

CALFED BAY-DELTA PROGRAM

Office Memorandum

Date: March 28, 1996
To: Victor Pacheco
From: Michael Norris
Subject: More revisions to the wording of Core Actions in the CALFED Bay-Delta Program Draft Alternatives package

As per your instructions, I have reviewed your corrections from my 3-15-96 memo regarding the suggested wording for some core actions for the Improvements to System Reliability section of the alternatives report. Here is my corrected wording. The wording in italics and/or strikeouts indicates changes from the wording in the February report.

- **Core Action:** Monitor, Evaluate, Maintain, and Stabilize Existing Levees *and Provide Funding for Future Actions*

Many levees that protect land uses, infrastructure, and habitat in the Delta are inadequately maintained and stabilized against failures caused by overtopping, slippage, or collapse. Furthermore, information is lacking on the condition of most levees in the Delta and where maintenance is needed. It is widely accepted that efforts to maintain and stabilize these existing levees are necessary in the near term. Maintenance standards may differ among different types of levees and different facilities or land uses that are protected by the levees. Entities to perform or fund levee monitoring and evaluations and the actual maintenance and stabilization work could include local reclamation districts, the Department of Water Resources, the U.S. Army Corps of Engineers (Corps), and other agencies. Funding of such work, even though widely accepted as necessary, is uncertain as to source and amount. Thus a CALFED core action could be to promote and fund such work *with the establishment of a Delta Long-Term Levee Protection Plan. The Delta Long-Term Levee Protection Plan will be comprised of a Subventions Program element and a Special Projects element. The Subventions Program element will provide levee maintenance and improvement funding in order to achieve a long-term goal of at least the Hazard Mitigation Plan (HMP) standard throughout the Delta. Where possible and financially feasible, the standard would be upgraded to the Corps of Engineers Public Law 99 (PL-99) standard. The Special Projects element will develop a prioritization scheme for work on highest priority sites anywhere within the Delta. High-priority sites would be determined through a prioritization matrix ranking scheme that is expected to include criteria such as the protection of public infrastructure facilities (e.g., highways, pipelines, railroads), private infrastructure (e.g., homes, marinas), navigation (e.g., project/direct agreement levee systems), water quality at Delta export locations*

(e.g., west Delta islands), local culture, recreation, and fish and wildlife benefits.

Core Level of Implementation: At a core level, this action would be undertaken to determine and correct conditions on the sites with highest priority. High-priority sites would include those that are important in protecting residential and commercial developments (e.g., north and east Delta), infrastructure facilities (e.g., highways, pipelines, railroads), and water quality at Delta export locations (e.g., west Delta islands) at a priority level of funding to establish and implement the Delta Long-Term Protection Plan. This work under the Delta Long-Term Protection Plan could include the funding for flood control improvements, the purchase of easements for subsidence control, the investigation of techniques for the beneficial reuse of dredged materials, the establishment of an emergency levee management plan including the setting up of an insurance fund, and the establishment of a habitat corridor mitigation bank to be used to offset current and future impacts from the routine maintenance and stabilization work on levee systems that is done within the Subventions and Special Project Programs.

- **Core Action:** Modify Agricultural Practices to Reduce Subsidence

Soil tilling for intensive agricultural cropping causes peat oxidation and thereby Delta island subsidence where peat soils are predominant. Subsidence adjacent to levees is particularly threatening to levee stability. Ceasing agricultural practices and establishing wetland hydrologic conditions in peat-soil areas would reduce peat oxidation and resulting subsidence. Subsidence reduction could be achieved by providing incentives such as increased Subventions funding for levee maintenance work to offset potential economic losses, voluntary participation by farmers in halting agriculture on peat soils, or purchasing conservation easements that eliminate cropping. Such a subsidence reduction program could also benefit Delta water quality by reducing discharge of dissolved organic carbon (DOC) in drainage from oxidized peat soils. Such a program could also increase the extent of wetland habitats in areas where subsidence is controlled.

Core Level of Implementation: At a core level, this action could be applied to a zone, between 100-200 yards wide for example, along the interior toes of levees on islands dominated by peat soils. This zone immediately adjacent to the levee toes is most critical for halting subsidence that threatens levee stability. The core level of implementation would focus on cooperative partnerships with landowners to voluntarily cease agricultural practices on peat soils near levee toes.

- **Core Action:** Investigate Techniques for Beneficial Reuse of Dredged Materials

Dredged materials excavated in maintaining channels for navigation and flood conveyance could provide a valuable resource for maintaining and improving levees and for reclaiming wetland habitats on subsided Delta islands. Uncertainty exists, however, about the suitability of such materials for these kinds of beneficial reuse. For example, channel sediments are suspected of containing toxic pollutants; these sediments need to

be monitored and evaluated for reuse. Dredged materials also may not be of suitable texture and consistency for levee maintenance and to support desirable plant growth. A CALFED Core action could consist of conducting a pilot program to examine and evaluate techniques for using dredged material in ways that are feasible and do not cause adverse impacts to water quality and ecosystem health. *This program would be conducted in coordination with the ongoing Long Term Maintenance Strategy (LTMS) for dredged material disposal for the San Francisco Bay Area, California.*

Core Level of Implementation: A core level of implementation could consist of CALFED coordinating and funding a pilot program to evaluate techniques for beneficial reuse of dredged materials.

- ***Core Action:*** Establish *and Fund* an Emergency Levee Management Plan

~~Currently, funding and clear authority does not exist regarding the roles and responsibilities of various federal, state, and local agencies in responding to levee failures.~~ Agency responses could consist of immediate actions at the time of the emergency to block or control a levee break and longer term actions to recover or rehabilitate a flooded island. Agencies with possible roles in responding to emergencies could include the U.S. Army Corps of Engineers, Federal Emergency Management Agency, Department of Water Resources, and local reclamation districts. An emergency management plan would provide funding and clearly identify the responsibilities of each of these and other agencies in responding to levee failures, both immediate and for longer term recovery. *In addition, an insurance fund would be set up in coordination with the Office of Emergency Services (OES) and/or FEMA to recover flooded islands or islands that suffer levee damage.*

Core Level of Implementation: At a core level, an emergency management plan would be established for the islands in the Delta ~~with highest priority (e.g., those where lives or improved property would be affected).~~

- ***Core Action:*** Establish *Habitat Corridors as Mitigation for Impacts From Maintenance and Stabilization of Existing Levees*

Routine maintenance and stabilization of existing levees by Delta landowners can result in loss of habitat. Delta landowners will attempt to avoid loss of habitat when performing levee maintenance by using new techniques such as those described in the Core Action entitled Improve Riparian Habitat by Modifying Levee Maintenance Practices. In some cases, Delta landowners can create adjacent habitat concurrent with their levee maintenance work such as creating riverside berms while installing bank protection and using other techniques such as those described in the Core Action entitled Include Riverine Elements at Channel Edges by Modifying Levee Protection Practices. In cases where it is neither possible to avoid the loss of some habitat nor is it possible to create adjacent off-setting habitat while performing levee maintenance work, Delta landowners will have the option of mitigating for habitat losses by applying for credits to

be drawn against a habitat corridor mitigation bank set up by the Special Projects element. The Special Projects element will implement terrestrial and aquatic habitat improvement projects in areas that have been determined important for creating habitat corridors. The program will create high quality habitat corridors by utilizing State owned land where they are available, and purchasing land and conservation easements along critical alignments that are not currently owned by the State. The habitat created will be used to set up bank credits which can be used to offset current and future impacts of the Subventions and Special Projects elements of the Delta Long-Term Levee Protection Plan.

***Core Level of Implementation:** At a core level, this action would be undertaken to begin funding the purchase of the aforementioned habitat corridors based on a prioritization mapping scheme and the utilization of areas adjacent to levees to provide subsidence control and improve stability of existing levees.*

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