

**CALFED Bay-Delta Program
System Integrity Workplan
by
Levee Issues Technical Team**

Purpose:

The purpose of this workplan is to develop a detailed description of the Delta Long-Term Levee Improvement Plan including elements of levee maintenance and improvement, subsidence control, cost sharing (ability to pay) procedures, beneficial reuse of dredge material, habitat banking, seismic susceptibility, emergency response, and continued funding for the System Integrity Common Program.

This effort is enhancing the information developed by the Levee and Channel Technical Advisory Committee of the Bay Delta Oversight Council and continues the coordination (linkage) between levees, fisheries, and terrestrial issues.

Approach:

The Department of Water Resources is currently leading an effort to define this program with input from various interests including Delta residents, State and federal agencies, and Delta agencies such as local reclamation districts and the Delta Protection Commission. This effort in proposing refined definitions of the elements of the overall plan is currently being coordinated by Curt Schmutte through the Levee and Channel Technical Team. CALFED Bay-Delta Program staff is coordinating with this and other groups during the alternative development, refinement and evaluation process by monitoring, reviewing, and providing input to the proposed plan.

It is proposed that the Levee and Channel Technical Team continue in the development of the Delta Long-Term Levee Improvement Plan in coordination with the various interests identified above as well as other groups that are involved in related activities. An example of a related activity could be the generation of habitat along levee slopes which would be done in coordination with the BDAC Ecosystem Workgroup and the Agency Ecosystem Review Team.

The elements necessary to address the issues relevant to implementing the Delta Long-Term Levee Improvement Plan include the following:

Formation of technical sub-teams to address specific issues related to levee habitat, land subsidence, beneficial reuse of dredge material, emergency response, and seismic susceptibility.

Priorities and actions within the Special Habitat Improvements and Flood Control Projects Program. This element is expected to require the most activity by consultants working with the Levee Issues Technical Team. Important aspects of this element will include identification and prioritization of flood control needs and levee habitat needs providing the highest public benefits. In addition, islands that are recognized as being essential for protection of public benefits, but are at increased risk due to greater seismic susceptibility, will receive higher priority to ensure protection of those benefits. Habitat projects will be undertaken to improve levee habitat corridors in coordination with the BDAC Ecosystem Workgroup and the Agency Ecosystem Review Team needs.

Schedule:

- October - refined habitat corridor map, develop initial island levee improvement priority map
- December - refined island priority map, refined habitat corridor map based on: conditions necessary for protection and restoration of existing levee habitats; site location constraints such as tidal levels, wind waves, hydrology, etc.; habitat restoration designs that contribute to flood protection and overall levee improvement; utilizing successful demonstration projects prior to large scale implementation; utilization of natural erosive and depositional forces to enhance habitat improvement opportunities

Subsidence control plan of action will emphasize implementation of subsidence control plans based on research results into "capping" and other techniques which maximize accretion. Utilizing GIS technology, parameters that have been found through ongoing research to effect subsidence (organic content, depth of peat, etc.), will be mapped to aid land use planning decisions for subsidence control.

Schedule:

- October - initial Delta subsidence control plan
- December - refined Delta subsidence control plan based on research and data collection

Cost sharing procedures (ability to pay) will include a comprehensive study to identify each Local Agency's ability to cost share for flood control projects. In addition, other beneficiaries (eg. wildlife habitat, recreational developments, highways and railroads, natural gas fields, utility lines, major aqueducts, other public developments, etc.) will be investigated to quantify the benefits they receive. Also, applicable federal programs will be investigated.

Schedule:

March - initial cost sharing procedures

Levee habitat banking policies and procedures. Both the State (1993) and Federal government (1995) have drafted guidance for the protection of wetland habitat through the use of wetland mitigation banking. Habitat banking for other habitat types on levees may be dealt with similarly. These banking guidelines will be reviewed for their applicability to a CALFED levee habitat banking program and will be integrated into CALFED's larger, regional habitat management plan for the Delta.

Substantial coordination with DFG and federal agency staff will be required to develop a comprehensive mitigation bank that will satisfy the potential mitigation needs for wetlands, uplands, aquatic ecosystems and listed plant and animal species on levees.

Schedule:

March - initial levee habitat banking procedures

Beneficial reuse of dredge material policies and procedures. With the identified need for suitable material for levee maintenance and repair, the technical team will investigate creation of in-stream sediment traps that can be "harvested" on frequent intervals, propose recommendations for legislative action to promote beneficial reuse of dredge material, and propose measures to streamline the permitting of disposal of sediment from brackish sources. These efforts will be coordinated closely with the Regional Water Quality Control Board and the San Francisco Bay Long Term Management Strategy (LTMS) program for the upland utilization of in-Bay dredge material.

Schedule:

October - initial rehandling facilities, sediment traps, and stockpiles map

December - refined rehandling facilities, sediment traps, and stockpiles map

Delta levee emergency response plan. In coordination with existing law, State, federal, and local agencies, a comprehensive emergency response plan will be developed to utilize the appropriate available resources to prevent the occurrence and severity of flood threatening incidents. Included in this plan will be standardized contracts for emergency levee work, criteria for eligible levee work, definition of an emergency levee event, establishment of a multi-agency response team, documentation requirements to streamline reimbursements, and stages of emergency response.

Schedule:

October - initial emergency response plan

December - refined emergency response plan

Delta levee seismic susceptibility will be explored by continuing research that

began with the Department of Water Resources' Phase I Delta Seismic investigation. Since there are a great many unknowns regarding the dynamic properties of the peaty foundation layers which commonly exist beneath the levee system, the continued research will attempt to reduce the major uncertainties by: installing strong-motion accelerometers at three to four levee sites in the Delta; creating a geologic model for deeper soil deposits; field and laboratory testing to better determine the static and dynamic properties of organic soils; field and laboratory testing to better determine liquefaction potential; and investigate the potential activity of the Coast Range-Sierra /Nevada Boundary Zone. These efforts will be closely coordinated with the USGS, UCD, and interested stakeholders.

Schedule:

October - initial levee damage susceptibility map
March - refined levee damage susceptibility map