port is part of the Delta Vision stakeholder subcommittee. EPA contacts for these efforts are Ms. Carolyn Yale at (415) 972-3482, or by email at yale.carolyn@epa.gov, for CALFED; and Mr. Brian Ross at (415) 972-3475, or by email at ross.brian@epa.gov, for the LTMSs.

Dredging

Commitment to Beneficial Reuse of Dredged Material

The EIS should include a commitment to either beneficially reuse directly, or make available for beneficial reuse, all dredged material generated as a result of the Project, to the maximum extent practicable. This should explicitly include any and all previously dredged material that must be excavated from existing placement sites to provide capacity for dredging and initial placement of additional material from the Project. (See further discussions regarding LTMSs, and Cumulative Effects, below.)

Dredging and Placement Volumes and Environmental Effects

Neither the NOI nor the Project web site gives any information about the range of volumes of dredged material the various alternatives might generate; however, we understand that approximately 7 million cubic yards of material could potentially be dredged if deepening were to occur to the currently-authorized dimensions throughout the Project. Different alternatives may involve greater or less volume; but, clearly, this could be a major dredging project. Because the volume of dredging associated with different alternatives has direct bearing on the degrees of impact, the EIS should address, for each alternative, potential impacts of dredging, the initial placement of the dredged material, and the potential for beneficial reuse. The EIS alternatives analysis should consider:

- dredging effects on in-stream water quality (degree and duration of resuspension at the dredging sites);
- dredging effects on potential entrainment of fish;
- dredging effects on sediment quality (post-dredge surface chemistry compared to pre-dredge surface chemistry; this may vary by depth and area dredged);
- dredging effects on air quality (during construction/placement);
- disposal/placement effects resulting from the need to excavate and move previously-dredged material to recreate capacity at existing placement sites;
- disposal/placement effects resulting from placement or stockpiling of previously-dredged material removed from existing placement sites;
- disposal/placement effects resulting from the need for new initial placement sites (impacts would vary by site and by number of sites needed);
- disposal/placement effects resulting from directly placing material at any other (final) placement sites;
- disposal/placement effects on air quality (during drying at initial placement sites, and during any excavation/stockpiling of previously-dredged material);

- disposal/placement effects on surface water quality resulting from return flow from contained placement sites;
- disposal/placement effects on ground water quality resulting from leachate from placement sites;
- disposal/placement effects on volume of material made available for various beneficial reuse options;
- disposal/placement effects resulting from potential future land use of any material placed (or left, for existing material) where it is not easily available for reuse.

The EIS should also estimate the volume and frequency of future operations and maintenance (O&M) dredging needs. The commitment to facilitating beneficial reuse should extend to future maintenance dredging, as well. (Also see Cumulative Effects, and Dredged Material Management Program, below.)

Dredged Material Quality and Testing Issues

Substantial sediment quality data needs to be collected for this project. In particular, sediment quality data must be sufficient to identify the suitability for, and impacts of, placement in all of the alternative locations to be considered for dredged material from the various reaches of the Project. Existing data known to EPA are not adequate for this purpose. The Corps and Port should coordinate with the California State Water Resources Control Board regarding their extensive sediment sampling, planned for the spring/summer of 2008 throughout the Delta, in support of the State's Sediment Quality Objective (SQO) development. These data may be of significant use in focusing the additional testing needed for the Project.

Information on potential dredging material placement sites has not been provided in the NOI, or at the Project website; however, potential sites were identified for the SF Bay to Stockton Ship Channel Project, including seven contained areas in and near the Delta, as well as the San Francisco Deep Ocean Disposal Site (SF-DODS). In addition, in your July 28, 2008 email to Paul Amato, EPA, you indicated that previously identified sites largely correspond with disposal sites for operations and maintenance (O&M) dredging, that disposal at the SF-DODS has not been considered and is highly unlikely, and that a wetland restoration site has been identified for potential beneficial reuse. In the event the SF-DODS is considered a potential site, testing requirements would be quite different from other contained placement sites. In addition, sediment testing for initial placement sites may differ from the testing needed for final or subsequent placement sites (reuse). The Corps and the Port should commit to close coordination with the interagency LTMS working groups regarding testing needs for this project. The EIS should specifically commit to assisting the Delta LTMS in generating sediment and water quality data to support development of a broad dredged material management plan for the Delta, including the effort to identify pre-dredge testing that may be adequate to determine suitability for both initial placement and subsequent reuse. (See further discussions regarding LTMSs, and Cumulative Effects, below.)

In addition to the kinds of testing done, the resolution of the sampling and testing is an important issue. It may be that sediment sampling can be conducted in phases, with certain areas initially receiving lower-resolution sampling and analysis, followed by higher-resolution sampling and analysis in areas of concern based on the initial testing or existing information.

Otherwise, survey-level testing (e.g., a single sample taken every mile along the channel center line) alone would not be adequate to determine volumes of material that may be suitable for initial placement at different sites, because it may not capture any reasonable degree of potential heterogeneity throughout the Project area. Instead, sampling locations should be focused in order to represent the specific material to be dredged (more sampling in shoaled areas where greater dredging volume exists), and also focused on any areas of known or suspected contaminant sources or sinks. In addition, cores from each sample location should be vertically divided with separate analyses performed on portions of the cores representing the different alternative dredging depths the EIS will consider, in each Project reach.

Some of the specific goals of the sediment testing should include:

- determining where dredged material may be initially placed;
- determining whether any special management actions are needed at any of the placement sites;
- determining what reuses (final placement types) the material may be suitable for;
- determining whether any placement sites may need to be designed/operated to segregate dredged material of different qualities (differing suitability) or whether different placement sites should be assigned different qualities of material.

EPA is currently reviewing the Corps' and Port's draft Sampling and Analysis Plan (SAP) that will address the various needs of the Project. We are working to provide written comments on the SAP and will continue to provide input throughout its development.

In addition to pre-dredging sediment testing issues, the EIS should reflect consideration of the total maximum daily load (TMDL) being developed by the Central Valley Regional Water Quality Control Board to address mercury in the Delta as well as the adopted SF Bay Mercury TMDL. The mercury TMDLs may place certain constraints on not only the reuse, but also the dredging, of sediments that contain elevated levels of mercury. The EIS should also specifically discuss the potential for mercury methylation to occur at initial placement sites, and in other reuse situations.

Finally, Corps and the Project sponsors should coordinate with the LTMSs, and specifically with the California Department of Water Resources (DWR) and the Regional Water Quality Control Boards (RWQCB), regarding groundwater monitoring that may be needed at both existing and potential new initial placement sites for dredged material. DWR in particular may be in a position to partner with the Corps and/or the Port to collect appropriate groundwater monitoring data.

Dredged Material Placement

Management of as much as seven (7) million cubic yards of dredged material will be a major undertaking, even if construction is conducted in phases over several years. As noted above, EPA strongly recommends that the EIS commit to beneficial reuse of all the dredged material generated by the Project, or to making all the material available for beneficial reuse, to the maximum extent practicable. This includes any material excavated from existing placement sites to re-create disposal capacity for the Project. Such a commitment will require placing material at environmentally appropriate locations that are in proximity to potential/likely reuse

areas, or at least at locations that are easily accessible to future users via barge, truck, or rail. Ideally, material would be placed at such locations directly during the dredging process, as opposed to needing to rehandle material after dredging. This reduces impacts associated with moving material multiple times, including air emissions, noise, cumulative effects to surface water and groundwater, and it also reduces costs. We recognize; however, that it may not be possible to manage all the material without rehandling. In that case, either a combination of existing sites plus new sites, or entirely new sites, would be needed. To the extent that any new initial placement sites are needed, they should be located in areas near reuse needs, or at least be accessible to others so that reuse is facilitated.

To determine how to manage dredged material from the Project in a manner that maximizes the reuse or potential for reuse, the following questions should be considered as part of the alternatives development for the EIS:

- What would the economically optimal project look like with respect to placement sites? If hydraulic dredging is used, how close together should initial placement sites be, and how do the existing sites match up with this ideal?
- Direct placement at beneficial reuse sites should be done where possible. With this in mind, which such sites can be specified up front as being practicable to use (e.g., Montezuma and Hamilton), and for what reaches/volumes?
- For initial placement sites, what is the current capacity at existing sites, and where are these sites relative to the anticipated dredging locations (which are feasible to reach)?
- For initial placement sites, would excavation of previously dredged material generate sufficient capacity at feasible locations without the need for new sites? If not, for what volume, at a minimum, are new sites needed?
- Is there an optimal mix of new and existing initial placement sites, in terms of economic benefit?
- Is there an optimal mix of new and existing initial placement sites, in terms of minimizing the severity of direct environmental impacts?
- What mix of either consolidated stockpiles and/or initial placement sites would best facilitate the availability of the most dredged material for beneficial reuse? For example, identify a limited number of locations where material could be initially placed (or for existing material, excavated and stockpiled) so that it would be easily accessible for transport by road, rail, or barge for reuse at locations throughout the Delta and region.

The EIS should address how initial placement sites would need to be managed, in order to facilitate later reuse of the material placed in them. For example, would individual sites need to be able to accept and keep separate different qualities of dredged material (e.g., separate areas for material that is suitable for any kind of reuse, versus material with more restricted suitability)? Or would different sites be designated to manage only specific material types? Other placement site management needs should also be addressed, including any need for special engineering, surface or ground water monitoring, etc. Similar discussions should be provided for any consolidated stockpile areas that may be proposed, as well.

Finally, the EIS should address how material generated by future O&M dredging would be managed. As noted above, the commitment to facilitating beneficial reuse should extend to

future maintenance dredging, as well. Up front identification of environmentally appropriate placement locations that are feasible for future O&M dredging needs, while at the same time, planning to make the material accessible for future reuse, should be a priority. (See Cumulative Effects, and Dredged Material Management Program, below.)

CALFED Delta Levee Stability Program

Dredged material associated with the Project (both material dredged for deepening, and any previously-dredged material that may be excavated to re-create capacity for initial management of the deepening material) could be a significant resource for work undertaken by the existing Delta Levee Stability Program. The EIS should describe this program, and how management of dredged material from the Project could be managed to facilitate the program's goals.

Cumulative Effects of Dredging

Virtually all of the above dredging comments were previously provided to the Corps for the San Francisco Bay to Stockton (John F. Baldwin and Stockton Ship Channels) Navigation Improvement Project in our scoping comment letter dated May 16, 2008. The SF Bay to Stockton project will reportedly generate another 25 million cubic yards or more of dredged material; and, between the two deepening projects, the potential for cumulative effects is significant. The two would generate the vast majority of reasonably foreseeable dredging in the Delta for the next decade or more. Regarding dredged material specifically, consider all the "Dredging and Placement Volumes" issues listed above. In addition, the EIS should consider:

- cumulative acreage needed for initial placement sites;
- cumulative habitat and water quality impacts of dredging, including timing and discharge related impacts, and of developing new placement sites;
- air quality effects of dredging, transporting, and rehandling the cumulative volume from both projects, including both previously-dredged and new (Project) material, plus future O&M;
- cumulative availability of dredged material from both projects, including previously-dredged material along each project, for beneficial reuse.

Maintenance dredging needs, and management of the O&M material, should be considered cumulatively with other maintenance dredging needs in the Delta/region, including the proposed SF Bay to Stockton project, as well as existing navigation and flood control dredging projects. The EIS should present estimated future maintenance dredging of the proposed Project in light of compiled statistics on overall maintenance dredging throughout the Delta now (volumes, locations, and placement sites). (Also see Dredged Material Management Program, below)

Facilitating a Dredged Material Management Program for the Delta

As noted, the Sacramento DWSC and SF Bay to Stockton projects together likely represent the vast majority of dredging that may be conducted in the Delta/region for years to come. As a result, how these projects manage their dredged material will effectively determine regional dredged material management. For example, the Sacramento DWSC project alone could provide a significant proportion of the sediment needed in the Delta/region to repair and maintain levees, and to restore habitat. Considering the millions of cubic yards of previously-dredged material stockpiled at a number of locations around the Delta, combined with the

proposed SF Bay to Stockton Project, dredged material could supply an even greater proportion. Making as much of that material as possible available and accessible should be a major component of any regional dredged material management plan.

Developing and using the appropriate, accessible sites and potentially consolidating previously-dredged material from less accessible sites cannot feasibly be undertaken by individual future dredging projects (especially O&M projects) in a piecemeal fashion. This kind of task can, however, be feasibly undertaken by large civil works projects with specific Congressional funding (and appropriate local cost-sharing). These sediment management considerations should be directly incorporated into the EIS action alternatives, as project features eligible for projects funding as opposed to the traditional approach wherein "lands, easements, and rights-of-way" for upland/contained placement sites are considered mainly the responsibility of local sponsors to provide.

Water

Generally, baseline and impact analyses for water quality, and interpretation of the significance of water quality changes to biological resources and other beneficial uses, should be coordinated with the CALFED agencies and the related CALFED programs. For example, the CALFED Science Program has, for several years, been working with the Ecosystem Restoration Program to refine understanding of Delta habitat, stressors, and biological responses to these conditions. The importance of Delta water quality as a source of drinking water and as the environment for many important aquatic species, including five species of fish listed under the Endangered Species Act, places a spotlight on water quality analyses for the EIS.

Water Quality

The Project has the potential to significantly impact water quality in the Delta and San Francisco Bay. In order to monitor and report water quality impacts as well as effectiveness of water quality mitigation measures, the Corps and the Port should first develop an appropriate water quality monitoring plan. Adequate monitoring of water quality during Project activities should be based on a plan designed specifically for the Project using existing sampling protocols, as appropriate. In order to fully assess potential impacts, the monitoring plan should establish baseline conditions, including characterization of ambient physical, chemical and biological water quality conditions in the Delta and SF Bay. Existing monitoring data from non-Project sources, combined with additional characterization data, should be considered. We recommend that you coordinate with the State Water Resources Control Board and Central Valley and San Francisco Bay Regional Water Quality Control Boards, which have jointly committed to developing a comprehensive regional monitoring program for the Delta, as one component of a Delta Strategic Plan.

In addition to describing baseline line conditions, the EIS should assess potential direct, indirect and cumulative impacts to water quality from Project activities such as sediment dredging and disposal, and describe how the water quality monitoring plan will be used to measure these impacts. The analysis in the EIS should discuss CWA Section 303(d) listings of impaired water bodies and TMDLs, such as for dissolved oxygen (DO) and mercury, that are

under development or adopted for the Delta and SF Bay, and describe how the Project could potentially affect the impairments represented by these measures.

Hydrodynamics

Channel deepening is expected to affect the hydrodynamics of the Delta and, potentially, SF Bay. The EIS should describe these effects and the modeling used to inform the determinations. The EIS should also discuss the potential for altered hydrodynamics to directly, indirectly, and cumulatively affect water quality, biological resources, and other resources influenced by hydrodynamic conditions in the Project area. EPA is particularly concerned with effects to dissolved oxygen and salinity concentrations that could result from changes to hydrodynamics from channel deepening. The Corps and the Port should include a long-term monitoring component of the water quality sampling plan that will take these effects into account.

Mitigation

In addition to baseline and effects analysis, the EIS should describe avoidance and mitigation measures to address water quality degradation from the Project. Mitigation should be focused on meeting water quality standards and compliance with the CWA and the Porter-Cologne Water Quality Control Act. The Central Valley and SF Bay Regional Water Quality Control Boards should be consulted as well as EPA, in the development of mitigation measures and the water quality monitoring plan. Results of this coordination should be described in the EIS.

Water Supply

Because of the importance of the Delta to water supply in California, the EIS should include an analysis and discussion of how the alternatives could affect water supply conditions within both a water delivery and water quality context.

Biological Resources

The Sacramento San Joaquin Delta (Delta) is a biologically diverse ecosystem that will be affected by the Project. Several human-induced factors have resulted in degradation of Delta habitats, resulting in the federal and state listings of several threatened and endangered species that could be further affected by the Project. The EIS should describe baseline habitat conditions and species that occur, or could occur, in the Project area and areas that could be affected by Project activities. Special emphasis should be on federally listed species protected under the Federal Endangered Species Act. Currently the U.S. Fish and Wildlife Service, California Department of Fish and Game, National Marine Fisheries Service, California Department of Water Resources, U.S. Bureau of Reclamation and a number of water contractors are engaged in a major effort to formulate a "Bay Delta Conservation Plan" that will address participants' obligations pursuant to the Federal and California Endangered Species Acts (FESA and CESA). Likewise, the Corps and the Port will need to plan sufficient time and resources to address compliance with the FESA and CESA and describe this in the EIS.

The Corps should also describe species that are protected by the California Endangered Species Act. The Corps should conduct a rigorous analysis of potential Project effects on both

habitats and species, including direct, indirect, and cumulative impacts and describe mitigation measures to address any unavoidable impacts of the Project on biological resources. The EIS should describe coordination efforts with the U.S. Fish & Wildlife Service, National Marine Fisheries Service, and the California Department of Fish & Game and consistency with appropriate state and the federal laws implemented by these agencies.

Of particular interest is the potential impact of the Project on Delta smelt (*Hypomesus transpacificus*) and other pelagic fishes in the Delta and San Francisco Bay. The Corps should refer to the work of the Interagency Ecological Program (IEP) on pelagic organism decline (POD) that has occurred in recent years. The Corps is encouraged to consult with EPA, and should contact Mr. Bruce Herbold at (415) 972-3460 or by email at herbold.bruce@epa.gov to further discuss this issue.

As part of the discussion of biological resources, the EIS should also consider the potential for the Project to introduce, distribute, or in any way increase the presence of non-native invasive species in the Delta and SF Bay. Control measures to prevent impacts from invasive species that could result from the Project should be described.

Air Quality

The EIS must adequately assess air quality impacts of the Project, and minimize these impacts through adequate mitigation measures. The proposed Project area falls within the SF Bay Area, Sacramento County, and Sacramento Metropolitan national ambient air quality standard (NAAQS) nonattainment areas (nonattainment areas). Within these areas, ambient air quality is classified as "nonattainment" for 8-hour ozone and particulate matter smaller than 10 microns (PM₁₀). The SF Bay Area is designated "marginal" for 8-hour ozone, Sacramento County is classified as "moderate" for PM₁₀, and Sacramento Metro is classified "serious" for 8-hour ozone.

The EIS should provide a discussion of the baseline air quality conditions in the Project area and nonattainment areas; a description of federal and state air quality regulations, and a rigorous assessment of direct, indirect, and cumulative effects of the proposed Project on air quality. The analysis of air quality impacts should include direct and indirect impacts from construction and operation and maintenance (including dredge spoil disposal activities), as well as cumulative impacts from construction, any increased ship traffic, new capacity for larger ships due to channel deepening, and increased throughput and traffic at and around the Port of Sacramento. The expected timing and frequency of dredging and transporting of dredged material should be identified in the EIS. The Corps should describe in the EIS specific commitments to mitigate emissions that will prevent further degradation of air quality in the nonattainment areas. In short, the cumulative impacts analysis should consider all new sources of emissions that are likely to result from the federal action of deepening the Channel, and commit to mitigation measures that minimize air quality impacts to the maximum extent feasible (alternative fuels, electrification, minimizing diesel truck trips, etc). An estimate of the air quality benefits that could reasonably be expected to result from each mitigation measure proposed should be included in the EIS. The EIS should also describe coordination with EPA,

California Air Resources Board, Bay Area Air Quality Management District, and the Sacramento Metropolitan Air Quality Management District intended to reduce air quality impacts.

The EIS should describe whether the Project will or will not meet general conformity requirements with the associated state implementation plans for the nonattainment areas. If the federal action is determined to potentially interfere with the attainment of Clean Air Act NAAQS, the Corps is required to conduct a conformity analysis to determine the likelihood and extent of interference. The Corps is encouraged to consult with EPA and should contact Ms. Rebecca Rosen of the Air Division at (415) 947-4152 or by email at rosen.rebecca@epa.gov.

Environmental Justice

The Corps should identify any environmental justice communities that could be affected by the Project, and assess potential impacts and impact avoidance measures. Because the Project could result in increased air quality impacts and increased traffic at the Port of Sacramento, there is potential to disproportionately impact low income and minority communities that may occur in and around the Project area. Disproportionate impacts to environmental justice communities should be avoided and mitigated to the fullest extent practicable. The Corps is encouraged to consult with EPA and should contact Ms. Lily Lee at (415) 972-3795, or by email at lee.lily@epa.gov.

Cumulative Impacts

Port expansion at Sacramento (and attendant effects such as those associated with increases in ship, truck and rail traffic) should be evaluated in the EIS as a connected action. In addition, the potential for the deepening to facilitate port expansion at other locations along the channel (starting from Suisun Bay) should be considered. Beyond that, potential cumulative effects from the SF Bay to Stockton project need to be addressed as do growth-inducing effects resulting from channel deepening. These include not only possible port expansion at Sacramento, but also cumulative increases in ship, truck and rail traffic, cumulative impacts to water quality, water flow ("plumbing"), sensitive species, habitat quality, invasive species populations, air quality, and sensitive receptors such as environmental justice communities.

Climate Change Impacts

The Intergovernmental Panel on Climate Change (IPCC) estimates that the global average sea level will rise by 7.2 to 23.6 inches by 2100, relative to 1980-1999 levels, under a range of scenarios (<http://www.epa.gov/climatechange/science/futureslc.html>). Given the conclusion that sea levels are rising, the EIS should discuss how such projected rise could have an effect on the proposed Project. The EIS should provide a qualitative discussion of the effects of rising water surface elevations and climate-induced sediment supply modifications on dredging requirements in the Delta and San Francisco Bay. The extent to which such phenomena would occur within the projected Project timeframe should be considered.