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

July 13, 2010

John Suazo
U.S. Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, CA 95814-2922

Subject: West Sacramento Levee Improvement Program (WSLIP), 408 Permission, and Draft Environmental Impact Statement (DEIS) / Environmental Impact Report, Yolo and Solano Counties, California, May 2010 (CEQ# 20100185)

Dear Mr. Suazo:

The U.S. Environmental Protection Agency (EPA) has reviewed the above project pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), 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). Our comments are provided in accordance with the deadline extension discussed in your call with Tom Kelly, of my office, earlier today.

Because the Center for Disease Control and the President's Council on Physical Fitness support the concept that increasing recreational opportunities has positive health benefits, we encourage additional discussion of this important issue. EPA is pleased the DEIS attempts to maximize opportunities for physical activity such as walking, running, and biking.

While EPA acknowledges the need for reliable flood protection for the city of West Sacramento, we remain concerned with the residual flood risk to development in a deep floodplain protected by levees. EPA recommends a more thorough discussion of levee vegetation management, as well as additional commitments to promote long-term levee stability, in light of the substantial amount of effort contributed to this issue by the California Levee Roundtable, composed of the Army Corps of Engineers and other federal state and local agencies. EPA also recommends additional information in the FEIS to confirm that the slurry wall, proposed for The Rivers portion of the project, will not further the spread of contamination of an existing methyl tertiary butyl ether (MTBE) plume.

In light of the above-stated concerns, we have rated the DEIS as *Environmental Concerns – Insufficient Information* (EC-2). Please see the enclosed "Summary of EPA Rating Definitions" and detailed comments. Our recommendations request additional information and commitments regarding alternative methods of erosion control, mitigation for unavoidable impacts, impacts to endangered species and migratory birds, beneficial use of dredged material, stormwater and spill prevention, impacts to water resources, and levee operation and maintenance.

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

Sincerely,

/s/

Kathleen M. Goforth, Manager
Environmental Review Office

Enclosures: Summary of EPA Rating System
EPA's Detailed Comments

cc: John Powderly, West Sacramento Flood Control Area
Harry Kahler, U. S. Fish and Wildlife Service
Ken Cummings, National Marine Fisheries Service
William Brostoff, U.S. Army Corps of Engineers, San Francisco District
Pamela Creedon, Central Valley Regional Water Quality Control Board

US EPA DETAILED COMMENTS ON WEST SACRAMENTO LEVEE IMPROVEMENT PROGRAM (WSLIP), 408 PERMISSION, and DRAFT ENVIRONMENTAL IMPACT STATEMENT / ENVIRONMENTAL IMPACT REPORT, JULY 12, 2010

EPA detailed comments are provided below and organized according to the scope of actions proposed:

I. Programmatic comments;
II. Programmatic and Project (also called Early Implementation Project or EIP) comments; and
III. Project comments.

I. Programmatic Comments

Removal of Vegetation on Levees

Consistency with California's Central Valley Flood System Improvement Framework

The DEIS describes a U.S. Army Corps of Engineers (Corps) policy on the removal of levee vegetation, and explains that even under the no action alternative, vegetation may be removed from levees (page 2-9). The DEIS further states that the project proponent, the West Sacramento Area Flood Control Agency (WSAFCA), has requested a variance from that policy (page 2-9). EPA encourages a more thorough discussion of this issue. We understand that in some circumstances, leaving mature vegetation on levees may be supported by the Endangered Species Act, Executive Order 11990[1], and Section 404 of the Clean Water Act.

EPA understands that substantial scientific uncertainty exists on the effects of woody vegetation on levees. The U.S. Army Engineer Research and Development Center (ERDC) conducted an extensive literature review of the impact of woody vegetation on levees. A Corps fact sheet summarized the following results[2]: "[t]he findings of the [extensive literature] review found that no documented evidence exists to prove trees negatively influence levee integrity; however, research is very limited . . .". To address this, ERDC and California Levee Vegetation Research Program are conducting coordinated research on this topic. The latter research is sponsored by National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (FWS), and a variety of state and local agencies.

We suggest the Corps consider the scientific controversy regarding its vegetation policy, and the impact of that policy on any future projects, in deciding the level of National Environmental Policy Act (NEPA) analysis for additional projects or EIPs tiered to this programmatic DEIS, or Section 408 approval.

We understand that the California Levee Roundtable, a group that includes the Army Corps, U.S. Fish and Wildlife Service (FWS), the National Marine Fisheries Service (NMFS), California Department of Fish and Game (CDFG) and other state and local agencies, has formed a collaboration to determine the best way to meet these competing interests. This collaboration has

[1] Protection of Wetlands, Executive Order No. No. 11990, May 24, l977, 42 F.R. 26961, available: http://www.epa.gov/OWOW/wetlands/regs/eo11990.html

[2] Water Resources Infrastructure R&D Program, Effects of Woody Vegetation on Levees, U.S. Army Corps of Engineers, available at: http://operations.usace.army.mil/flood/pdfs/Vegetation-Levees-FactSheet.pdf

resulted in development of *California's Central Valley Flood System Improvement Framework* (Framework).

A description on the Corps National Flood Risk Management Program webpage[3] includes the following brief description of the development of the Framework: "This document has been collaboratively developed by the California Levees Roundtable, a partnership of federal, State, and local agencies that was formed in August 2007 to address vegetation issues affecting the State-federal levee system in the Central Valley." As stated in the Framework, it is designed to be a living document, and functions as interim criteria for vegetation management. A more permanent solution, the Central Valley Flood Protection Plan, is currently being developed and is estimated to be completed in July 2012.

In contrast to the above-reference Corps policy, which promotes vegetation removal, the Framework presents a more balanced approach to vegetation management, promoting either removing or maintaining vegetation based on site-specific and geographically appropriate criteria. The Framework recognizes that trees and brush grow on most Central Valley levees and provide soil stability and an important remnant of the riparian forest that once lined the Sacramento and San Joaquin rivers and tributaries. Rather than prioritizing potential threats to levee integrity or identifying that vegetation must be removed, the Framework identifies a suite of potential threats to guide maintenance and long-term management decisions. These include (inadequate channel capacity, erosion of levees, seepage through and under levees, encroachment, structural instability, and seismic loadings, in addition to vegetation removal. The Framework also emphasizes the importance of research to support the approval of any requests for variance from the vegetation policy and encourages the development and implementation of a Multi-species and Floodplain Conservation Strategy.

Recommendation:

- The FEIS should briefly discuss recently completed as well as ongoing research of the effects of vegetation on levees and link this research to the proposed project. Where the proposed project is in conflict with this research, the FEIS should specifically identify the rationale behind the decision, including a summary of the anticipated impacts.

- Until planned research on the effects of vegetation on levees has provided a clearer results, future EIPs (completed under the programmatic DEIS) should avoid extensive (water side) vegetation removal, unless critical for flood protection.

- Rather than emphasizing compliance with the Corps' vegetation policy, the FEIS should identify measures that meet the intent of the Framework, and include a description of the suite of maintenance activities necessary to maintain levee integrity.

- If a reference to the U.S. Army Corps vegetation policy is retained in the FEIS, a copy of the policy should be included as an appendix, as well as a more clear description of when this policy, versus other guidance documents (the Framework, or the future Central Valley Flood Protection Plan) will be implemented.

[3] http://www.nfrmp.us/guidance.cfm

- The FEIS should indicate that future actions tiered from the FEIS will be consistent with the Central Valley Flood Protection Plan, once approved.

Mitigation

The DEIS includes mitigation measure MM-VEG-1 to compensate for direct effects (loss) of woody riparian habitat that cannot be avoided (p. 3.8-25) and FISH-MM-1 to compensate for unavoidable effects on shaded riverine aquatic cover (p. 3.9-27). The DEIS does not include a compensation ratio, but does offer a parenthetical example, "2:1= 2 acres restored/created/enhanced or credits purchased for every 1 acre removed." Because the Sacramento Valley and foothills region has already seen an 85% reduction in riparian vegetation[4], and wetlands creation and restoration is a difficult task, we suggest the example 2:1 mitigation be included as a commitment for mitigation in the FEIS and Record of Decision (ROD).

The DEIS notes that mitigation sites within WSAFCA are limited, particularly in light of the current Corps policy on levee vegetation. Despite this, the DEIS does not proactively identify locations where restoration is most needed within the reach (e.g. within a long stretch of riprap lined riverbank) or may be more easily implemented (e.g. potential for setback levee).

Recommendation:

- The FEIS and ROD should commit to a 2:1 mitigation ratio to compensate for unavoidable effects to woody riparian habitat and shaded riverine aquatic cover.

- The FEIS should identify areas for restoration (or banked mitigation), with a focus on where restoration is most-needed and where it can be must successfully and easily implemented.

Alternatives for Erosion Control

The DEIS includes rock slope protection (also known as rip rap) as an alternative to improve erosion control (page 2-28). FWS has specifically published a report, *Impacts of Riprapping to Ecosystem Functioning, Lower Sacramento River, California*[5], that documents the negative effects of rock slope protection.

Possible alternatives to riprapping are suggested in a FEMA brochure[6]. Many of the methods suggested by the FEMA brochure are inconsistent with the Corps policy on levee vegetation; however, we understand that policy is the subject of considerable debate. We also note that some of the methods proposed by the report may not be compatible with navigable rivers.

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[4] Overview, Sacramento River Wildlife Refuge, U.S. Fish and Wildlife Service, available: http://www.fws.gov/refuges/profiles/index.cfm?id=81627

[5] Impacts of Riprapping to Ecosystem Functioning, Lower Sacramento River, California, U.S. Fish and Wildlife Service, Sacramento, CA, June 2000, available: http://www.fws.gov/sacramento/hc/reports/sac_river_riprap.pdf

[6] Engineering With Nature Alternative Techniques to Riprap Bank Stabilization, Federal Emergency Management Agency, available: http://www.marylandstreams.org/PDF/FEMAriprapalternatives.pdf

Recommendation:

- Because the FWS has documented problems associated with riprapping on the Lower Sacramento River, the FEIS should commit to alternative methods of erosion control.

II. Programmatic and Project (EIP) Comments

Endangered Species and Migratory Birds

As the DEIS notes on pages 3.9-3 and 3.8-2, WSAFCA will need a biological opinion from NMFS and FWS. It also notes that "the lead agency is required to prepare a biological assessment (BA) evaluating the nature and severity of the expected effect (a listed species or critical habitat)." It is not clear from the DEIS whether or not a BA has been completed. Just as mitigation measures have been added to protect the Swainson's Hawkto address concerns of the Department of Fish and Game (CDFG), additional mitigation measures are likely to be required for threatened and endangered species by NMFS and FWS. For example, the Central Valley Chinook salmon may require specific mitigation measures that should inform the ultimate project proposal.

Recommendation:

- The FEIS should confirm that a Biological Assessment has been completed and should summarize the results.

- The FEIS should include a Biological Opinion from NMFS and FWS as well as approvals from CDFG.

Beneficial Use of Dredged Material

As noted in Effect GEO 6 (page 3.4-19), "WSLIP activities have the potential to require borrow material for implementing levee improvements at a volume of approximately 6.2 million cubic yards." The EIPs will require a more than 190,000 cubic yards of imported material (i.e. soil or sediment), as noted in Table 4.8-2 and 5.8.2. Other nearby projects, such as the Deep Water Shipping Channel Project, generate dredged material. The channel deepening project in particular will generate 6.4 million cubic yards of dredged material (page 1-24). Corps guidance[7] encourages the reuse of dredged material that can reduce project costs and enhance the environment.

Recommendation:

- The FEIS should commit to the use of dredged materials directly from or that have been stockpiled by other nearby Corps dredging projects to the extent feasible.

Stormwater and Spill Prevention

The DEIS discusses several plans that will be prepared as part of EIPs, such as a Storm Water Pollution Prevention Plan (SWPPP), Spill Prevention, Control, and Countermeasures (SPCC) and Bentonite Slurry Spill Contingency Plan (BSSCP). The DEIS describes these in broad terms. For example, "A SWPPP typically contains, but is not limited to, the following described best

[7] Fact Sheet: Beneficial Uses of Dredged Material, U.S. Army Engineer Research and Development Center, available: http://el.erdc.usace.army.mil/factsheets/budm.pdf

management practices . . ." (p. 5-35). The DEIS does contain a more thorough discussion of some of these plans in Chapter 2, and in the discussion of environmental effects (e.g. WQ-1 and WQ-2). Because an agency's ROD normally requires a project proponent to implement applicable mitigation from the FEIS, the details of these plans should be included in mitigation measures.

Recommendation:

- The FEIS should include the timing for the preparation of the SPCC Plan, SWPPP and BSSCP, and, where applicable, elements from these future plans that are intended to be mitigation measures should be included in the FEIS where appropriate.

Test Methods

The DEIS frequently refers to test methods from the American Society of Testing Materials. These tests may or may not be approved for use under the federal laws (e.g. Safe Drinking Water Act, Resource Conservation and Recovery Act etc.) and their California implementing regulations.

Recommendations:

- The FEIS should include EPA and California approved test methods when applicable.

III. Project (EIP) Comments

Water Resources

Groundwater Contamination

The DEIS notes a petroleum plume on the western end of the Rivers EIP project area (page 3.3-18), which contains Methyl Tertiary Butyl Ether or MTBE (p. 5-38). MTBE is a particularly mobile contaminant in the environment. The Rivers EIP would install a slurry wall directly into the plume. The DEIS does not contain enough information to determine if this action could further the spread of contamination, provide information on the depth of contamination, nor clarify if the plume is being actively remediated (by pumping and treating contaminated groundwater) or being monitored and allowed to naturally attenuate (biodegrade). Figure 3.3-1 indicates the plume is migrating southeast away from the Sacramento River, but does not provide the basis for the groundwater flow direction. EPA notes that groundwater surface elevations can be misleading, as groundwater flow is three dimensional. By installing a slurry wall into the plume, WSAFCA risks altering the flow of groundwater and causing the further spread of contamination, possibly into the Sacramento River.

Recommendation:

- The FEIS should provide additional information on the nature and extent of groundwater contamination (e.g. depth of contamination and the basis for the flow direction provided) and remediation of the contaminated groundwater (i.e. active or passive).

- The FEIS should summarize discussions or correspondence with the Sacramento Regional Water Quality Control Board (RWQCB) and include a copy of any

written correspondence confirming that the slurry wall will not adversely affect the groundwater remediation or natural attenuation.

Dewatering

The Rivers applicant preferred alternative, for an EIP, and The Rivers Alternative B include Mitigation Measure WQ-MM-2: Implement Provisions for Dewatering (page 5-39 and 5-40). This mitigation measure includes a Low Threat Discharge and Dewatering permit from the Central Valley RWQCB and mentions the known groundwater contamination. However, the contaminated groundwater at the western end of the levee poses more than a "low threat." The Boards Permit[8] contains the following finding:

> "There are many sites of ground water contamination in the Central Valley. The contamination may have been caused by many factors including industrial activity, underground leaking tanks and farming practices. This permit is not intended for use on groundwater where such contamination exists even if the project and/or proponent has no connection with the contamination."

Recommendation:

- The FEIS should evaluate alternative methods, other than a General Order for Dewatering and other Low Threat Discharge to Surface Water, to manage contaminated groundwater.

Soil Contamination

The Rivers EIP includes procedures for Phase 1 and Phase 2 Environmental Site Assessments (ESA), including soil sampling (page 5-178), but no specific procedures for handling contaminated soil. ESAs are typically completed prior to construction and excavation to determine whether soil and groundwater contamination may exist. As the Rivers EIP includes excavation of soil (to construct a slurry wall) within a petroleum contaminated groundwater plume, it will include exaction of petroleum contaminated soils.

Recommendation:

- The FEIS should describe procedures to properly manage contaminated soil, including provision for proper disposal.

<u>Levee Operation and Maintenance</u>

The DEIS states, "[t]here are 11 residences located on top of the levee and 4 residences adjacent to the landside toe of the levee encroaching on the levee operation and maintenance area." These homes appear to be recently constructed. EPA has learned[9] that the permits were granted for these homes many years ago. The DEIS does not clarify whether or not additional homes that may

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[8] Waste Discharge Requirements, General Order for Dewater and other Low Threat Discharges to Surface Waters, Order No. 5-00-175, NPDES No. CAG995001, Central Valley Regional Water Quality Control Board

[9] Personal Communication between John Suazo, with the Army Corps of Engineers, and Tom Kelly, with EPA, on July 7, 2010.

be permitted, but not yet constructed, are anticipated to be constructed on top of the levees in the project area. Considering the growth planned for West Sacramento, including 40,000 new dwellings and 50,000 new jobs (page ES-15), potential encroachment adjacent and on top of the levee is of critical concern to long-term management and levee integrity.

We note that residences not only limit levee maintenance, but the utilities associated with the homes may need to be relocated, according to Corps policy, if the utilities are within the levee prism. Also, Section 2.9.1.8 of the DEIS describes the circumstances for acquiring property and temporarily relocating residents. Depending on the circumstances of this situation, federal funding to acquire this land or temporarily relocate these residents may not be available or appropriate.

Recommendation:

- The FEIS should confirm the year(s) of construction for homes already built on the levee or levee toe, as well as the circumstances behind approvals and permitting decisions for construction.

- The FEIS should describe local zoning requirements that are in place, or that would need to be in place, to assure that future construction of buildings will not hinder levee maintenance.

- The FEIS should state whether the home's utilities are within the levee prism, which would require relocation under Corps policy, or within the freeboard above the prism.

Human Health Impacts

A fundamental purpose of NEPA is to "promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man." [NEPA § 102] CEQ's regulations at 40 CFR 1508.8 states: "Effects and impacts as used in these regulations are synonymous. Effects includes ecological. . . or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial."

The DEIS provides a regional perspective on recreation opportunities in Section 2.6. The DEIS explains specific recreation improvements for both EIPs in Sections 4.3.1.5 and 5.3.1.5. By combining recreation opportunities with its flood control efforts, West Sacramento (the project proponent) has followed the intent of NEPA and its implementing regulations, but the DEIS does not discuss the positive health impacts of increasing recreational opportunities. EPA offers the following resources that support the health benefits of physical activity, and that increasing a community's recreational opportunities can also increase its health:

1. Physical Activity Resources for Health Professionals (http://www.cdc.gov/physicalactivity/professionals/index.html#)

2. President's Council on Physical Fitness and Sports, Research Digest (Series 7, No. 4, December 2006), Physical Fitness and the Built Environment (http://www.fitness.gov/digests/December2006Digest.pdf)

3. Environmental Resources to Promote Physical Activity (http://www.cdc.gov/nccdphp/dnpa/physical/pdf/pa_qs_environmental_change.pdf)

Recommendation:

- The FEIS should discuss the positive health impacts of improving recreation opportunities in West Sacramento.