

# **DELTA LONG-TERM LEVEE IMPROVEMENT PLAN**

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The San Francisco/Sacramento-San Joaquin Delta Estuary is a critically important part of California's natural environment and economy. The Delta Long-Term Levee Improvement Plan (Improvement Plan) will build on the successes of previous habitat and levee improvement programs to ensure the long-term viability of this unique and irreplaceable resource.

Two key aspects of the Improvement Plan (Figure 1) will be a levee maintenance subventions program (Subventions Program), and a special habitat improvements and flood control projects program (Special Projects Program). The programs will seek Delta-wide levee improvements to long-term standards, prioritize and fund flood control and levee habitat improvements based on public benefits, and improve recreational opportunities, emergency response, beneficial reuse of dredge material, subsidence control, and habitat banking for levees.

The Delta Flood Protection Act of 1988 (SB-34) has helped protect islands from flooding and has increased the overall flood protection of the Delta. However, SB-34 has lacked the funding to improve levees above the minimum short term HMP standard. The Improvement Plan should have a minimum funding level of at least \$20,000,000 per year which should be split between the Subventions and Special Projects Programs. This minimum funding will meet the current demands for maintenance funds, allow some annual levee improvements above the HMP level, and improve the estuary through habitat enhancements.

### **LEVEE SUBVENTIONS PROGRAM**

The Improvement Plan will incorporate the successes of the SB-34 Subventions program and include additional responsibilities that will contribute to improved reliability of Delta levees and habitat enhancement.

Currently, Local Agencies (LA) fund their annual reclamation and levee maintenance activities by assessments on the land protected by the levees. The State has an assistance program, the SB-34 Delta Levee Maintenance Subventions program, that provides reimbursement for up to 75% of LA's costs to maintain and rehabilitate nonproject levees. The SB-34 Subventions program has been successful in its purpose but has been underfunded with respect to the legislative intent, and oversubscribed by the LA's. Lack of funding has resulted in approximately 40% of LA's costs being reimbursed by the State, and 60% of the costs borne by the LA's -- significantly less than the 75% State cost share that the legislation intended. Also, most LA's must finance the work until State reimbursement is received, adding an

additional 8% unreimbursable cost. The Improvement Plan should work to reduce LA's finance charges by making timely payments for the work performed by the LA's.

Changing the cost sharing structure and guaranteeing a minimum level of funding for all LA's would help ensure that annual maintenance is performed, and help assure the reliability of the Delta levees. A large portion of the general public benefits from the protection provided by the Delta levees. Therefore, it may be more equitable to develop an alternate cost sharing ratio, and provide a guaranteed minimum base level of funding per levee mile per year with a set of maintenance guidelines to help reduce the chance for levee failure.

Delays and reductions in payment of FEMA disaster assistance claims as well as less than full reimbursement of the States cost share under SB-34 have left some Reclamation Districts with sizable debts. Financing this debt consumes portions of their annual assessments that could be spent on current levee maintenance. An initial action of the Improvement Plan would be to reimburse the LA's for SB-34 claims to the maximum 75% that would have been paid if the funding had been available. This could include past disaster costs not paid by FEMA that could have been paid by the SB-34 Program. Debt retirement will increase the LA's ability to cost share and will precipitate better participation in the program.

Even though proactive levee maintenance will reduce the frequency of levee emergencies, a more comprehensive emergency response program is needed. Therefore, the Subventions Program will form a coordinated multi-agency response team with DWR's Flood Management as the lead agency. The multi-agency response team will consist of OES, DWR, FEMA, Corps, and DFG to ensure that emergencies are resolved as quickly and safely as possible.

Alternative elements of the program could include pre-negotiated or pre-bid contracts. Funding would be independent and would not deplete funds earmarked for the Subventions and Special Projects Programs.

Funding in excess of the amount required to meet the base level funding will be used for levee improvements to the PL-99 standard. Levees that have been maintained to the PL-99 guidelines and standards, and have been approved prior to a flood that has been declared a national disaster, will be eligible for assistance from the Federal Government on an 80/20 Federal/local cost share. Besides providing long range flood protection, conformance to the PL-99 standard will supplement existing disaster assistance.

To ensure that the Subventions Program is successful, all participating LA's will be responsible for complying with maintenance guidelines, annual inspections, and utilizing subsidence control alternatives, where appropriate, to reduce long-term maintenance and improvement costs.

## **SPECIAL HABITAT IMPROVEMENTS AND FLOOD CONTROL PROJECTS PROGRAM**

To improve the Delta estuary and increase the reliability of Delta beneficial uses, a program to undertake projects to achieve these goals (Figure 2) is necessary. Therefore, the Improvement Plan will have a Special Habitat Improvements and Flood Control Projects Program (Special Projects) to create higher quality habitat by improving large habitat corridors.

Levee improvements will be made based on an island's public benefit. All islands will be evaluated to determine their relative importance. Factors such as water quality, public and private infrastructure, navigation, fish and wildlife, and recreation will be considered to create a priority list. Improvements and cost sharing ratios will be based on the public benefit and the level of protection needed for protection of public benefits. The levees will be constructed with habitat and recreation characteristics, where appropriate, (Figures 3, 4, and 5) to increase the beneficial aspects of the projects.

Terrestrial and aquatic habitat improvement projects will be undertaken in areas that have been determined important for creating habitat corridors. A conceptual levee habitat plan of these projects (attached map) will be created identifying the habitat projects to be undertaken and assigning priority to them. The program will create high quality habitat corridors by utilizing State owned lands, where they are available, and purchasing land and conservation easements along critical alignments that are not currently owned by the State. The habitat created could be used to offset current and future impacts (banking) of both the Special Projects and Subventions Programs.

The habitat will be created using an ecosystem approach that enhances habitat to benefit multiple species. Self sufficiency should be a goal of this approach with monitoring to help ensure that lessons learned from early projects can improve future habitat creation efforts. Evaluation criteria will be developed to determine bank credits in lieu of using the existing Habitat Evaluation Procedure method. A memorandum of understanding between all pertinent regulatory and participating agencies will be entered into to provide a comprehensive vision of the programs objectives and success criteria.

Another part of the Special Projects Program will address the beneficial reuse of dredge or suitable alternative materials. Cost effective materials for Delta levee improvements are becoming scarce. Currently, most LA's use historic on-island dredge material stockpiles or natural mineral deposits on the island as a source of material for levee work. On island material has been transported and placed by LA's for approximately \$5 per cubic yard, while commercial sources of material can cost

much more. The Special Projects Program will coordinate with dredging projects to augment on-island stockpiles where it is appropriate, and will study the applicability of constructing channel sediment traps and dredge material rehandling facilities adjacent to frequently dredged channel sections. In addition, permit streamlining will be done in close coordination with CALFED's comprehensive streamlining efforts.

A multi-agency team could be formed to coordinate with Delta dredging projects to ensure that the material is stockpiled for later use. This effort would be coordinated closely with the San Francisco Bay Long Term Management Strategy (LTMS) program for upland utilization of in-Bay dredge material. Part of the coordination will include on-going monitoring to develop standards for monitoring future projects. The intent of the monitoring will be to gain a better understanding of the what impacts will result and what level of monitoring is warranted for future projects.