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

June 2, 2014

U.S. Army Corps of Engineers
Sacramento District
Attn: Mr. Robert Kidd
1325 J Street
Sacramento, CA 95814-2922

Subject: Delta Islands and Levees Feasibility Study, California, Draft Feasibility Report and Environmental Impact Statement, Contra Costa and Sacramento Counties, California [CEQ# 20140120]

The Environmental Protection Agency has reviewed the Draft Environmental Impact Statement for the Delta Islands and Levees Feasibility Study, California. Our review and comments are 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.

EPA appreciates the efforts of the U.S. Army Corps of Engineers to exercise its ecosystem restoration authority and flood risk management responsibilities, and understands that this Feasibility Study is USACE's mechanism to participate in a cost-sharing solution to address ecosystem restoration and flood risk management in the Sacramento-San Joaquin Delta. EPA further acknowledges the objectives and limits placed on this Feasibility Study, namely to maximize net benefits in a cost effective manner, avoid overlap with restoration considered by other plans (e.g. Bay Delta Conservation Plan), avoid impacts to people and infrastructure, and favor areas with connectivity to existing habitat.

While EPA supports well planned and executed restoration, we are concerned that the project misses an opportunity to reuse a larger volume of dredged material, may induce further subsidence that could impact water quality, and defers analysis to the Preconstruction Engineering and Design phase of the project.

In light of the above stated concerns, we have rated the preferred alternative – Alternative 6 – as *Environmental Concerns – Insufficient Information* (EC-2). Please see the enclosed "Summary of EPA Rating Definitions." EPA recommends that the Final EIS include a project objective to reuse existing dredged material, in furtherance of EPA's and the Corps' shared goal (as stated in the National Dredging Team's charter) of promoting the beneficial use of dredged material. The FEIS should also clarify how the design phase and associated studies may alter the existing environmental impact analysis. Additional recommendations are provided in the enclosed Detailed Comments.

EPA notes that the DEIS acknowledges that different objectives in the future could lead to further development of alternatives not considered within the current Feasibility Study. The document specifically calls attention to the possibility that approval of the San Francisco Bay to Stockton Navigation Improvement Project could lead to re-evaluation of the unexplored alternatives in this study because of additional availability of dredged material. Though not indicated in the DEIS, EPA notes that such a re-evaluation would likely require additional NEPA review. We encourage the Corps to ensure that any future efforts related to this Feasibility Study and similar projects include consideration of the economic value of existing and potential ecosystem services in the Delta in the cost-benefit analysis of alternatives (see: www.ncbi.nlm.nih.gov/pmc/articles/PMC3339477/). In addition, we urge coordination with other projects and agencies to identify the highest priority restoration locations and scientifically-evaluated restoration methodologies in the Delta.

We appreciate the opportunity to review this DEIS. Should you have any questions regarding our comments, please contact me at (415) 972-3521, or contact Jean Prijatel, the lead reviewer for the project. Jean can be reached at (415) 947-4167 or prijatel.jean@epa.gov.

Sincerely,

/s/ Carolyn Mulvihill for

Kathleen Martyn Goforth, Manager
Environmental Review Section (ENF-4-2)

Enclosures: Summary of EPA Rating Definitions
EPA Detailed Comments

U.S. EPA DETAILED COMMENTS ON THE DELTA ISLANDS AND LEVEES FEASIBILITY STUDY, CALIFORNIA, DRAFT FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT, CONTRA COSTA AND SACRAMENTO COUNTIES, CA, JUNE 2, 2014

Reuse of Dredged Material

The ecosystem restoration alternatives in the DEIS include using dredged material to achieve subsidence reversal in flooded islands. The largest source of the dredged material proposed for use in the Tentatively Selected Plan (Alternative 6) would come from Operations and Maintenance dredging from the Stockton Deep Water Ship Channel. According to the DEIS, there would be zero cost of this source material for the project, as it involves direct pumping from the SDWSC into Big Break.

While the cost of reusing existing dredged material would increase the cost per habitat acre, reusing dredged material is a shared goal of USACE and EPA[1] and would be consistent with the project's ecosystem restoration objective. Ongoing USACE projects generate the vast majority of dredged material in the Delta, and past USACE dredging accounts for most of the stockpiles of previously-dredged material around the Delta. This project represents an opportunity to access and reuse stockpiled dredged material. Incorporation of reuse as an explicit project goal or objective may alter the evaluation of project alternatives. For example, restoration of Frank's Tract 2, which was included as part of Alternative 9, would reuse over 2 million cubic yards of dredged material stockpiled at Roberts Island ("Roberts 1") to restore nearly 120 acres of tidal marshland. Alternative 9 was rejected from further consideration due to the cost per acre analysis; however, its potential to further EPA's and the Corps' beneficial reuse goal does not appear to have been considered in the analysis.

> ***Recommendations***: Explicitly incorporate "reuse of dredged material generated and/or stockpiled in the Delta, to the maximum extent practicable" into the project objectives in the FEIS. Evaluate project alternatives against this objective, considering different combinations of restoration sites and sediment sources that may provide increased restoration acreage at still-reasonable costs.
>
> Compute the incremental and total costs of using Roberts 1 material for restoration at Frank's Tract 2 and consider including this restoration element in the final alternative selection.
>
> Rank and evaluate each of the alternatives carried forward, according to the volume of dredged material reuse each could achieve.

Water Quality

The DEIS repeatedly references previous restoration projects using dredged material at Donlon Island and Venice Cut and relies on the apparent success of those efforts to evaluate the potential impacts of the proposed project. The DEIS states that studies of those restorations, and subsequent studies, have been translated into design guidelines (p. 8) that would be used in the proposed project. These guidelines are not included in the DEIS, nor are they provided as a link or addendum.

The DEIS also references salinity and hydraulic analysis in existing reports (p. 84) to support a conclusion that the project would not cause a change to water levels, and further states that "flood plain boundaries, flood characteristics, or flood control structures (such as levees) adjacent or downstream of the study area are not expected to change." It is unclear which reports this statement references.

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[1]National Dredging Team Charter: water.epa.gov/type/oceb/oceandumping/dredgedmaterial/upload/2003_12_05_oceans_ndt_publications_2003_charter.pdf

The DEIS lists a number of studies that would be undertaken as part of the design development for the project during the Preconstruction Engineering and Design phase (pages ES 5, 245), including: a geotechnical analysis of underlying substrates; hydraulic modeling for project design; and investigation of installation of sacrificial hay bales for erosion protection. It is unclear whether these studies could necessitate changes to the design that would change projected impacts of the project, particularly impacts to water quality.

EPA is further concerned that the proposed process for restoration of degraded tidal marsh habitat in the Delta could inadvertently impact water quality of the surrounding area, both inside and outside of the levees at Big Break and Little Franks Tract. While many of these impacts are analyzed in the DEIS, EPA continues to have questions about the possibility of dredged material placement on top of peat soils inadvertently contributing to the existing subsidence problem. In such a case, the integrity of the already "very degraded" levees could be compromised leading to impacts to the larger Delta hydrodynamic system. It is unclear whether these impacts would be analyzed during the Preconstruction Engineering and Design phase of the project, whether they may be accounted for in the design guidelines developed from previous restoration projects, or whether they would be addressed in the Monitoring and Adaptive Management Plan.

Without the design guidelines and studies to be conducted during the PED phase, it is unclear how the project would address all potential water quality impacts that may be identified. It is also unclear whether further environmental review would be needed after the design phase of the project, should the design phase uncover additional impacts not currently analyzed.

Recommendations: The FEIS should include:

- The design guidelines developed from previous restoration of Donlon Island and Venice Cut, including success metrics. It should also clearly identify the reports describing salinity and hydraulic analysis referenced on page 84 and include a commitment to monitor salinity and relevant hydraulic indicators (e.g. flow) during project implementation in order to validate the DEIS' conclusions that the project would not result in changes to flood control structures.

- A detailed description of the surveys to be conducted during the PED phase, including how their outcomes may influence the project design or cause reevaluation of project impacts to water quality. EPA specifically encourages further study during PED of hydrodynamics, tidal prisms, and formation and management of methylmercury. The FEIS should also provide clarification as to whether or not changes to project design elements might trigger additional environmental review under NEPA.

- A discussion of how peat-based flooded islands behave under current conditions and the expected responses of the islands and degraded levees to the placement of relatively heavy sediments contained in dredged material.[2] EPA encourages USACE to coordinate with the U.S. Geological Survey's Water Science Center and their Priority Ecosystems

[2] The "Sacramento/San Joaquin Delta Breached Levee Wetland Study" from the University of Washington shows that the elevations at Donlon Island and Venice Cut remained constant in the years following restoration while there had been over 30mm of accretion at the surface. The study concluded that this indicates "that while material is accumulating, there are processes below the surface counterbalancing the accretion and maintaining constant elevation." http://depts.washington.edu/calfed/breachin.pdf

Science program for the Bay Delta[3] for expertise regarding peat-based islands, hydrodynamics, sediment transport processes, subsidence in the central and western Delta, and the formation and management of methylmercury.

- A commitment in the Monitoring and Adaptive Management Plan to identify monitoring and project adaptions for potential induced subsidence and such subsidence's impacts to levee integrity.

The DEIS lists a number of permits and plans to be prepared by the selected project contractor and/or USACE for water quality mitigation. The contractor would be required to prepare a National Pollution Discharge Elimination System permit application, prepare and implement a Storm Water Pollution Prevention Plan, and prepare an in-water work plan. USACE is in the process of working with the Central Valley Regional Water Quality Control Board to obtain Section 401 Certification for the project, which will include requirements for testing and monitoring. USACE will also coordinate with the Central Valley RWQCB to determine whether additional testing of the dredged source material would be required prior to placement. The DEIS indicates that these plans are expected to reduce water quality impacts to less than significant.

> ***Recommendation:*** The FEIS should include drafts of the NPDES permit application, the SWPPP and in-water work plan, and a commitment to implement plans at least as protective as the drafts. It should also include the Section 401 Certification from the Central Valley RWQCB.

Air Quality

The DEIS provides an air quality analysis of the construction impacts of the project, which would occur over five years. Pollutants of concern are identified as ozone and particulate matter. The proposed mitigation measures for impacts to air quality are extensive and contain EPA's commonly recommended best practices for limited idling, equipment maintenance and modernization, emission control devices, and fugitive dust control plans. According to the DEIS, the proposed measures are expected to reduce air quality impacts – including those for ozone precursors and particulate matter – to less than significant and prevent exceedance of local air quality thresholds and the Federal de minimis thresholds.

The DEIS states that a conformity assessment for ozone and PM_{10} must be completed and that the assessment will evaluate whether or not the project's construction or operational emissions would exceed 25 tons per year of Reactive Organic Gasses or NOx, or 100 tons per year of PM_{10}. In the air quality impact analysis, it appears that these emission thresholds would not be exceeded, but a formal assessment is still needed.

> ***Recommendation***: The FEIS should include the general conformity assessment for ozone and particulate matter.

The analysis for Alternatives 2 and 6 (the action alternatives) both specify "12 employee trips per day, 20 miles each way." Later analysis of growth-inducing impacts suggests that Alternative 6 would create 20 jobs locally (page 216). It is unclear if the analysis for Alternative 6 appropriately accounts for all expected employee trips.

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[3] USGS Water Science Center: http://ca.water.usgs.gov/topic.html?topic=HST
USGS Priority Ecosystem Science program: http://access.usgs.gov/about.html

Recommendation: The FEIS should clarify the number of employee trips per day associated with each of the action alternatives and adjust the air quality impact analysis accordingly.

The No Action Alternative air quality analysis does not discuss the impacts to air quality of the earthwork required for existing dredged material placement from the Operations and Maintenance dredging of the Stockton Deep Water Ship Channel. These air impacts are used later in the analysis for Alternatives 2 and 6 to demonstrate reduced air impacts from avoidance of that earthwork.

Recommendation: The FEIS should account for the air quality impacts of O&M activities in the No Action Alternative to provide a foundation for the air quality benefits realized in the action alternatives.

The air quality mitigation section states that construction equipment powered by electricity eliminates criteria pollutant emissions from diesel combustion (page 204); however, it does not state that use of such equipment would be encouraged or required.

Recommendation: Include, in the FEIS, either a commitment to require contractors to use available electrical construction equipment technology to the extent possible, or a commitment to give preference to contractor proposals that would use such technology.

Climate Change

The DEIS includes a climate change impact analysis for greenhouse gas emissions in accordance with federal and state policies and regulations. The GHG emissions from the project are not expected to be significant, but USACE would implement mitigation measures to reduce the cumulative impacts from the project. It states that the selected contractor would be "encouraged to implement" additional GHG mitigation measures (page 207) where practical, but it would not require most measures.

Recommendation: During the contractor selection process, prioritize contractors whose proposals include the identified voluntary GHG mitigation measures.

The DEIS also considers the risk of sea level rise for construction of the project and states that the "life cycle of the intertidal marsh vegetation is expected to be more than sufficient to accrue organic material and increase land elevation, naturally compensating for changes in sea level." (page 242)

In light of the President's November 1, 2013 Executive Order 13653 "Preparing the United States for the Impacts of Climate Change," there is an opportunity for the Delta Islands and Levees project to explicitly illustrate and maximize the climate-resilient benefits of ecosystem restoration and intertidal marshes. Currently the DEIS addresses this resiliency in terms of the restored ecosystem itself, but not its potential impact on the surrounding areas.

Recommendations: Reference Executive Order 13653 in the discussion of the regulatory environment. The FEIS should also include a discussion about the impacts of each alternative on climate change resiliency of the surrounding area, and consider those impacts in the final alternative selection.