

Attachment 1.

CALFED Stage 1 Actions with Direct Delta Levees, Water Quality, and Water Supply Reliability Benefits

Levee System Integrity Program

1. Initiate the Levee Implementation Group (LIG). Develop and implement an outreach, coordination, and partnering program with local landowners including individuals, cities, counties, reclamation districts, resource conservation districts, water authorities, irrigation districts, farm bureaus, other interest groups, and the general public to assure participation in planning design, implementation, and management of levee projects (yr 1).
2. Obtain short-term federal and state funding authority as a bridge between the existing Delta Flood Protection Authority (AB360) and long-term levee funding (yr 1-5).
3. Obtain long-term federal and state funding authority (yr 1-7); e.g., the Corps of Engineers' current Delta Special Study could develop into a long-term Delta levee reconstruction program and the state would be the local cost-sharing partner.
4. Conduct project level environmental documentation and obtain appropriate permits for each bundle (package) of Stage 1 actions (yr 1-7).
5. Implement demonstration projects for levee designs, construction techniques, sources of material, and maintenance techniques that maximize ecosystem benefits while still protecting lands behind levees. Give priority to those levee projects which include both short (i.e. construction) and long-term (i.e. maintenance and design) ecosystem benefits, and which will provide increased information (yr 1-7).
6. Adaptively coordinate Delta levee improvements with ecosystem improvements by incorporating successful techniques for restoring, enhancing or protecting ecosystem values developed by levee habitat demonstration projects or ecosystem restoration projects into levee projects. Continue to develop techniques as major levee projects are implemented (Years 1-7).
7. Fund levee improvements up to PL84-99 in first stage (yr 1-7); e.g., proportionally distribute available funds to entities making application for cost sharing of Delta levee improvements.
8. Further improve levees which have significant statewide benefits in first stage (yr 1-7) ; e.g., statewide benefits to water quality, highways, etc.
9. Coordinate Delta levee improvements with Stage I water conveyance, water quality improvements and with potential conveyance improvements in subsequent stages (yr 1-7).
10. Enhance existing emergency response plans, approximately \$29 million in Stage I (yr 1-7); e.g., establish \$10 million revolving fund, refine command and control

protocol, stockpile flood fighting supplies, establish standardized contracts for flood fighting and recovery operations, outline environmental considerations during emergencies.

11. Implement current BMPs to correct subsidence effects on levees. Assist CMARP activities to quantify the effect and extent of inner-island subsidence and its linkages to all CALFED objectives (yr 1-7).
12. Complete total risk assessment for Delta levees (yr 1-7) and develop and begin implementation of risk management options as appropriate to mitigate potential consequences. Available CALFED risk management options may include:
 - Improving emergency response capabilities
 - Developing storage south of the Delta
 - Reducing the fragility of the levees
 - Improving through-Delta conveyance
 - Releasing more water stored north of the Delta
 - Restoration of tidal wetlands
 - Controlling and reversing island subsidence
 - Curtailing Delta diversions
 - Continued monitoring and analysis of total risk
 - Constructing an isolated facility

Water Quality

1. Conduct the following mercury evaluation and abatement work in the Delta:
 - Research methylization (part of bioaccumulation) process in Delta (yr 1-2).
 - Determine sediment mercury concentration in areas that would be dredged during levee maintenance or conveyance work (yr 3-7).
 - Determine potential impact of ecosystem restoration work on methyl mercury levels in lower and higher trophic level organisms (yr 3-5).
2. San Joaquin Valley Drainage Program:
 - Develop and implement supply water quality management activities to improve supply quality (yr 1-7).
 - Develop and implement a management plan to reduce drainage and reduce total salt load to the San Joaquin valley (yr 1-7).
 - Encourage source reduction programs including tiered pricing, expansion of drainage recirculation systems, land management, and land retirement where other options are infeasible (yr 1-3).
 - Conduct pilot projects to evaluate the feasibility of water reuse, through agroforestry, of various concentrations of saline water (yr 4-6).
 - Study feasibility of desalination methods including reverse osmosis (yr 7).
 - Study cogeneration desalination (yr 7).
 - Implement real time management of salt discharges (yr 3-7).
3. Conduct the following selenium work:

- Conduct selenium research to fill data gaps in order to refine regulatory goals of source control actions; determine bioavailability of selenium under several scenarios (yr 1-5).
 - Research interactions of mercury and selenium (yr 2-3).
 - Refine and implement real-time management of selenium discharges (yr 1-7).
 - Expand and implement source control and reuse programs (yr 1-7).
 - Coordinate with other programs (yr 1-7); e.g., recommendations of San Joaquin Valley Drainage Implementation Program, CVPIA) for retirement of lands with drainage problems that are not subject to correction in other ways. (CVPIA alone will retire approximately 70,000 acres of land with selenium-caused water quality problems during time period of Stage 1.)
17. Conduct the following nutrients work:
- Complete studies of causes for DO sag in San Joaquin River (yr 1-2).
 - Define and implement corrective measures for DO sag (yr 1-7).
 - Encourage regulatory activity to reduce nutrients discharged by unpermitted dischargers (yr 1-7).
 - Develop inter-substrate DO testing in conjunction with ERP (yr 2-4).
 - Study nutrient effects on beneficial uses (yr 4-7).

Storage

Groundwater Banking and Conjunctive Use - This first stage includes a coordination effort with local implementing entities and landowners in both the north of Delta and south of Delta areas, and includes construction of several south of Delta projects. Additional south of Delta and north of Delta projects, if feasible, could be constructed in later stages.

1. Develop and implement a framework for groundwater banking and conjunctive use projects (yr 1).
2. Include provision to protect overlying and other landowners' water rights (yr 1-7).
3. Provide funding assistance to local governments and special districts for groundwater plan development (yr 1-7).
4. Identify potential projects and local cooperating entities and define CALFED role (yr 1-3).
5. Conduct baseline monitoring and modeling (yr 1-7).
6. Initiate field studies (yr 2-7).
7. Project environmental documentation and permitting (yr 1-3).
8. Project design (yr 2-4).
9. In partnership with local entities, construct two to three groundwater banking facilities with target volume of 500,000 acre-feet storage (yr 1-7); e.g., potential options include Madera Ranch, Stockton East, expanded Kern Water Bank, and others.
10. Study additional project sites (yr 2-7).

Conveyance

South Delta Improvements -

1. Construct an operable barrier at the head of Old River (yr 2-4).
2. Implement additional physical features and associated operational rules required to address problems related to SWP and CVP export operations including south Delta water levels, channel scour, fisheries, and water quality in the south Delta or some other method to address the concerns (yr 2-4).
3. Evaluate benefits and impacts of recirculation of a portion of Delta Mendota Canal flows through the Newman Wasteway to the San Joaquin River for water quality and ecosystem enhancements (yr 1-4).

North Delta Improvements -

1. Develop operational criteria for the Delta Cross Channel that balances flood control, water quality, water supply reliability, and fisheries concerns.
2. Evaluate whether a 2,000 cfs screened diversion from the Sacramento River at Hood to the Mokelumne River can be constructed to improve or maintain central Delta water quality, without compromising fish protection achieved by operation of the Delta Cross Channel or creating other adverse fishery impacts.
3. Evaluate the implementation of setback levees and/or dredging along the Mokelumne River from Interstate 5 downstream to the San Joaquin River to improve conveyance and resolve flood concerns in this region. These actions would be carefully coordinated with ecosystem restoration actions to create additional tidal wetlands and riparian habitat to assure that a balanced solution to local and regional concerns would be achieved.
4. Based on the above evaluations, take appropriate action to provide a balanced solution to water quality, flood control, water supply reliability, and fisheries concerns.
5. Conduct pilot studies for dredged material reuse for Delta levee improvements and habitat creation (yr. 1-7).