



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**REGION IX**

**75 Hawthorne Street  
San Francisco, CA 94105-3901**

June 24, 2019

Stacie Auvenshine  
Restoration and Resources Section  
Environmental Branch, Planning Division  
U.S. Army Corps of Engineers, Jacksonville District  
P.O. Box 4970  
Jacksonville, Florida 32232-0019

Subject: EPA Comments on the Draft Environmental Impact Statement/Draft Integrated General Reevaluation Report for the San Francisco Bay to Stockton Navigation Study, Marin, Contra Costa, and Solano Counties, California (EIS #20190088)

Dear Ms. Auvenshine:

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 our NEPA review authority under 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 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).

EPA submitted comments on the initial scoping notice for this project on May 16, 2008. We provided additional feedback in letter dated February 13, 2013 after participating in an interagency "In Progress Review" meeting. On April 4, 2016, we submitted scoping comments on the revised Notice of Intent (NOI). We provided a fourth comment letter to the U.S. Army Corps of Engineers (USACE) on the second revised NOI on January 3, 2018.

The Draft EIS analyzes a Proposed Action that has been considerably reduced from earlier proposed projects, spanning roughly 13 nautical miles and requiring approximately 1.6 million cubic yards (cy) of dredging, compared to the 29 million cy under the initial 75-mile project. While earlier projects envisioned deepening navigation channels from the San Francisco Bay to the Port of Stockton, the Draft EIS identifies a Proposed Action that now involves deepening only the Pinole Shoal Channel and portions of the Suisun Bay Channel to oil refineries in Avon.

We appreciate USACE's extensive coordination with our agency and other stakeholders over the years to explore opportunities to reduce the project's impacts on water quality and sensitive aquatic life in the Delta. In our previous comments, we indicated that many of our most significant environmental concerns, particularly those pertaining to water quality, would be addressed if USACE limited the project scope to channels west of Avon. The Draft EIS is generally consistent with this recommendation


and EPA appreciates the incorporation of our feedback.

The Proposed Action would primarily serve oil refineries in Contra Costa and Solano Counties. USACE anticipates that the project would generate transportation efficiencies by enabling oil tankers to transport the same quantity of crude oil and petroleum products in fewer trips. According to the Draft EIS, the Proposed Action would not result in any significant adverse environmental impacts. Given that the project has the potential to affect oil tanker traffic and industrial activities in an area that experiences air quality and water quality challenges, we request that additional information be included to support the conclusions presented in the Draft EIS. The attached detailed comments describe concerns regarding the potential water quality, air quality, and dredged material management impacts. We have also attached our previous comment letters for consideration should USACE and the Port of Stockton resume studying the effects of dredging from Avon to the Port of Stockton.

Please note that effective October 22, 2018, EPA no longer includes ratings in our comment letters. Information about this change and EPA's continued roles and responsibilities in the review of federal actions can be found on our website at: <https://www.epa.gov/nepa/epa-review-process-under-section-309-clean-air-act>

We appreciate the opportunity to provide feedback on the Draft EIS. Please send a copy of the Final EIS when it becomes available to this office at the address above (mail code TIP-2). If you have any questions, please contact me at 415-947-4161, or Morgan Capilla, the lead reviewer for this project, at 415-972-3504 or [capilla.morgan@epa.gov](mailto:capilla.morgan@epa.gov).

Sincerely,

  
Connell Dunning, Acting Manager  
Environmental Review Branch

Enclosures: EPA Detailed Comments  
EPA Comments on the San Francisco Bay to Stockton Navigation Improvement Project NOI (2008)  
EPA Supplemental Comments on the San Francisco Bay to Stockton Navigation Improvement Project NOI (2013)  
EPA Comments on the San Francisco Bay to Stockton Navigation Improvement Project Revised NOI (2016)

Electronic copy: Douglas Hampton, National Marine Fisheries Service  
Sara Azat, National Marine Fisheries Service  
Stephanie Millsap, U.S. Fish and Wildlife Service  
Elizabeth Kiteck, U.S. Bureau of Reclamation  
Elizabeth Christian, San Francisco Bay Regional Water Quality Control Board  
Brenda Goeden, Bay Conservation and Development Commission  
Arn Aarreberg, California Department of Fish and Wildlife  
Chris Beegan, California Department of Water Resources  
Richard Boyd, California Air Resources Board

Alison Kirk, Bay Area Air Quality Management District  
Jim Atone, Yolo-Solano Air Quality Management District  
Ryan Hernandez, Contra Costa County  
Jeff Wingfield, Port of Stockton

**EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT/DRAFT INTEGRATED REEVALUATION REPORT FOR THE SAN FRANCISCO BAY TO STOCKTON NAVIGATION STUDY, CONTRA COSTA, MARIN, AND SOLANO COUNTIES, CALIFORNIA--JUNE 24, 2019**

**Scope of Analysis**

EPA supports USACE's efforts to reduce the proposed project's impacts by limiting dredging to the Pinole Shoal Channel and a portion of the Suisun Bay Channel; however, as noted in the Executive Summary, the Port of Stockton recently notified USACE that they intend to pursue deepening from Avon to Stockton. Cumulative impacts of deepening from Avon to Stockton are briefly noted in this Draft EIS, and, according to page ES-2, the Port of Stockton would prepare a separate California Environmental Quality Act (CEQA) document to evaluate the impacts on a programmatic level.

***Recommendations:*** In the event that the Port of Stockton and USACE pursue deepening from Avon to Stockton, EPA provides the attached comment letters for consideration. In addition, EPA recommends that the assessment of impacts for deepening from Avon to Stockton explicitly address potential increase in algal blooms and harmful algal blooms (HABs) frequency and intensity due to resuspension of nutrients during dredging. We also recommend clarifying in the Final EIS for this project that deepening from Avon to Stockton would require further NEPA compliance on the part of USACE, as well as the referenced CEQA compliance that would be undertaken by the Port of Stockton.

**Water Quality and Aquatic Life**

***Salinity Intrusion***

Impacts Water Quality-06 and Biological Resources-07 assess whether the project would result in any significant adverse impacts on water exports/operations and aquatic life, respectively, due to salt water intrusion into the Delta. Specifically, the Draft EIS employs a threshold of 1 kilometer (km) to evaluate the project's potential to cause a significant "change" in the location of X2<sup>1</sup>, a water quality standard to protect aquatic life. The Draft EIS (p. 4-23 and p. 4-52) cites the 2010/2017 Los Vaqueros Reservoir Expansion EIS/EIR and the Environmental Water Account EIS (U.S. Bureau of Reclamation et al., 2003) for this specific significance threshold. The Draft EIS states that it is a reasonable threshold given the inherent uncertainty in the estimate of net Delta Outflow; we note, however, that no further information is provided to justify the appropriateness of this threshold.

The Draft EIS characterizes project impacts as "shifting" or "changing" the location of X2. Please note that the impact on X2 due to the proposed project does not actually change the X2 water quality objective itself; rather, it is a measurement of the project's impact on the salinity gradient. Any additional salt water intrusion into the Delta due to the project would need to be offset by State and Federal water projects from other beneficial users in order to maintain X2.

***Recommendations for the Final EIS:***

- Provide scientific, quantitative rationale behind the use of the 1 km significance threshold for Impact WQ-06 and BR-07.
- Describe the coordination that has taken place between USACE, the California Department of Water Resources, and the U.S. Bureau of Reclamation to ensure that the

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<sup>1</sup> X2 is a water quality standard that requires the location of the two part per thousand salinity line to be west of certain locations for a specified number of days each month (specifically, Collinsville, Chipps Island, and Port Chicago at 81 km, 75 km, and 64 km, respectively, from the Golden Gate). The number of days is determined by the 8-river runoff index of the prior month.

Bay Delta Estuary continues to meet water quality standards if the proposed project is implemented.

#### *Impacts on Special Status Species*

Section 2.2.6.2 of the Draft EIS discusses entrainment monitoring in the Delta from hydraulic-pipeline dredging. EPA understands that USACE has been monitoring entrainment via its self-propelled hopper dredge *Essayons*, which is routinely used for maintenance dredging of the Pinole Shoal portion of the project area. Confirmation that the *Essayons* entrains smelt is a key reason that the proposed deepening project will employ only mechanical dredging techniques.

The proposed deepening project would result in an increase in future maintenance dredging. Most of the increased maintenance dredging activities would occur in the Pinole Shoal area, where maintenance dredging is proposed to be done hydraulically using hopper dredges such as the *Essayons*. Entrainment of smelt can, therefore, be expected to occur at an increased rate.

The significance determinations for impacts BR-01 through BR-06 are largely based on qualitative assessments using best professional judgement. Such assessments are not as precise as quantitative evaluations. We recognize that data may not be available to conduct quantitative evaluations of each impact; however, there are substantial, inherent limitations in each one of these qualitative assessments.

#### ***Recommendations for the Final EIS:***

- Commit to using mechanical dredges for maintenance dredging within the project area if feasible. If this is determined to be infeasible, discuss the need for new, ongoing mitigation for the increased entrainment resulting from the proposed project (i.e., in addition to the conservation credits that USACE has been purchasing each year based on maintenance dredging for the current channel depths). Include a table that contains the number of smelt entrained during the *Essayons* monitoring by year. Update Impact BR-04 based on entrainment of smelt by the *Essayons* that has been confirmed through direct monitoring.
- In Section 2.2.6.2, clarify that the decision to limit dredging within the programmatically-established Long-Term Management Strategy (LTMS) environmental work windows constitutes an important avoidance measure with respect to Special Status Species and Essential Fish Habitat.
- Disclose limitations associated with the qualitative assessments for impacts BR-01 through BR-06. We strongly encourage USACE to work closely with NOAA, USFWS, CDFW, and other relevant agencies to obtain the most current information on migration and sensitive life stages in the project area and adjust dredging schedules as necessary to avoid impacts to aquatic species. We further recommend ongoing review of new information on entrainment and impacts to benthic organisms to ensure that impact levels remain insignificant.

#### *Algal Blooms and Harmful Algal Blooms*

Algal bloom and HABs are occurring more frequently in the Delta and have been observed adjacent to the project area, namely in McNabney Marsh near Avon. Resuspended nutrients could increase the occurrence of algal blooms and HABs, and potentially lead to large swings in diurnal dissolved oxygen.

***Recommendations for the Final EIS:*** Evaluate potential increases in frequency and severity of algal blooms and HABs under Impact WQ-01. Include mitigation measures for any adverse impacts identified.

#### *Resuspension of Contaminated Sediments*

Page 4-16 of the Draft EIS describes various measures that USACE would take to ensure that dredging



associated with the project would not resuspend contaminated sediments in the water column and cause any water quality standard violations. EPA strongly supports these project features. We note that adherence to these measures and best management practices will be critical to reducing the potential for water quality degradation.

***Recommendations for the Final EIS:*** Confirm in the Final EIS and Record of Decision (ROD) that commitments described in Impact WQ-02 will be retained as permanent features of the project to ensure that the project does not degrade water quality.

#### *Selenium Criteria*

As noted in our previous scoping comments, EPA is proposing to revise the current selenium water quality criteria for the San Francisco Bay and the Sacramento-San Joaquin Delta to protect aquatic life and wildlife. We continue to recommend that the EIS for this project include a discussion of these proposed revisions.

***Recommendations for the Final EIS:*** Include a discussion of EPA's proposed revisions to the selenium water quality criteria for the San Francisco Bay and the Delta.<sup>2</sup> Use the proposed or final criteria as the basis for evaluating relevant water quality impacts.

#### **Induced Growth**

A key assumption embedded within the project's impact analysis is that growth at oil refineries located near the project area would continue at the same rate with or without the project. The Draft EIS does not appear to contain any additional information that was used to validate this assumption. It is unclear whether USACE examined the project's potential to induce growth at the oil refineries located near the project area. If increased transportation efficiencies associated with the project result in an increase in production at these oil refineries, the area could experience additional adverse environmental impacts.

***Recommendations for the Final EIS:*** Clarify whether USACE evaluated the project's potential to induce growth at the oil refineries that would benefit from this project. In order to provide the public with a more comprehensive understanding of how this project could potentially influence their health, we recommend updating pertinent sections of the environmental effects chapter to reflect a situation where the project would increase production at the refineries (e.g., air quality, water quality, environmental justice sections). Identify appropriate mitigation measures to address any adverse impacts.

#### **Air Quality**

Most project activities would occur within the San Francisco Bay Area Air Basin (SFBAAB), which is a federal nonattainment area for ozone (marginal) and 24-hour PM<sub>2.5</sub> (moderate). Some dredged material is proposed to be placed within a portion of the Sacramento Valley Air Basin that is a federal nonattainment area for 24-hour PM<sub>2.5</sub> (moderate) and ozone (severe for the 2008 standard, moderate for the 2015 standard). We understand that the project may have the ability to generate some short-term air quality benefits by using more fully-laden ships; however, given the project's potential to affect vessel traffic and industrial activities in an area that suffers from poor air quality, we encourage USACE to commit to all feasible air quality mitigation measures.

***Recommendations for the Final EIS:***

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<sup>2</sup> For more information, see EPA's website on the Establishment of Revised Numeric Criteria for Selenium for the San Francisco Bay and Delta, California. Available at: <https://www.epa.gov/wqs-tech/water-quality-standards-establishment-revised-numeric-criteria-selenium-san-francisco-bay>

- Include the following mitigation measures:
  - Use an electric clamshell dredge during the project’s construction phase if feasible.
  - Require refineries and other commercial ports to grant priority access to cleaner tankers (i.e., IMO Tier III, the equivalent of U.S. Tier 4).
  - Require refinery and port docks to be outfitted for shoreside power.
  - Refineries and ports should commit to commercial harbor craft capable of meeting all emissions limits by 2022.<sup>3</sup>
  - In order to reduce emissions and fatal strikes on whales, require tankers to slow to 10-12 knots when entering the San Francisco Bay.
- Include a discussion of the North American Emissions Control Area, which limits the sulfur content in fuel for U.S. *and international* ocean-going vessels operating within 200 nautical miles of the U.S. coast.<sup>4</sup>
- Update Table 4 of the Air Quality Report in Appendix G to reflect the current 2015 federal ozone National Ambient Air Quality Standard (NAAQS), which is 0.070 ppm.
- Update Table 5 of the Air Quality Report in Appendix G to show that the SFBAAB is in nonattainment for the 24-hour PM<sub>2.5</sub> NAAQS. Include an air quality attainment status summary table in the main report.

### *Operational Emissions*

Operational emissions estimates included in the air quality section of the Draft EIS suggest that the project will result in a reduction in criteria pollutant emissions due to a decrease in vessel traffic (Table 4-8, p. 4-33); however, it is unclear whether all relevant emissions were accounted for in this analysis. For example, the climate change impact analysis indicates that the project would result in an increase in greenhouse gas emissions, primarily driven by increased operation and maintenance (O&M) activities to support the deeper channels (p. 4-41). The operational emissions analysis in the air quality impact section does not appear to include emissions from increased O&M activities.

The Draft EIS appears to contain inconsistent information regarding the proposed project’s impact on vessel activity. Table 8 of the Economic Analysis (Appendix D) indicates that the project would not affect vessel traffic for larger oil tanker classes (Aframax and Suezmax); however, Table 4.21 of the Draft EIS indicates that the project would result in an increase in Aframax and Suezmax vessel calls compared to the No Action Alternative. It appears that emissions from these vessels were excluded from the project’s air quality impact analysis.

***Recommendations for the Final EIS:*** Revise the air quality impact analysis to account for all emissions associated with the project. For example, please include emissions from increased O&M activities and from any Aframax and Suezmax vessels that would be affected by the project, as well as any tugboats that would accompany them. Discuss mitigation measures for any adverse air quality impacts identified. Ensure that all sections and appendices consistently and accurately reflect the forecast vessel count for future with and without project conditions.

### **Dredged Material Management**

EPA strongly supports USACE’s commitment to beneficially reuse all dredged sediment generated by

<sup>3</sup> For more information, please see CARB’s Commercial Harbor Craft website: <https://ww2.arb.ca.gov/our-work/programs/commercial-harbor-craft>

<sup>4</sup> For more information, see: <https://www.epa.gov/regulations-emissions-vehicles-and-engines/international-standards-reduce-emissions-marine-diesel>

this project, contingent on the final suitability determination, to further ecosystem restoration efforts in the San Francisco Bay Area. Page 2-61 describes the project's proposed dredged material placement strategy, which focuses reuse at the Cullinan Ranch Tidal Restoration Site and the Montezuma Wetlands Restoration Project. As noted in this section, beneficial reuse would assist in reducing the project's salinity impacts to a less-than-significant level (p. 2-61). In light of various complications that may arise with implementing proposed beneficial reuse, EPA recommends that the Final EIS demonstrate how USACE would reuse all dredged sediment associated with the project.

***Recommendations for the Final EIS:***

- Confirm in the Final EIS and the ROD that USACE will beneficially reuse all sediments generated by this project.
- Discuss complications that might arise at the proposed reuse sites, and how the reuse commitment will be achieved if complications occur.
  - Address the possibility that the identified sites may not have sufficient capacity available when project construction commences.
  - Identify what will occur if final sediment testing indicates that some material is not suitable for the proposed reuse sites (e.g., transported to other placement sites). Please note that EPA will not concur on ocean disposal of any sediment that could practicably be reused, even if reuse costs are greater than initially assumed, or if minor construction delays occur.
- Consistent with our comments on USACE's 2018 Delta Islands and Levees Final EIS, we continue to recommend that USACE evaluate the Delta Islands Restoration Project as a potential reuse option for this project.
- Update the description of the LTMS on page 1-5 to include its goals to reduce in-Bay disposal and maximize beneficial reuse of dredged material.

***Increased Maintenance Dredging Requirements***

The project would result in a 230,500 cubic yard (cy) increase in annual maintenance dredging volume. 55,000 cy would be disposed at the SF-15 in-Bay disposal site, and 176,000 cy would be disposed at the SF-10 in-Bay disposal site. Section 4.1.2 of the Draft EIS concludes that, because this volume increase is "only 1.2 percent of the average annual sediment flux to San Francisco Bay", the effect would be insignificant (p. 4-11). EPA believes that it would be more appropriate to evaluate the project's impacts based on the project's increased reliance on in-Bay disposal sites with respect to the available disposal site capacities. The maximum allowable annual disposal limit for SF-16 is 200,000 cy, and 500,000 cy for SF-10. SF-9, which has also been used regularly by USACE, has developed a substantial shoal that limits how much volume can safely be disposed there; however, this site has a much higher disposal limit and may be able to accommodate some maintenance dredging needs for this project.

***Recommendations for the Final EIS:***

- Include a detailed discussion of how increased maintenance dredging needs will be met.
- Provide a table that includes the actual annual disposal volumes at each disposal site (SF-16, SF-10, and SF-9) over the last 10 years for both USACE disposal and USACE disposal combined with all other users in relation to the established site limits.
- Include a table identifying the expected percentage volume increase at each disposal site due to the project's increased maintenance dredging needs.
- Discuss the potential for exceeding the disposal limits at each site. If the annual limits are expected to be exceeded, discuss the consequences for USACE maintenance operations



and other users. This discussion should reflect the annual overall in-Bay disposal limits established under the LTMS Management Plan (1.25 million cy at all in-Bay sites combined), and the extent to which the overall maximum is more likely to be exceeded on average with the increased maintenance volume. Please note that the potential socio-economic consequences of exceeding 1.25 million cy on average over a 3-year period may be substantial and could result in mandatory dredger-specific disposal allocations.

- Describe how significant impacts would be avoided.

### *Sediment Characterization*

A summary of past sediment testing is included in Section 2.2.2 of the Draft EIS; however, more recent results for these areas are available. Specifically, data from Pinole Shoal testing is available for 2010, 2014, and 2017, while data from the Suisun Bay Channel/New York Slough are available for 2017 and 2019. The last sentence of this section states that “confirmatory testing will be completed prior to placement at the reuse sites” (p. 2-5). Given that previous testing results from overlying maintenance dredging material might not accurately represent the characteristics of deeper sediment, this confirmatory testing will be important.

#### ***Recommendations for the Final EIS:***

- Update the Sediment Characteristics section to include results from the most recent available sediment testing.<sup>5</sup>
- Confirm that additional testing will be completed prior to placement at reuse sites. EPA is available to review a draft Sampling and Analysis Plan (SAP) to ensure the adequacy and appropriate characterization of the deepening material.

### **Potential Shifts in Conveyance Mode**

The Draft EIS does not clarify whether improving oil tanker transportation efficiency would cause any shifts in other modes of conveyance at petroleum facilities near the project area. For example, the Draft EIS does not disclose whether crude oil and petroleum products previously transported through other methods (e.g., rail, pipeline) would be incentivized to switch to marine transport if the project is implemented. Such shifts in conveyance could affect the project’s impacts.

***Recommendations for the Final EIS:*** Clarify whether the proposed project would cause any shifts in conveyance modes at the oil refineries near the project area. If any shifts are anticipated, analyze and disclose impacts associated with the shifts and identify appropriate mitigation measures to address such impacts.

### **Environmental Justice**

A brief Environmental Justice analysis is included in Section 4.1.12 of the Draft EIS. Page 4-66 states that the proposed project would not result in any environmental justice impacts because “any operational air quality impact would be equally borne by all populations.” In EPA’s January 3, 2018 scoping letter, we provided USACE with resources and recommendations for the project’s Environmental Justice assessment. Our letter included suggestions for defining the “affected” and “reference” communities, which are essential components in determining whether the project would result in disproportionately high and adverse human health or environmental impacts.

#### ***Recommendations for the Final EIS:***

- Clearly define the affected population and the reference population. The affected community

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<sup>5</sup> See Dredged Material Management Office Database: [https://www.dmmosfbay.org/site/alias\\_dmno/293/default.aspx](https://www.dmmosfbay.org/site/alias_dmno/293/default.aspx)

should accurately reflect the demographic characteristics of the population likely to be adversely affected by the proposed project. The reference community should reflect the characteristics of the general population that would benefit from the project (e.g., municipal, regional, state).

- Provide demographic and socioeconomic information for the affected population and reference populations. Include maps that convey the percentages of low-income and minority populations in the affected communities if feasible.
- Explain the rationale behind the assertion that operational air quality impacts would be equally borne by all populations
- If any revisions are made to the Final EIS that would affect the project's environmental justice assessment (e.g., air quality, water quality, induced growth), we recommend that USACE update the environmental justice analysis accordingly and identify appropriate mitigation measures for any adverse impacts.



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**REGION IX**

**75 Hawthorne Street**

**San Francisco, CA 94105-3901**

May 16, 2008

Ms. Nancy Ferris  
U.S. Army Corps of Engineers,  
San Francisco District  
1455 Market Street  
San Francisco, CA 94103-1398

Subject: Notice of Intent to Prepare an Environmental Impact Statement (EIS) for the San Francisco Bay to Stockton (John F. Baldwin and Stockton Ship Channels) Navigation Improvement Project, California.

Dear Ms. Ferris:

The U.S. Environmental Protection Agency (EPA) has reviewed the Notice of Intent to Prepare an Environmental Impact Statement (EIS) for the San Francisco Bay to Stockton (John F. Baldwin and Stockton Ship Channels) Navigation Improvement 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.

The NOI states that the intent of the U.S Army Corps of Engineers (Corps), and the Port of Stockton, and Contra Costa Water Agency (local sponsors) is to evaluate the efficiency of goods movement along the existing San Francisco Bay to Port of Stockton deep draft channel. The NOI further states that the proposed federal action consists of altering the depth along portions of the 75 nautical mile channel. While not stated in the NOI, EPA understands that the Project could yield approximately 25 million cubic yards of dredged material. Given the scale and scope of the 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 and 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 SF Bay and Delta's 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, water quality, and efforts for 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, from existing stockpiled dredge material in the Delta, and the future Sacramento Deep Water Ship Channel 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 coordination of permitting.

We greatly appreciate the Corps' interest in early coordination with EPA and other interested parties to develop and 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 local sponsors 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 (LTMSs) 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 on May 28<sup>th</sup> where we will discuss elements of the future Draft EIS. 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 415-972-3846 or Paul Amato, the lead reviewer for this project. Paul can be reached at 415-972-3847 or [amato.paul@epa.gov](mailto:amato.paul@epa.gov).

Sincerely,



For

Nova Blazej, Manager  
Environmental Review Office

cc:

Mr. Richard Aschieris, Port Director, Port of Stockton  
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

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Ms. Jessica Hamburger, Bay Conservation and Development Commission  
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. Pamela Creedon, Executive Officer, Central Valley Regional Water Quality Control Board  
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



### **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 Stockton and Contra Costa Water Agency (local sponsors) 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 improve the efficiency of goods movement along the shipping channels and address existing inefficiencies. The EIS should clarify whether the purpose and need includes expansion of existing facilities at the Port of Stockton, or other locations along the channels, and 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 and information on the project web site, the overall range of alternatives to be considered in the EIS includes No Action (maintaining the current channel dimensions), Changing Channel Dimensions (including widening/reconfiguring, as well as deepening), and Alternate Transportation Methods for moving goods from San Francisco Bay (SF Bay) to the Port of Stockton. We note that there would be a significant difference in terms of environmental impacts from deepening or reconfiguration, in different locations along the 75-mile project. In particular, channel deepening or reconfiguration may have relatively less impact in the "downstream" reaches (lower Baldwin Ship Channel areas from the SF Bay through the Carquinez Strait) than in "upstream" reaches (from Suisun Bay through the Stockton Ship Channel). In order to reasonably evaluate impacts and benefits, the EIS should include multiple alternatives within the Changing Channel Dimensions category.

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 local sponsors intend the Project alternatives to serve the Project needs stated in the EIS.

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 provides a common basis for evaluating impacts of alternatives. Use of a common baseline will also assist evaluation of effects of the Corps' project 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 local sponsors to coordinate with current 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 as well as EPA already participate in CALFED and LTMS coordination efforts while the local sponsors are part of the Delta Vision stakeholder subcommittee. EPA contacts for these efforts are Ms. Carolyn Yale at (415) 972-3482, for CALFED and Mr. Brian Ross, at (415) 972-3475 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 25 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 look at more volume or less volume, but clearly this would be a major dredging project and would likely be the largest to occur in the Delta for decades. Because the volume of dredging associated with each alternative has direct bearing on the degrees of impact, the EIS should address 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 material from the various reaches of the project. Existing data known to EPA are not adequate for this purpose. The Corps and local sponsors 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.

Presently, information presented on the Project web page identifies eight potential (existing) placement sites, including seven contained areas in and near the Delta as well as the San Francisco Deep Ocean Disposal Site (SF-DODS). Testing requirements for the SF-DODS would be quite different from the 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 local sponsors should commit to close coordination of testing needs for this project with the interagency LTMS working groups. 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 looks forward to working with the Corps and the local sponsors to develop an appropriate Sampling and Analysis Plan (SAP) that will address the various needs of the project.

In addition to pre-dredging sediment testing issues, the EIS should reflect consideration of the TMDL being developed by the Central Valley Regional Water Quality Control Board to address mercury in the Delta and 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, USACE 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 local sponsors to collect appropriate groundwater monitoring data.

### ***Dredged Material Placement***

Management of as much as 25 million cubic yards of dredged material will be a huge 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. To even begin to realize 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 and groundwater (if any). Of course, it also reduces costs. However, 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 consider 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? 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 dredging (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.

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, based on the estimated volume and frequency of O&M dredging (see Dredging and Placement Volumes, above), the EIS should address how material generated by future O&M dredging would be managed. As noted, 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 making 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 will apply directly to the upcoming Sacramento Deep Water Ship Channel (Sacramento DWSC) project as well. The Sacramento DWSC project will reportedly generate another 7 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, including the proposed Sacramento DWSC but also including 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 Stockton and Sacramento DWSC projects together likely represent the vast majority of dredging that may be conducted in the Delta for years to come. As a result, how these projects manage their dredged material will effectively determine regional dredged material management. For example, the Stockton project alone could provide a significant proportion of the sediment needed in the Delta 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, and combined with the proposed Sacramento DWSC, 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 of course appropriate local cost-sharing). These sediment management considerations should be directly incorporated into the EIS's 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 on 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 local sponsors 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 describe CWA Section 303(d) listings of impaired water bodies and Total Maximum Daily Loads (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 these impairments. Of particular relevance to the

proposed Project is the adopted TMDL/Basin Plan Amendment addressing low DO in the Stockton Deep Water Ship Channel and the fact that existing channel configuration contributes to this impairment. The EIS should consider potential impacts on DO levels in the lower San Joaquin River. This analysis should clearly state assumptions regarding implementation of all aspects of the TMDL (improving ship channel geometry, management of oxygen demanding substances, and River flows). We also recommend that the Corps consider if low DO can be reduced through changes in channel geometry associated with Project alternatives.

### ***Hydrodynamics***

Channel deepening is expected to affect the hydrodynamics of the Delta and 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 local sponsors 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 local sponsors 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 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 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. Special control measures should be described to prevent impacts from invasive species that could result from the Project.

### **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 both the SF Bay Area and the San Joaquin Valley air basins (Air Basins). Both of these basins are designated nonattainment for national ambient air quality standards (NAAQS) including ozone (O<sub>3</sub>), particulate matter smaller than 2.5 microns (PM<sub>2.5</sub>) and particulate matter smaller than 10 microns (PM<sub>10</sub>). The SF Bay Area basin is designated marginal nonattainment for 8-hour O<sub>3</sub> and moderate nonattainment for 1-hour O<sub>3</sub>. The San Joaquin Valley air basin is designated serious nonattainment for 8-hour O<sub>3</sub>, extreme nonattainment for 1-hour O<sub>3</sub>, nonattainment for PM<sub>2.5</sub> and serious nonattainment for PM<sub>10</sub>.

The EIS should provide a discussion of the baseline air quality conditions in the Project area and the Air Basins, 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 Stockton. 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 Air Basins. 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 ship channels 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 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 San Joaquin Valley Air Pollution Control District intended to reduce air quality impacts in the Air Basins.

The EIS should describe whether the project will or will not meet general conformity requirements with the associated state implementation plans for the Air Basins. 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.

### **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 Stockton, 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.

### **Cumulative Impacts**

Port expansion at Stockton (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. But in addition, the potential for the deepening to facilitate port expansion at other locations along the channel (starting from San Pablo Bay) needs to be considered. Beyond that, potential cumulative effects from the Sacramento DWSC need to be addressed as do growth-inducing effects resulting from channel deepening. These include not only possible port expansion at Sacramento, but also among other things 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 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. Whether this would occur within the projected Project timeframe should be considered.





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

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San Francisco, CA 94105-3901

FEB 13 2013

Colonel John K. Baker  
San Francisco District, U.S. Army Corps of Engineers  
1455 Market Street  
San Francisco, CA 94103-1398

Subject: Supplemental Scoping Comments: Notice of Intent to Prepare a Draft Environmental Impact Statement for the San Francisco Bay to Stockton (John F. Baldwin and Stockton Ship Channels) Navigation Improvement Project

Dear Colonel Baker:

The U.S. Environmental Protection Agency (EPA) originally provided scoping comments concerning the San Francisco Bay to Stockton (John F. Baldwin and Stockton Ship Channels) Navigation Improvement Project in our letter of May 16, 2008 (enclosed). More recently, the Army Corps of Engineers invited EPA staff to participate in a three-day interagency In Progress Review (IPR) meeting at which new project details and potential alternatives were presented and discussed. We appreciated the opportunity to participate in the IPR.

Based on the new information provided at that meeting, we are updating our 2008 scoping comments for this project. Our comments were prepared 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 promulgated at 40 CFR 230 under Section 404(b)(1) of the Clean Water Act (CWA).

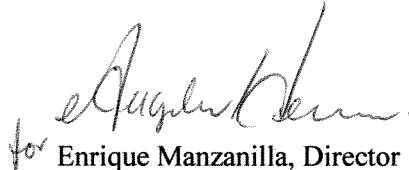
The Stockton Deep Water Ship Channel is located within the Sacramento-San Joaquin Delta, which is critical to California's people, economy, and ecological systems. It provides drinking water for 23 million people, irrigation water for nearly 4 million acres of agricultural land, and critical habitat for endangered species, such as delta and longfin smelt, winter- and spring-run Chinook salmon, steelhead, and green sturgeon. Many long-term multi-stakeholder projects are being developed to reverse the decline of the Delta ecosystem and improve water supply reliability. While we recognize the potential benefits of the project to its proponents and the region, we emphasize the need for diligent coordinated planning in such a complex and vitally important location. To assist in this, we have enclosed detailed supplemental comments concerning: range of alternatives; regional coordination; water quality; mitigation; and cumulative effects.

Please note that, as of October 1, 2012, EPA Headquarters no longer accepts paper copies or CDs of EISs for official filing purposes. Submissions must be made through the EPA's new electronic EIS submittal tool: e-NEPA. To begin using e-NEPA, you must first register with the EPA's electronic reporting site: [https://cdx.epa.gov/epa\\_home.asp](https://cdx.epa.gov/epa_home.asp). Electronic submission does not change requirements for distribution of EISs for public review and comment. We also ask that lead agencies provide two paper copies and two electronic copies of each Draft EIS released for public circulation to the EPA

Region 9 office in San Francisco (Mail Code: CED-2) at the same time the DEIS is officially filed through e-NEPA.

We look forward to continuing to provide input prior to, and after, public release of the Draft EIS and Final EIS. If you have any questions, please contact me at (415) 972-8026, or contact Tom Kelly, the lead reviewer for this project. He can be reached at 415-972-3856 or [kelly.thomasp@epa.gov](mailto:kelly.thomasp@epa.gov).

Sincerely,



for Enrique Manzanilla, Director  
Communities and Ecosystems Division

Enclosure

cc (by email except where noted):

Jeff Wingfield, Port of Stockton  
John Greitzer, Contra Costa County  
Brian Hernandez, Contra Costa County  
Douglas Hampton, National Marine Fisheries Service  
Steve Culberson U.S. Fish and Wildlife Service (by mail)  
Becky Victorine, U.S. Bureau of Reclamation (by mail)  
Mike Chotkowski, U.S. Bureau of Reclamation (by mail)  
Lauren Brand, U.S. Maritime Administration  
Alan Hicks, U.S. Maritime Administration  
Johanna Jensen, State Water Resources Control Board  
Keith Lichten, Regional Water Quality Control Board, San Francisco Bay  
Phil Giovannini, Water Quality Control Board, Central Valley Region  
Elizabeth Lee, Water Quality Control Board, Central Valley Region  
Arn Aarreberg, California Department of Fish and Wildlife  
Jack Broadbent, Bay Area Air Quality Management District  
Sayed Sadredin, San Joaquin Valley Air Pollution Control District  
Pascal Samoy, Bay Conservation Development Commission  
Lucina Shih, Contra Costa County Water District  
Richard Sinkoff, Port of Oakland  
Mike Luken, Port of Sacramento

### **Range of Alternatives**

Information presented at the IPR meeting made it clear that the two reaches of the overall project (the J.F. Baldwin reach from San Francisco Bay east to approximately the town of Avon, and the Stockton Channel reach from Avon east to the Port of Stockton) were economically and, in many ways, environmentally distinct. On this basis, it is important that the range of alternatives evaluated in detail in the Draft Environmental Impact Statement (DEIS) include deepening only the San Francisco Bay to Avon reach to different depths, without any deepening of the Stockton reach. In contrast, we understand that deepening only the Stockton reach would have little or no navigational utility in the absence of commensurate deepening of the San Francisco Bay to Avon reach.

We recommend that the Corps also consider an alternative that would move goods by barge from Stockton to the Port of Oakland or other San Francisco Bay ports. The Department of Transportation Maritime Administration (MARAD) provided a \$30 million grant to the Ports of Oakland, Sacramento and Stockton. The grant will create a new alternative to conventional freight and cargo movement in Northern California. While this marine highway concept, also called short sea shipping, involves more cargo handling (and cost), it avoids the impacts of deepening the shipping channel. This approach to goods movement is already widely used elsewhere in the U.S. and the around the world.

### **Regional Coordination**

We recognize that the specific decision that is currently before the Corps is focused on the federal government's potential interest in fostering expanded marine goods movement at the Port of Stockton (as well as the refineries of Solano and Contra Costa County). The Port is understandably interested in maximizing goods movement at its facility. We encourage the Corps to work with MARAD, the ports of San Francisco Bay (San Francisco, Oakland, Richmond and Redwood City), as well as the Ports of Sacramento and Stockton, on a more coordinated approach to goods movement. By evaluating goods movement collectively, San Francisco Bay and Central Valley ports can more strategically prioritize goods movement through the entire region in a manner that best balances investment and environmental concerns with transportation benefits.

Since we provided our 2008 scoping comments, a variety of planning efforts that could affect or be affected by the proposed project have continued to progress. In 2012, we issued a seven-point Bay Delta Action Plan designed to reverse the dramatic decline of migratory and resident fisheries, improve water quality and protection of beneficial uses, and advance the restoration of aquatic habitat in the Delta and San Joaquin River Basin<sup>1</sup>. Two elements of the Action Plan, which need to be considered in the DEIS, are the successful update the Bay-Delta Water Quality Control Plan (Bay-Delta WQCP) for the Delta, and the advancement the Bay Delta Conservation Plan (BDCP).

#### **Bay Delta Water Quality Control Plan**

EPA is working with the State Water Resources Control Board (State Water Board) and myriad stakeholders on a comprehensive review and update of the Bay Delta WQCP for the first time since the 1995 Bay Delta Accord (although the State Water Board amended some aspects of the WQCP in 2006).

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<sup>1</sup> For more information on the Bay Delta Action Plan, see <http://www2.epa.gov/sfbay-delta/bay-delta-action-plan>

The Sacramento Deep Water Shipping Channel Supplemental DEIS (February 2011) offered an opportunity to better understand the impact of deeper shipping channels in the Delta. Based on the Sacramento DWSC and the Army Corps preliminary modeling results presented at the IPR, the proposed Stockton DWSC would likely cause direct, indirect, and perhaps permanent adverse impacts to water quality and listed species, and its construction and operation may be contrary to the forthcoming Bay Delta WQCP. Additionally, a deeper ship channel would likely cause added salinity intrusion and lower dissolved oxygen levels in the Delta, and the mitigation requirements for these impacts would be challenging to meet under an array of federal and State regulatory programs.

### *Bay Delta Conservation Plan*

The BDCP is intended to secure the water supply infrastructure for California while advancing the recovery of listed species. The Plan is supported by federal agencies, the Governor, municipal water districts serving drinking water to 23 million people, and the State's agricultural sector. Under the BDCP, the State Department of Water Resources (DWR) and U.S. Bureau of Reclamation (USBR) are proposing to build twin 33-foot-diameter tunnels at a cost of \$20 billion to carry freshwater from the Sacramento River through the brackish Delta, and 37-miles south to the head of the existing California Aqueduct. An ambitious restoration program would accompany the construction of the twin tunnels and encompass tens of thousands of acres of aquatic habitat across the Delta. As proponents of the BDCP plan and build their project, they will also need to abide by requirements of the final Delta Plan<sup>2</sup> that has recently been issued by the State Delta Stewardship Council.

Within the Corps' study area for the Port of Stockton DWSC project, the BDCP will be designed to control salinity intrusion into the Delta for the benefit of resident endangered fishes and migrating salmon, and to ensure that water intended for export is of high enough quality to fulfill consumptive uses. The DEIS for the proposed Port of Stockton Deep Water Ship Channel project should explain how the proposed project would dovetail with the goals and implementation of the State Water Board's Bay Delta WQCP, the BDCP, and the final Delta Plan.

### **Water Quality**

As noted above, significant changes to the "plumbing" of the Delta are being actively contemplated under the BDCP. The planning horizon for the deepening project substantially overlaps these now reasonably foreseeable future actions. The DEIS should include an evaluation, ideally using the same computer modeling tools already being employed for the deepening project, of salinity and other water quality impacts of the project, both with and without the proposed major diversion of freshwater around the Delta.

In addition, we understand that a key salinity/water quality mitigation measure being evaluated for the DEIS is the restoration of tidal action to several thousand acres of lands within the Suisun Marsh. To date, modeling has been performed only on two scenarios that presume large contiguous blocks of Suisun Marsh lands would be available for tidal restoration. Any lands that may become available for restoration are unlikely to be in contiguous blocks. The DEIS should evaluate the degree of salinity/water quality benefit that might accrue from restoring a patchwork of more discontinuous properties, and whether additional mitigation acreage may be needed in such a case to adequately offset the impacts of the DEIS alternatives being considered. The DEIS should also specifically discuss whether any degradation of water quality would occur at current export locations for drinking water and agricultural use.

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<sup>2</sup> For more information on the Delta Plan, see <http://deltacouncil.ca.gov/delta-plan/current-draft-of-delta-plan>

The Delta WQCP revision will re-evaluate Delta Water Quality Standards. To provide a sensitivity analysis for possible changes during the deepening project's planning period, we suggest that the Corps model adjust water quality standards plus or minus 15%.

### **Mitigation**

As noted above, it was discussed at the IPR meeting that a key salinity/water quality mitigation measure being evaluated for the DEIS is the restoration of tidal action to several thousand acres of lands within the Suisun Marsh. We understand that there are other competing interests for marsh restoration lands and the available lands may not be sufficient to satisfy all interests. Additionally, the Corps should note that USBR is awaiting biological opinions from the U.S. Fish and Wildlife Service and National Marine Fisheries Service before preparing a Record of Decision for the Suisun Marsh Habitat Management, Preservation, and Restoration Plan. The biological opinions could reduce the amount of wetlands available for restoration. The DEIS should discuss the likelihood that adequate lands may not become available for mitigation, and, based on that, the degree to which other measures, such as additional water releases, are likely to be needed. It should also discuss the need for mitigation, including mitigation monitoring, in advance of specific action alternatives.

If any additional water releases may be needed, the DEIS should discuss whether such volumes may even be attainable given other constraints on the already over-subscribed supply. Finally, the DEIS should disclose how the overall cost of needed mitigation (including any water releases) may affect the economics (benefit/cost ratio) of the deepening project alternatives.

### **Cumulative Effects**

The DEIS should describe and, if appropriate, analyze and propose mitigation of cumulative air impacts, including those resulting from emissions associated with increased truck transport, rail transport, on-dock equipment use and refinery operations. While we acknowledge the air quality benefits of using more fully laden vessels to deliver goods, we encourage the project sponsors to work with their shipping partners to speed the deployment of cleaner ocean-going vessels, such as those meeting International Maritime Organization Tier 2 and Tier 3 standards<sup>3</sup>.

The Avon to Stockton reach of the channel passes adjacent to many areas that are not currently in maritime use. Some locations may be particularly subject to additional development pressures if this portion of the channel is deepened and vessel traffic increases (for example, former Concord Naval Weapons Station). The DEIS should generally discuss the degree to which the deepening project may have growth-inducing effects beyond the Port of Stockton itself.

Additionally, we remind the Corps that the San Joaquin River Restoration Program has been placed on the White House list of priority infrastructure projects and should be considered in planning the Stockton Deep Water Ship Channel.

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<sup>3</sup> Tier 2 standards applied to vessels built in or after Jan 2011. Tier 3 standards will apply beginning in 2016 and require the use of high efficiency emission control technology such as selective catalytic reduction to achieve NOx reductions 80% below the current levels. For more information about these standards, see Annex VI of the International Convention for the Prevention of Pollution from Ships (or MARPOL).





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

April 4, 2016

Cynthia J. Fowler  
U.S. Army Corps of Engineers, San Francisco District  
Planning Branch  
1455 Market Street  
San Francisco, California 94103-1398

Subject: Notice of Intent to Prepare an Environmental Impact Statement / Environmental Impact Report for the San Francisco Bay to Stockton (John F. Baldwin and Stockton Ship Channels) Navigation Improvement Study, San Francisco, Marin, Contra Costa, Solano, Sacramento, and San Joaquin Counties, CA

Dear Ms. Fowler:

The U.S. Environmental Protection Agency has reviewed the US Army Corps of Engineers' Notice of Intent to prepare a Draft Environmental Impact Statement / Environmental Impact Report for the San Francisco Bay to Stockton (John F. Baldwin and Stockton Ship Channels) Navigation Improvement Study. Our comments are provided pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under 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).

The NOI is supplemental to the March 12, 2008 notice released for the San Francisco Bay to Stockton Navigation Improvement Study. The previous NOI was for a deepening project that extended the length of the project area. EPA appreciates that the supplemental NOI has separated the proposed project into two phases: Phase I would deepen the Western Reach of the project to Avon; Phase II would deepen the Eastern Reach from Avon to the Port of Stockton, revisit further deepening in the Western Reach, and provide an ecosystem restoration study. According to the NOI, the EIS will evaluate Phase I at a project level and Phase II at a programmatic level. EPA submitted comments on the previous NOI on May 16, 2008 and provided additional comments in a letter dated February 13, 2013 after participating in an interagency In Progress Review (IPR) meeting where additional project details and alternatives were discussed. This letter serves as an update and supplement to our previous scoping letters.

**Purpose and Need**

The DEIS for the proposed project should clearly identify the underlying purpose and need that is the basis for proposing the range of alternatives (40 CFR 1502.13). The *purpose* of the proposed action is typically the specific objectives of the activity, while the *need* for the proposed action may be to eliminate a broader underlying problem or take advantage of an opportunity.

The statement of purpose and need should explain why the USACE, Port of Stockton, and Contra Costa Water Agency (local sponsors) are considering undertaking the proposed Project, and the objectives that the action is intended to achieve. The NOI states that the purpose of Phases I and II of the study is more efficient deep-draft navigation, and Phase II includes an additional purpose of identifying beneficial reuse opportunities for material generated from the deepening project. The need for the project is stated to be addressing vehicle restrictions imposed by existing channel depths. The EIS should clarify whether the purpose and need include expansion of existing facilities at the Port of Stockton and other locations along the channels, and why this is needed or whether this is considered a connected action for the purposes of the EIS.

For the Phase II programmatic analysis, EPA highlights our recommendation from our 2013 letter that USACE consider an alternative that would move goods by barge from Stockton to the Port of Oakland or other regional ports. The Department of Transportation Maritime Administration (MARAD) provided a grant to the Ports of Oakland, Sacramento, and Stockton to create a new alternative to conventional freight and cargo movement in Northern California. This marine highway concept would avoid impacts of deepening the shipping channel and is an approach that is already widely used elsewhere in the U.S. and around the world. By evaluating goods movement collectively, including intermodal transfers, San Francisco Bay and Central Valley ports can more strategically consider goods movement at a regional scale to optimize investment, avoid environmental impacts, and maximize transportation efficiency. We understand that the marine highway project was attempted and suspended in 2014. The EIS should examine if the project could be a viable alternative in the future.

### **Regional Context**

In 2012, EPA issued the San Francisco Bay Delta Action Plan containing seven priorities for EPA actions and investments designed to work with state and federal partners to reverse the dramatic decline of migratory and resident fisheries, improve water quality and protection of beneficial uses, and advance the restoration of aquatic habitat in the San Francisco Bay, Sacramento-San Joaquin Delta and the Sacramento and San Joaquin River Basins.<sup>1</sup> Several elements of the Action Plan should be considered in the DEIS including: 1) the pending update of estuarine water quality standards in the Bay-Delta Water Quality Control Plan; 2) advancing regional monitoring; 3) accelerating water quality improvement through Total Maximum Daily Load (TMDL) implementation; 4) revised selenium criteria in San Francisco Bay and Delta; and 5) the Bay Delta Conservation Plan (which is no longer proposed as a habitat conservation plan and has been recast as the California WaterFix).

#### *Bay Delta Water Quality Control Plan*

The State Water Resources Control Board is in the midst of comprehensively updating water quality standards through the Bay Delta Water Quality Control Plan (Bay Delta WQCP).<sup>2</sup> EPA is working closely with the State Water Board to ensure that the revised standards are sufficient to protect beneficial uses, address impaired water quality conditions in the Delta, and reverse the sharp declines in the abundance of resident and migratory fishes. In our 2013 letter, we noted that the preliminary modeling results presented at the IPR meeting showed that a deepened channel would cause direct, indirect, and perhaps permanent adverse impacts to water quality and listed species, and that construction and operation may conflict with new or revised water quality standards in the forthcoming WQCP. A deeper ship channel may increase the eastern extent of salinity intrusion and lower dissolved oxygen levels in the Delta. The EIS should discuss the forthcoming WQCP update and how alternatives for the project's two phases would comport or conflict with the plan.

<sup>1</sup> <https://www.epa.gov/sfbay-delta/bay-delta-action-plan>

<sup>2</sup> [http://www.waterboards.ca.gov/waterrights/water\\_issues/programs/bay\\_delta/index.shtml](http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/index.shtml)

### *Selenium Criteria & TMDL Implementation*

Changing the hydrodynamics of the San Francisco Bay and Delta by deepening the ship channel may affect dissolved oxygen levels and alter sensitive organisms' selenium exposure. EPA plans to release draft revised selenium criteria in mid-2016 for the San Francisco Bay and Sacramento-San Joaquin Delta to protect aquatic life and wildlife. The EIS should evaluate how changes in hydrodynamics would affect selenium exposure and protection of fish and wildlife in the context of existing and new modified draft criteria. Similarly the EIS should evaluate how changes in hydrodynamics that would result from deepening the ship channel would impact implementation of selenium and dissolved oxygen TMDLs and other efforts to achieve water quality targets for these stressors.

### *WaterFix*

The California Department of Water Resources has proposed the California WaterFix project to construct new water diversion intakes on the Sacramento River and a 40 mile twin tunnel conveyance facility under the Delta to existing water export facilities at the south end of the Delta. This project would result in a significant change to the way freshwater moves into and through the Delta. California has launched a separate EcoRestore initiative to pursue the restoration and stewardship of 30,000 acres of floodplains, riparian forests, and wetlands within the Delta. The EIS should discuss the proposed project in the context of the proposed operational scenario for the WaterFix Project (including Central Valley Project and State Water Project operations) as well as in the context of the goals, implementation, and environmental impacts of both WaterFix and EcoRestore.

### **Range of Alternatives**

A robust range of alternatives will include options for avoiding significant environmental impacts. The DEIS should clearly describe the rationale used to determine whether impacts of an alternative are significant or not. Thresholds of significance should be determined by considering the context and intensity of an action and its effects (40 CFR 1508.27).

The environmental impacts of the proposal and alternatives should be presented in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public (40 CFR 1502.14). The potential environmental impacts of each alternative should be quantified to the greatest extent possible (e.g. acres of wetlands impacted; change in water quality).

The Phase I project-level alternatives listed in the NOI are No Action, Deepening to -37 feet MLLW, and Deepening to -38 feet MLLW.

EPA strongly recommends that the definition of the baseline conditions for "no action" (that is, without project conditions) be coordinated with federal and state agencies that are also conducting impact analyses for proposed projects affecting the Delta, including WaterFix and EcoRestore. 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 provides a common basis for evaluating impacts of alternatives. Use of a common baseline will also assist evaluation of effects of USACE's project in combination with other proposed projects affecting the Delta.

### **Dredging and Dredged Material Management**

#### *Beneficial Reuse*

The NOI does not provide an estimate of the volume of dredged material that would be generated by any of the deepening alternatives, but EPA anticipates that it would amount to several million cubic yards. Please note that EPA will not concur on ocean disposal of dredged material if, in our independent evaluation, we determine that there is an alternative to ocean disposal that is practicable. We do not

consider that incrementally increased construction costs, alone, necessarily render an alternative to ocean disposal impracticable, especially for a new construction Civil Works project.<sup>3</sup> We understand that the EIS must identify the National Economic Development (NED) alternative; however, we also note that USACE is not obligated to select the NED plan.

We reiterate the comments from our previous two scoping letters that the EIS should commit to direct beneficial reuse of 100 percent of the dredged material generated by the deepening project. EPA believes reuse of all of the project's dredged material will assist with important efforts to combat the effects of sea level rise and help restore habitat. To this end, the EIS should evaluate in detail the capacity at existing reuse sites (including but not limited to Cullinan Ranch, Winter Island, the Montezuma Wetlands Restoration Project, Ocean Beach, and other sites identified during development of the Sacramento Deep Water Ship Channel DEIS), as well as other potential sites currently in the planning phases (such as Skaggs Island, Bel Marin Keys, Eden Landing, Ravenswood, and the South Bay Salt Ponds). The EIS should also consider potential placement sites being evaluated by the WaterFix project. The EIS should not limit its evaluation to individual beneficial reuse sites capable of accommodating all of the material; reuse opportunities exist along the length of the proposed project, and utilization of a mix of these sites should also be considered.

#### *Stockpiling for Future Beneficial Reuse*

To the extent that sufficient capacity may not exist for direct and immediate reuse of all the project's dredged material, the EIS should commit to stockpiling any remainder at locations specifically chosen to facilitate access to and reuse by others in the reasonably near term, as well as to minimize any temporary environmental impacts during the period of stockpiling. Specifically any stockpiling should occur 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 stage and re-handle material after dredging. This reduces costs and impacts associated with moving material multiple times, including air emissions, noise, and cumulative effects to surface and groundwater (if any).

#### *Potential Dredging Impacts to Sensitive Species*

Federal- and State-endangered species including Delta smelt, green sturgeon, various salmon runs, and the state-listed longfin smelt (among other sensitive species) occur in the project area. These species are particularly vulnerable to entrainment via hydraulic dredging (including by hopper dredges), but are generally considered less vulnerable to mechanical clamshell dredging. The choice of dredging method therefore may have a direct relation to the degree of environmental impact caused by both initial deepening and future maintenance dredging activities. The EIS should specifically discuss construction methods and commit to using the least damaging method possible in each project reach. This evaluation should also consider future maintenance dredging.

#### *Future Maintenance Dredging Needs – Federal Standard*

The EIS should evaluate whether deepening the channel would affect future maintenance dredging volumes in different reaches. It should then discuss how future maintenance dredging will be accomplished, including whether specific dredge equipment types are absolutely necessary (see comment above) and where placement of maintenance dredged material would occur. We note that the issue of certain dredge equipment types – specifically with regard to entrainment of sensitive species – is already significantly controversial in the project area. Regulatory and resource agencies are calling for

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<sup>3</sup> See, for example, 40 CFR subpart C, parts 227.14-16, and particularly including 227.16(c), "...alternative methods of disposal are practicable when they are available at reasonable incremental cost and energy expenditures, which need not be competitive with the costs of ocean dumping..."

reduced hydraulic (hopper) maintenance dredging in the area, and it is possible that USACE will be required to reduce hydraulic dredging in the future, independent of deepening the channel. The EIS should address whether and how the benefit-cost ratio for maintaining the deepened channel would be affected by the type of dredging – mechanical or hydraulic – chosen or required for the different project reaches. This evaluation should not be deferred to a future Dredged Material Management Plan (DMMP) exercise for determining the “Federal Standard” for the different reaches, nor should a single “Federal Standard” placement option be presumed for the entire project length.

### **Water Quality**

The project has the potential to significantly impact water quality in the Delta and San Francisco Bay, and each of the alternatives should include a robust discussion of impacts to water quality. The importance of Delta water quality as a source of drinking water, irrigation water, and as the habitat for many important aquatic species places a spotlight on water quality analyses for the EIS.

The California WaterFix project would significantly change the “plumbing” of the Delta and should be considered a reasonably foreseeable future action for this project’s EIS. The EIS should include an evaluation of salinity and other water quality impacts of the project, both with and without the proposed major diversion of freshwater around the Delta.

The EIS should also assess potential direct, indirect and cumulative impacts to water quality from project activities such as sediment dredging and disposal. The analysis in the EIS should describe Clean Water Act Section 303(d) listings of impaired water bodies and TMDLs, and describe how the project could potentially affect these impairments. Of particular relevance to the second phase of the proposed project is the low dissolved oxygen (DO) in the Stockton Deep Water Ship Channel and the fact that existing channel configuration contributes to this impairment. The EIS should consider potential impacts on DO levels in the lower San Joaquin River. This analysis should clearly state assumptions regarding implementation of all aspects of the TMDL (improving ship channel geometry, management of oxygen demanding substances, and River flows). We also recommend that USACE consider if low DO can be reduced through changes in channel geometry associated with Project alternatives.

### ***Hydrodynamics***

Channel deepening is expected to affect the hydrodynamics of the Delta and 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 aquatic life from changes to dissolved oxygen and salinity concentrations that could result from modified hydrodynamics from channel deepening.

### ***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 San Francisco Bay Regional Water Quality Control Boards should be consulted as well as EPA, in the development of mitigation measures. Results of this coordination should be described in the EIS.

In our 2013 letter, we understood a key water quality mitigation measure for the project would be restoration of tidal action to several thousand acres of lands within the Suisun Marsh. Given that the project is now proposed in two phases, and EPA assumes the majority of the acres needed for mitigation

would be in Phase II, our prior concerns with regard to availability of appropriate mitigation should be directed at the programmatic evaluation of Phase II. Both phases in the EIS should include an evaluation of availability and water quality benefits of any proposed mitigation.

As noted in our 2013 letter, if additional water releases from reservoirs are needed for water quality impact mitigation, the EIS should discuss whether such volumes would be possible given the other constraints on the water supply/delivery system. The EIS should disclose how the overall cost of needed mitigation (including water releases) may affect the benefit/cost ration of the project alternatives.

### *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.

### **Aquatic Life**

The 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. The EIS should include 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 aquatic resources. The EIS should describe coordination efforts with the U.S Fish & Wildlife Service, National Marine Fisheries Service, and the California Department of Fish & Wildlife and consistency with appropriate state and the federal laws implemented by these agencies.

Since the 2008 NOI, populations of several fish species dependent on the Delta ecosystem have continued to decline: endangered Delta smelt and Sacramento River winter-run Chinook salmon, and threatened Central Valley spring-run Chinook salmon, Central Valley steelhead, as well as several non-listed resident and migratory fishes. For example, the 2015 summer townet survey for Delta smelt recorded a zero juvenile Delta smelt abundance index<sup>4</sup> and the 2015 fall midwater trawl survey recorded an abundance index of 7, the lowest on record for adults and sub-adult abundance.<sup>5</sup> The continued decline of resident and migratory fish populations suggests that multi-agency efforts to improve protection for aquatic habitat in the San Francisco estuary watershed have not yet been successful in protecting aquatic habitat, reversing population declines, avoiding jeopardy, and/or improving aquatic life beneficial use protection. The EIS should evaluate direct, indirect, and cumulative project impacts on aquatic life in the project area.

### **Air Quality**

The EIS should provide a detailed discussion of existing ambient air conditions, National Ambient Air Quality Standards (NAAQS) and nonattainment areas, and potential air quality impacts of the project, including cumulative and indirect impacts. Cumulative impacts include, but are not limited to, those from construction, any increased ship traffic, new capacity for larger ships due to channel deepening, increased truck or rail transport, on-dock equipment use, and refinery operations. The expected timing and frequency of dredging and transporting of dredged material should be identified in the EIS. Emissions should be estimated for any construction phases and for maintenance activities, including

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<sup>4</sup> California Department of Fish and Wildlife Memorandum (June 26, 2015) to Scott Wilson from Felipa La Luz regarding 2015 Summer Townet Survey Age-0 Delta Smelt Abundance Index.

<sup>5</sup> California Department of Fish and Wildlife Fall Midwater Trawl Survey <http://www.dfg.ca.gov/delta/data/fmwt/indices.asp>

dredge spoil activities. Measures that could mitigate construction-related emissions should be discussed, including alternative fuels, electrification, minimizing diesel truck trips, etc. An estimate of the air quality benefits that would result from each identified mitigation measure should be included in the EIS.

While we acknowledge the air quality benefits of using more fully laden vessels to deliver goods, we encourage the project sponsors to work with their shipping partners to speed the deployment of cleaner ocean-going vessels, such as those meeting International Maritime Organization Tier 2 and Tier 3 standards.<sup>6</sup>

EPA's General Conformity Rule, established under Section 176(c)(4) of the Clean Air Act, provides a specific process for ensuring federal actions will conform with State Implementation Plans to achieve National Ambient Air Quality Standards. The EIS should include a discussion of the applicability of the General Conformity Rule to the project.

The proposed project area falls within both the San Francisco Bay Area and San Joaquin Valley air basins. Both of these basins are designated nonattainment for national ambient air quality standards (NAAQS), including ozone (O<sub>3</sub>) and particulate matter smaller than 2.5 microns (PM<sub>2.5</sub>). The SF Bay Area basin is designated marginal nonattainment for 8-hour ozone, and moderate nonattainment for 24-hour PM<sub>2.5</sub>. The San Joaquin Valley air basin is designated extreme nonattainment for 8-hour O<sub>3</sub>, serious nonattainment for 24-hour PM<sub>2.5</sub>, moderate nonattainment for annual PM<sub>2.5</sub>, and maintenance for PM<sub>10</sub>. The Port of Stockton also appears to be located within the Stockton Carbon Monoxide maintenance area.

### **Ecosystem Services**

In 2013, the Council on Environmental Quality (CEQ) released *Updated Principles and Requirements for Federal Investments in Water Resources*<sup>7</sup>, followed in 2014 by *Interagency Guidelines*<sup>8</sup>. These documents define ecosystem services as “the direct or indirect contributions, including economic, environmental and social effects, which ecosystems make to the environment and human populations.” Together, these documents direct specific federal agencies, including USACE, to consider the both the monetized and non-monetized values of ecosystem services in agency planning and decision making processes. The 2015 Presidential Memorandum, “Incorporating Natural Infrastructure and Ecosystem Services in Federal Decision-Making,”<sup>9</sup> further acknowledges the need to incorporate ecosystem services’ benefits in these processes even as our understanding of these services’ values evolves. EPA recommends that USACE consider the potential changes in monetized values of ecosystem services in its benefit-cost analyses for each alternative proposed and in comparing alternatives to determine the NED.

The Interagency Guidelines highlight three kinds of ecosystem services to consider (page 22):

1. “Provisioning services refer to the food, fuel, fiber, and clean water that ecosystems provide.
2. Regulating services refer to specific ecosystem processes for which people are willing to pay. Examples include pollination, storm protection, climate regulation, and water regulation.

<sup>6</sup> Tier 2 standards applied to vessels built in or after Jan 2011. Tier 3 standards apply beginning in 2016 and require the use of high efficiency emission control technology such as selective catalytic reduction to achieve NO<sub>x</sub> reductions 80% below current levels. For more information about these standards, see Annex VI of the International Convention for the Prevention of Pollution from Ships (or MARPOL). <https://www.epa.gov/enforcement/marpol-annex-vi>

<sup>7</sup> [https://www.whitehouse.gov/sites/default/files/final\\_principles\\_and\\_requirements\\_march\\_2013.pdf](https://www.whitehouse.gov/sites/default/files/final_principles_and_requirements_march_2013.pdf)

<sup>8</sup> *Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies; Final Interagency Guidelines.* [https://www.whitehouse.gov/sites/default/files/docs/prg\\_interagency\\_guidelines\\_12\\_2014.pdf](https://www.whitehouse.gov/sites/default/files/docs/prg_interagency_guidelines_12_2014.pdf)

<sup>9</sup> <https://www.whitehouse.gov/sites/default/files/omb/memoranda/2016/m-16-01.pdf>



3. Cultural services refer to the benefits ecosystems confer that do not directly relate to our physical health or material well-being. Examples include recreation, aesthetic, spiritual, existence, and option “values.” Whereas the first two of these are experiential, the latter “non-use” values depend simply on the continued survival of the ecosystem and its attributes.”

Ecosystem services accounted for in USACE’s valuations should include direct and indirect consumer values, and use and non-use values. For example, ecosystem service “costs” due to decline of Delta smelt from this project could be accounted for in multiple ways since the smelt provide both indirect use value as a food source to fishery species and direct non-use, existence value to the general public. Ecosystem service “benefits,” such as those from improved wetland habitat from the beneficial reuse of dredged material, should also be included.

There are several tools available to help assess costs and benefits of ecosystem services. The USACE 1996 study, “Monetary Measurement of Environmental Goods and Services: Framework and Summary of Techniques for Corps Planners”<sup>10</sup> contains a broad overview of valuation methods, and EPA’s “Guidelines for Preparing Economic Analyses,”<sup>11</sup> updated in 2014, includes guidance for how to include such valuations. Though intended for policy analysis, EPA’s recently published “National Ecosystem Services Classification System (NESCS): Framework Design and Policy Application”<sup>12</sup> and “Final Ecosystem Goods and Services Classification System”<sup>13</sup> offer frameworks for determining those ecosystem services to consider. Two documents published by USACE in 2013, “Incorporating Ecosystem Goods and Services in Environmental Planning – Definitions, Classification and Operational Approaches”<sup>14</sup> and “Using Information on Ecosystem Goods and Services in Corps Planning,”<sup>15</sup> outline specific strategies for incorporating these considerations in planning processes.

### **Cumulative Effects**

The Eastern Reach of the project, which would be evaluated at a programmatic level in the EIS, passes adjacent to many areas that are not currently developed for maritime use. Some locations may be particularly subject to additional or different development pressures if this portion of the channel is deepened and vessel traffic increases (for example, the former Concord Naval Weapons Station). The EIS should generally discuss the degree to which the deepening project may have growth-inducing effects beyond the Port of Stockton itself.

### **Climate Change**

EPA recommends that this EIS include a qualitative description of relevant climate change impacts, an estimate of the greenhouse gas (GHG) emissions associated with the project during construction and operation, and practicable mitigation measures to reduce project-related GHG emissions. We suggest the following approach:

#### *Affected Environment Section*

Include in the “Affected Environment” section of the EIS a summary discussion of climate change and ongoing and reasonably foreseeable climate change impacts relevant to the project, based on U.S. Global Change Research Program assessments.<sup>16</sup> These future climate scenarios can be useful when considering mitigation to reduce potential impacts of the proposal that could be altered by a changing

<sup>10</sup> <http://www.iwr.usace.army.mil/Portals/70/docs/iwrreports/96r24.pdf>

<sup>11</sup> [https://yosemite.epa.gov/ee/epa/erm.nsf/vwAN/EE-0568-50.pdf/\\$file/EE-0568-50.pdf](https://yosemite.epa.gov/ee/epa/erm.nsf/vwAN/EE-0568-50.pdf/$file/EE-0568-50.pdf)

<sup>12</sup> [https://www.epa.gov/sites/production/files/2015-12/documents/110915\\_nescs\\_final\\_report\\_-\\_compliant\\_1.pdf](https://www.epa.gov/sites/production/files/2015-12/documents/110915_nescs_final_report_-_compliant_1.pdf)

<sup>13</sup> [https://gispub4.epa.gov/FECS/FECS\\_home.html](https://gispub4.epa.gov/FECS/FECS_home.html)

<sup>14</sup> <http://el.erdc.usace.army.mil/elpubs/pdf/er18.pdf>

<sup>15</sup> [http://www.iwr.usace.army.mil/Portals/70/docs/iwrreports/EGS\\_Policy\\_Review\\_2013-R-07.pdf](http://www.iwr.usace.army.mil/Portals/70/docs/iwrreports/EGS_Policy_Review_2013-R-07.pdf)

<sup>16</sup> <http://www.globalchange.gov/>

climate. Impacts to consider include sea level rise and changing hydrology due to differences in timing, frequency and amount of precipitation providing water flows through the project area.

#### *Environmental Consequences Section*

The EPA recommends that the EIS estimate the GHG emissions associated with the proposal and its alternatives. Example tools for estimating and quantifying GHG emissions can be found on CEQ's website.<sup>17</sup> These emissions levels can serve as a reasonable proxy for climate change impacts when comparing the alternatives and mitigation.

#### *Cumulative Impacts and Reasonably Foreseeable Actions*

In addition to looking at the direct impacts of a proposed project, CEQ regulations (Section 1502.16) instruct agencies to consider other effects that are reasonably foreseeable. Thus, in addition to analyzing impacts associated with the construction of the project, we recommend that the EIS analyze reasonably foreseeable impacts resulting from a potential increase in the transportation and combustion of refined petroleum and coal, which are major exports of ports within the proposed project area. We recommend that the study include a calculation of the increased potential for export and consumption of refined petroleum and coal that would result from the proposed action's impact on transportation costs and vessel loads. Even though the ultimate end use of the petroleum and coal is likely to occur outside the US, due to the global nature of climate change, these additional greenhouse gas emissions would impact the U.S. Because of these impacts, it is appropriate and consistent with NEPA and CEQ regulations to disclose the GHG emissions in the EIS. These emissions should be disclosed in the EIS due to their reasonably close causal relationship to the project.

The EPA recommends that the EIS describe measures to reduce GHG emissions associated with the project, including reasonable alternatives or other practicable mitigation opportunities and disclose the estimated GHG reductions associated with such measures. The EPA further recommends that the EIS commit to implementation of reasonable mitigation measures that would reduce or eliminate project-related GHG emissions.

#### *Climate Change Adaptation*

The EPA recommends that USACE discuss how future climate scenarios addressed in the "Affected Environment" section may impact the proposal. Changing climate conditions can affect a proposed project, as well as the project's ability to meet the purpose and need presented in the EIS. In some cases, adaptation measures may avoid the potentially significant environmental impacts of failure to adequately address the threat of a changing climate on the proposal.

#### *Effects of Climate Change on Project Impacts*

When considering the potential impacts of the proposal, we recommend USACE consider the future climate scenarios in the "Affected Environment" section to determine whether the environmental impacts of the alternatives would be exacerbated by climate change. If impacts may be exacerbated by climate change, additional mitigation measures may be warranted.

We appreciate the opportunity to provide comments on the preparation of the DEIS. Please send one hard copy and one CD of the DEIS 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) 947-4167 or [prijatel.jean@epa.gov](mailto:prijatel.jean@epa.gov).

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<sup>17</sup> [https://ceq.doe.gov/current\\_developments/GHG\\_accounting\\_methods\\_7Jan2015.html](https://ceq.doe.gov/current_developments/GHG_accounting_methods_7Jan2015.html)

Sincerely,

*Stephanie Jordan FOR*

Jean Prijatel  
Environmental Review Section

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