

## **Delta Conveyance**

Fixing longstanding water conveyance problems in the Delta has been at the heart of the Delta debate for decades. The objective of Delta conveyance improvements is to address long-standing concerns to improve water supply reliability by reducing conflicts with fish and other Delta diversions, provide protection and improvement of Delta water quality, improve ecosystem health, and reduce risk of supply disruption due to catastrophic breaching of Delta levees. A successful conveyance solution is directly linked to the success of an Environmental Water Account, water transfers, and improvements in both water quality and water supply reliability. CALFED's identified preferred program alternative is a through-Delta approach to conveyance developed through knowledge and experience gained over the past 30 years. The actions shown in Figure 1, comprising the components of a through-Delta approach, form the initial solution package to address these issues.

### **Interrelationships**

The proposed actions set forth in Figure 1, provide the framework to address multiple issues and implement other elements of CALFED's program for the Delta (e.g. the Ecosystem Restoration Program, Delta island storage, and the Environmental Water Account).

- Conveyance improvements in the north Delta provide a direct opportunity to enhance the wildlife and fishery habitat along local channels.
- These channel improvements and the revised operations of the Delta Cross Channel gate resulting from the evaluation done under the Preferred Alternative provide the opportunity to transfer water for use with Delta island storage.
- Channel improvements and Delta island storage improve water supply reliability and address water quality concerns in the Delta.
- Delta levee improvements enhance the protection of water quality and provide opportunities for wildlife and fishery habitat development.
- Conveyance improvements at the Clifton Court Forebay intake and the Tracy Fish Facility improve fish survival by reducing fish entrainment and predation.
- Conveyance improvements along the lower San Joaquin River system provide opportunities to develop wildlife and fisheries habitat.

These improvements in conjunction with actions to address use of Joint Point of Diversion and current regulatory constraints on State Water Project export operations provide opportunities to improve fish survival and to contribute to a successful Environmental Water Account and Water Transfers programs by increasing the flexibility and reliability of water operations. Conveyance improvements in the north Delta and along the lower San Joaquin River system provide opportunities to contribute to a successful Ecosystem Restoration Program. CALFED is continuing to evaluate the concept of developing in-Delta storage with a connection to the Clifton Court Forebay. Preliminary review suggests that this in-Delta storage could be operated in a way that enhances overall export water quality as well as providing benefits for some fish species. A more comprehensive discussion of the Central Delta storage proposal will be presented in the issue paper on storage options. The implementation of conveyance improvements in the south Delta have been linked with implementation of the Ecosystem Restoration Program to assure that smelt and salmon critical habitat is improved overall (or at least not adversely modified directly or indirectly) by the combination of ERP actions and SDI.

Delta Conveyance Actions

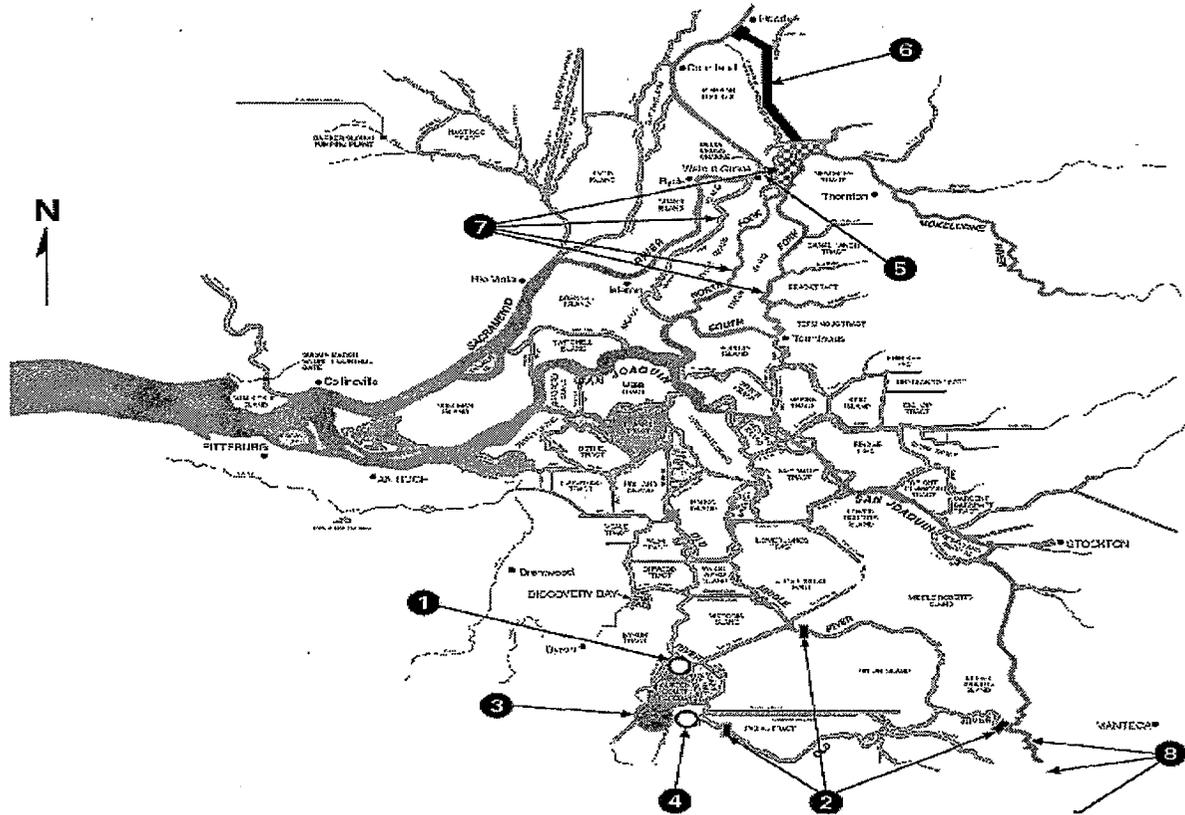


FIGURE 1 (TO BE REVISED)

1. **CCFB Intake Improvements** - Construct a new screened intake and fish-recovery facilities at Clifton Court Forebay. Modify U.S. Army Corps of Engineers restrictions on SWP operations and implement JPOD to increase the opportunity of using the full export capacity of the SWP Delta facilities.
2. **South Delta Channel Improvements** - Construct an operable barrier at the head of Old River to improve conditions for San Joaquin fall-run chinook salmon. Consistent with fishery protection, provide water of adequate quantity and quality to agricultural diverters in the south Delta through actions which may include: channel dredging, extension and screening of agricultural intakes, consolidating and screening agricultural intakes, and construction of up to three operable flow control barriers.
3. **Evaluate SWP/CVP Intertie** - Investigate feasibility of an intertie between SWP and CVP export facilities.
4. **Tracy Fish Facility and Intake Improvements** - Construct either a new screened intake at the Bureau's TFF and/or expand the new intake at CCFB to meet the Tracy Pumping Plant export capacity.
5. **Evaluate Delta Cross Channel Gate Operations** - Evaluate and improve Delta Cross Channel Gate operational criteria to balance water quality and fisheries protection.
6. **Evaluate Potential Conveyance Facility at Hood** - Evaluate a screened diversion structure on the Sacramento River at Hood (up to 4,000 cfs) to improve water quality in the event the Water Quality Program measures do not result in continuous improvement toward the CALFED drinking water goals.
7. **Habitat and Conveyance Improvements** - Restore tidal marsh and riparian habitat along Georgiana Slough and on McCormack-Williamson Tract. Construct new setback levees; dredge and/or improve existing levees in the lower Mokelumne River system to improve flood control and provide opportunities to develop wildlife and fisheries habitat along local channels.
8. **Lower San Joaquin Flood Conveyance Improvements** - Evaluate flood conveyance improvements in the lower San Joaquin River system in conjunction with wildlife and habitat opportunities. Increased flood protection may be achieved through levee setbacks and improvements while contributing to restoring ecological health of aquatic resources in the lower San Joaquin River and south Delta.

**Staging of Actions and Increased Export Capability**

Staging of certain actions allows adaptive management to improve on the overall performance of the CALFED program. Evaluations of the Delta Cross Channel Gate operations, the potential conveyance facility at Hood, the single or dual points of diversion, and San Joaquin River re-circulation are done in parallel with the Lower Mokelumne channel improvements and improvements for south Delta agricultural diverters. Evaluation of channel improvements, diversion relocations and barrier locations/operations in the south Delta will determine what can be achieved as an appropriate balance of fisheries, water quality, and water supply benefits. Improvements to the new CCFB intake are staged in 2,500 cfs increments to utilize information gathered from the Tracy Fish Test Facility. Parallel activities such as permanent implementation of JPOD, and modification of CCFB operational constraints will be evaluated. Consistent with fishery protection, increasing SWP export capacity up to 8,500 cfs upon completion of the site-specific Record of Decision for the South Delta Improvements Program currently projected for mid-2002 improves opportunities for an Environmental Water Account and/or Water Transfers. Similarly, increasing SWP export capacity up to 10,300 cfs upon completion of the initial 2500 cfs module at the proposed new intake facility currently anticipated for completion in mid 2006 expands the opportunities for an EWA and Water Transfers. Future evaluation of the intertie between the SWP and Central Valley Project facilities will provide additional information for the subsequent implementation of improvements/relocation of Tracy Pumping Plant intake.

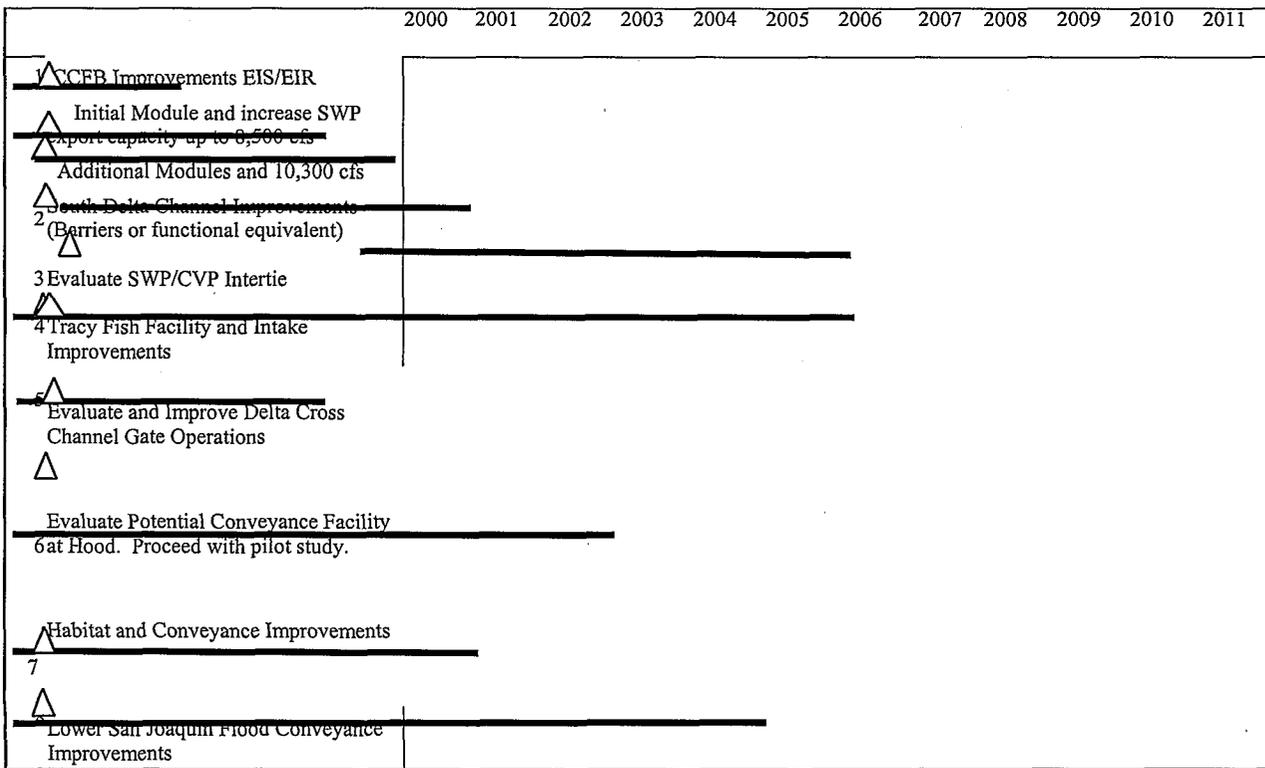
**Issues**

- Including or not including a potential conveyance facility at Hood (north Delta). Inclusion of Pilot test facility for evaluation purposes.
- Changes in the current Preferred Program Alternative, such as deletion of the potential conveyance facility at Hood, may require re-circulation of the EIR/EIS and delay adoption of the ROD 4 to 6 months.
- Continued diversions from the south Delta and use of fish salvage operations and related survival of sensitive species.
- Water quality and water availability for local water users in the south Delta.
- Timing and triggers for increasing SWP export limits from 6,680 cfs to 8,500 cfs and eventually up to 10,300 cfs.
- Linking ERP with SDI can potentially delay implementation of stage 1 actions if biological opinions for each element are not available simultaneously.
- Assurances with regard to Endangered Species Act mandated protections and accompanying water supply/quality impacts under the Bay-Delta Accord (and what will replace the Accord as part of the overall assurances package).

**Recommendations**

Support Delta conveyance actions in the Preferred Alternative, as set forth on Page 2 with the following modifications:

- a) Include all three operational agricultural barriers with the operations of the Grantline barrier specified to address fishery issues, coupled with a clear plan for developing operational measures to meet south Delta water diverter needs.
- b) Formalize interagency evaluation of Delta Cross Channel gate operations and implement alternative operations to improve water quality while protecting fishery resources.
- c) Immediately commence interagency evaluation of potential conveyance facility at Hood to develop objective criteria and a schedule for evaluating the need and performance/adequacy of a proposed screened conveyance facility at Hood. In addition, proceed with pilot study facility following DCC evaluation.
- d) Immediately commence interagency evaluation of the CVP/SWP export facility intertie.
- e) Consistent with fishery protection, increase SWP export capacity increasing SWP export capacity up to 8,500 cfs upon completion of the site-specific Record of Decision for the South Delta Improvements Program currently projected for mid-2002 improves opportunities for an Environmental Water Account and/or Water Transfers. Similarly, increasing SWP export capacity up to 10,300 cfs upon completion of the initial 2500 cfs module at the proposed new intake facility currently anticipated for completion in mid 2006 expands the opportunities for an EWA and Water Transfers.
- f) Accelerate implementation Ecosystem Restoration Plan to ensure linked implementation with South Delta Improvements does not further delay stage 1 schedule.



**DRAFT**

**For Discussion Purposes Only – March 22, 2000**

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D-058580