

Draft Discussion Paper

Assurances for Stage 1 Implementation

The August 5, 1998 draft of *Developing a Draft Preferred Alternative* included proposed actions for Stage 1 implementation of the CALFED Bay-Delta Program. Stage 1 is the seven year period commencing with the final decisions on the Programmatic EIS/EIR. **This draft includes additional text for Section 3 of *Developing a Draft Preferred Alternative* to introduce various assurance tools and mechanisms which could be used during Stage 1. In many cases, the actions proposed for Stage 1, when linked and integrated with other actions, provide assurances of implementation. In other cases, "external" assurances, such as legislation, regulations, or contracts will be needed to provide adequate assurances of implementation. Assurances options for discussion are shown in highlighted text and offset between bold horizontal bars.**

Section 3 - Stage 1 Implementation

(First seven Years Following ROD and Certification)

Stage 1 is defined as. Agreement on Stage 1 actions is only one part of the decision for a preferred program alternative.

The following pages provide more detail on potential actions for Stage 1. **The list of actions is intended as a starting point for discussions on potential Stage 1 implementation and will be refined and updated with input from CALFED agencies and stakeholders. These actions will be more fully developed as parts of the preferred program alternative for the *Revised Draft Programmatic EIS/EIR* in late 1998 and for the *Final Programmatic EIS/EIR* in late 1999.**

Adaptive management is an essential part of every program element to allow necessary adjustments as conditions change in future stages of implementation and as more is learned about the system and how it responds to restoration efforts. Consistent with the concept of adaptive management, some actions may need to be refined within the time frame of Stage 1 to reflect changing conditions or new information.

The outcome of and certain sites for Stage 1 decisions will not be known until additional

information, including need for mitigation, is available and until the options to carry out these Stage 1 proposals have undergone environmental review. Consequently, the outcome could be altered as a result of that second tier environmental review and mitigation measures imposed as a part of those actions. However, as long as the impacts from the actions in Stage 1 have been included in the Programmatic EIS/EIR, the subsequent environmental documents can tier off the Programmatic document for cumulative and long-range impacts of the Programmatic decision.

Each potential action in the following Stage 1 list includes an estimate (in parenthesis) of when the action may occur within Stage 1. For example, "(yr 1)" indicates the action is expected to occur in the first year following the final decisions on the EIS/EIR.

Assurances & Institutional Arrangements

An assurances package is a set of actions and mechanisms to assure that the Program will be implemented and operated as agreed. The assurances package will include mechanisms to be adopted immediately as well as a contingency process to address situations where a key element of the plan cannot be implemented as agreed. While the principles for the assurances package will be substantially complete before beginning Stage 1, many details remain to be finalized early in Stage 1 after the federal ROD and the state Certification.

The assurances package will be an integral part of the implementation plan and will include program-wide and element-specific assurances. Assurances in Stage 1 are in many cases provided in the way that actions have been selected and proposed for implementation, and by linkage and integration with other Stage 1 actions. Assurances will also be provided by the use of such tools as the conservation strategy, the programmatic permitting and approval process, conditional decision making, and a contingency response process.

Some of the major program-wide assurance issues to be addressed in Stage 1 are:

1. Program implementation oversight and coordination
2. Formation, structure, governance, purposes and powers of the entity to manage and implement the Ecosystem Restoration Plan (ERP)
3. Protection of water rights and area of origin priorities
4. Protection of environmental baseline conditions
5. The level of stakeholders' involvement in implementation
6. Changes to Central Valley Project (CVP) and State Water Project (SWP) operating criteria and Delta water quality requirements

A brief summary of element specific assurances follows each discussion of the program element. In Stage 1 the following steps will be taken to develop the assurances package:

1. Complete programmatic implementation plan (yr 1)
2. Finalize coordination among agencies or new entity (yr 1-3); e.g., provide for ecosystem restoration authority within the individual CALFED agencies or in a new organization with responsibility for ecosystem restoration
3. Refine conservation strategy (yr 1-3); e.g., incidental take will be provided, where necessary, for those actions identified in the ROD to be completed during Stage 1
4. Recommend legislation, if necessary, to implement new institutional arrangements or facilitate program implementation (yr 2-3); e.g., legislation to create a new entity or legislation to modify water transfer law and statutes to facilitate an appropriately protective water transfer framework recognizing law that may exist at that time
5. Incorporate the final State Board's water rights decision for allocation of responsibility to meet flow requirements for Water Quality Control Plan 95-IWR (May 1995) in water transfer and operational rules
6. Implement a CALFED environmental documentation and permit coordination process (yr 1-7)
7. Implement and revise contingency response as needed (yr 1-7)

Finance

The financial package will seek to finance the preferred program alternative, including needed mitigation, through a combination of federal, state, and user funds. This financing will continue over several decades as the various parts of the preferred program alternative are implemented, operated, and maintained. Stage 1 establishes the financial package for use in all stages.

1. Establish reliable short-term and long-term funding for each program element (1-7)
 - Finalize cost-share agreements (yr 1)
 - Finalize user fees (yr 1)
 - Seek federal authorization/appropriation and seek authority to sell state bonds (yr 1-7)

Assurances - The finance plan itself provides significant assurances that the Program will be implemented as agreed. Assurances that the financing plan will operate as agreed will be addressed by cost-sharing agreements, state and federal appropriations and related legislation, and provisions in state bond measures.

Monitoring, Research, and Adaptive Management

Establish monitoring for all program elements that focuses on obtaining data on a timely basis, providing interpretation of data, and maintaining data in an accessible and useful form. The monitoring, assessment of data, and resultant need for adaptive management are required throughout the CALFED Bay-Delta Program. The first stage refines the monitoring system and procedures which will continue in subsequent stages.

1. Refine monitoring plan (CMARP) including all elements of the Program (yr 1)
2. Define adaptive management process for making adjustments as better information becomes available, including who makes future decisions, for all elements of the Program (yr 1); e.g., define triggers and time periods necessary for deciding need for change in management direction
3. Implement baseline monitoring plan under direction of a single umbrella entity as defined in CMARP with linkage to adaptive management process and provision for stakeholder input but provide for responsible agencies to conduct additional monitoring to meet their obligations in the event that needs cannot be met by baseline monitoring plan (yr 1-7)
4. Annual reports on status/progress and need for adjustments (yr 1-7)
5. Analysis of status and need for adjustments of actions for stage 2 (yr 5-7)
6. Provide input to assist adaptive management in program elements (yr 1-7); e.g., adaptive management for ecosystem restoration and water quality
7. Complete monitoring studies identified by diversion effects on fisheries team to provide feedback on actual diversion effects of south Delta pumps (yr 2-7)
8. Provide available data on need to reduce bromides, total dissolved solids, total organic carbon, pesticides and heavy metals (yr 5)
9. Provide available data on water quality in south Delta and lower San Joaquin River (yr 1-7)

Assurances - The monitoring program can provide assurances that the ERP in particular achieves its performance measures and/or that the data necessary for adaptive management decision making is available.

Water Transfer Framework

The water transfer framework is designed to facilitate the water transfer process while protecting water rights and legal users of water and addressing and avoiding or mitigating other third-party impacts and local groundwater or environmental impacts. This element will propose

a policy framework for water transfer rules, baseline data collection, public disclosure, and analysis and monitoring of water transfers, both short- and long-term. The first stage implements the processes which will continue in subsequent stages.

1. Establish water transfer clearinghouse to ensure public participation, disclose information, and monitor actual transfer impacts (yr 1)
2. Continue clearinghouse functions to provide information on environmental, economic and water resource protections (yr 2-7); e.g., third- party impacts, groundwater resource protection, instream flow [1707] transfers, and environmental protection in source areas
3. Coordinate with SWRCB, DWR, and USBR to formulate policy, under their existing authorities, for required water transfers analyses (yr 1)
4. Refine technical, operational, and administrative rules that govern water transfer transactions for all uses (yr 1-4); e.g., area of origin/watershed priorities, rules/guidelines for environmental water transfers, transferable water and the "no injury rule", operations criteria and/or carriage water requirements, reservoir refill criteria, and streamlined permitting process
5. Refine disclosure process that provides information regarding potential access to state and federal water facilities for movement of water transfers (yr 2); e.g. forecast opportunities to transfer water in existing project facilities, priority of transferred water in new facilities, and wheeling and power costs
6. Resolve allocation of available transfer capacity (yr 1)
7. Develop rules for allocation of wheeling and power costs in state and Federal conveyance facilities in compliance with CALFED "beneficiary pays" principle (yr 1)

Assurances - There are two aspects to assurance issues for water transfers. Upstream and area of origin interests want an assurance that water transfers will not operate to their detriment, e.g., loss of water rights or adverse environmental and socio-economic impacts. The clearinghouse is one assurance CALFED can offer to these interests, if it is set up so that it can provide public disclosure of transfer analysis and impacts. Legislation will be required to create the clearinghouse and define its function.

Exporters and environmental interests want some assurance that water transfers will be reliable sources of supplemental supply. Such assurance can be provided by resolving, prior to or during Stage I, the issues related to the definition of transferable water and other operational questions, by developing rules and/or a process for protection of transferred water to the point of delivery, and by providing reliable access to wheeling and storage facilities. Most of these issues can be resolved by policy decisions at the CALFED level, in cooperation with stakeholder interests.

Water Use Efficiency

The CALFED water use efficiency element focuses on formulation of policies which support implementation of efficiency measures at the local and regional level. The role of CALFED agencies in water use efficiency will be twofold. First, they will offer support and incentives through expanded programs to provide planning, technical, and financial assistance. Second, the CALFED agencies will provide assurances that cost-effective efficiency measures are implemented. The first stage implements the processes which will continue in subsequent stages. For a summary of stakeholder concerns including water use efficiency see page 14.

1. Expand DWR and USBR programs to provide technical and planning assistance to local agencies and explore new ways of developing assistance and involving other CALFED agencies (yr 1-7)
2. Develop mechanisms for approval authority for urban water management plans (yr 1-3); e.g., approved plans would be a condition for urban areas receiving CALFED benefits
3. Implement urban MOU process fully with certification of agency implementation plans (yr 3-7)
4. Implement the Agricultural Water Management Council (AB 3616) process fully with endorsement of agency plans under AB3616 and CVPIA (provided that the Council achieves broad stakeholder support) (yr 1-7); e.g., rely on Council to endorse plans of signatory member agencies as condition for receiving CALFED benefits; explore additional ways to build consensus on the process
5. Seek resolution to legal, institutional, and funding limitations for agricultural and urban water recycling (yr 1-3)
6. Participate in conservation and water recycling projects (yr 3-7); e.g., preferential funding assistance for projects providing multiple CALFED benefits such as agricultural tail water recycling which could benefit fish by reducing diversions, reduce pollutant loading, etc.
7. Implement a methodology for refuge water management, including preparation of an *Effective Water Use Plan* and annual reports by each refuge manager (yr 1-7). Consistent with assurance mechanisms for urban and agricultural water users, access to CALFED benefits will be contingent upon continued implementation of the *Effective Water Use Plan* (yr 1-7).

Assurances - Assurances for the water user efficiency element will be provided by incentive and assistance programs to encourage water conservation. The funds necessary to implement these programs will be provided by appropriations, bonds or user fees. Such programs would be administered by DWR, USBR or the ERP manager.

Any water user receiving benefits from the CALFED Bay-Delta Program will be required to meet the applicable urban, agricultural or refuge water conservation measures and must be so certified by the appropriate authority or agency.

If, after two years from certification of the Programmatic EIR/EIS, local agencies do not have certified conservation plans, they will lose eligibility for financial incentives or technical assistance programs. Failure to meet the applicable conservation requirements could also result in denial of access to facilities for transfers. In some cases, there may be existing legal authority for imposition of a penalty added to the cost of water, or for a reduction in the amount of water delivered. As an additional assurance, if after two years a sufficient percentage of water agencies have not voluntarily met the conservation standards and targets, state legislation would make those standards mandatory.

Construction and operation of new storage facilities would be linked to an agreed upon level of compliance with water management standards. This condition would be incorporated into any bond or appropriations language providing funding for studies of new facilities.

Levees

The focus of the long-term levee protection element of the Program is to reduce the risk to land use and associated economic activities, water supply, infrastructure, and the ecosystem from catastrophic breaching of Delta levees. Levee protection is an ongoing effort which consists of:

- *Base-level funding to provide distributed funding to participating local agencies*
- *Funding of special improvement projects for habitat and levee stabilization to augment the base-level funding*
- *Grant projects to develop best management practices for subsidence control*
- *An advanced measures plan and emergency management plan to more effectively plan for and deal with potential levee disasters*
- *A seismic risk assessment to evaluate performance of the existing levee system during seismic events*

The first stage begins the decades-long process to improve reliability of Delta levees.

1. Develop and implement an outreach, coordination, and partnering program with local landowners including individuals, Reclamation Districts, Resource Conservation Districts, Water Authorities, irrigation districts, Farm Bureaus, etc. to assure participation in planning design, implementation, and management of levee projects
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 would develop into a long-term Delta levee reconstruction program and the state would be the local cost-sharing partner
4. Maintain current federal cost-sharing of 65% and establish state and local cost-sharing percentages for all Program work (yr 1)
5. Conduct project level environmental documentation and obtain appropriate permits (yr 1-7)
6. Implement demonstration projects for levee designs that minimize the need for continuous disruption of habitat from levee maintenance and minimize the need for ongoing mitigation from disrupted habitat (yr 1-7)
7. Coordinate Delta levee improvements with ecosystem improvements (yr 1-7); e.g., coordinate improvements, modify maintenance manuals as appropriate to accommodate ERP actions near levees, separately track levee mitigation costs and ERP costs
8. Fund levee improvements up to PL84-99, approximately \$114 million [\$74 million during years 1 through 5 and \$40 million during years 6 through 7] in first stage (yr 1-7); e.g., proportionally distribute available funds to entities making application for cost sharing of Delta levee improvements
9. Further improve levees which have significant statewide benefits, approximately \$82 million [\$58 million during years 1 through 5 and \$24 million during years 6 through 7] in first stage (yr 1-7) ; e.g., statewide benefits to water quality, highways, etc.
10. Coordinate Delta levee improvements with Stage 1 water conveyance improvements and with potential conveyance improvements in subsequent stages (yr 1-7)
11. Institute Advanced Measures Plan and Emergency Management Plan (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 an emergency
12. Initiate a subsidence control program to develop and implement BMP's for lands adjacent to levees, approximately \$11 million for Stage 1 (yr 1-7)
13. Continue evaluation of seismic risk to integrity of the levee system and effective ways to mitigate that risk (yr 1-7)

Assurances - An interagency emergency response program would be created and administered by DWR to assure timely response in the event of emergency conditions. The program would define protocols to follow in the event of levee(s) failures and assure that initial funding and necessary equipment would be available in a timely manner. This may require legislation.

DWR would administer funds for ongoing levee maintenance enabling all local districts to attain PL 84-99 standards. Any needed improvements on critical western delta islands would be completed prior to construction of an isolated Delta conveyance facility if that contingent strategy were to be implemented sometime after Stage 1. The levee program will be supported by bonds or user fees, in addition to appropriations provided by legislation.

Levee improvements will be closely linked and coordinated with ERP. An ESA Section 7 consultation or HCP/NCCP would provide protection of endangered species during levee maintenance, and would in turn provide assurances ("safe harbor") to the levee owner regarding the conditions under which maintenance could occur. This may be covered in the Conservation Strategy.

Ecosystem Restoration

The CALFED ecosystem restoration program (ERP) is designed to improve and increase aquatic and terrestrial habitats and improve ecological functions in the Bay-Delta to support sustainable populations of diverse and valuable plant and animal species. A foundation of this program element is the restoration of ecological processes associated with streamflow, stream channels, watersheds, and floodplains. Implementation of the ERP over the 20 to 30 year implementation period will be guided through the Ecosystem Restoration Strategic Plan. The Strategic Plan will establish an adaptive management framework that translates goals, objectives, and principles into actions. ERP goals and objectives for ecosystem, habitat, and species rehabilitation are designed to produce measurable and progressive improvements to the Bay-Delta ecosystem that should result in a high level of ecosystem health and species recovery that exceeds existing regulatory requirements while continuing to allow beneficial uses of the Bay-Delta Ecosystem. The Stage 1 restoration efforts are structured to accomplish significant improvement in Bay-Delta ecological health through a large scale adaptive management approach in which the actions inform management decisions in later stages of implementation.

Success of ERP Stage 1 actions is also critically dependent on other program elements, including water quality improvement actions throughout the Bay-Delta watershed, levee integrity actions in the Delta, and integration with a watershed management strategy and a water transfers market. The priorities for restoration activities will be first on existing public lands as

appropriate, second on acquisition of easements, and third on acquisition of fee title as necessary to achieve program objectives. Acquisition will be on a willing seller basis and with emphasis on local coordination and partnerships.

1. Develop and implement an outreach, coordination, and partnering program with local landowners including individuals, Reclamation Districts, Resource Conservation Districts, Water Authorities, irrigation districts, Farm Bureaus, etc. to assure participation in planning design, implementation, and management of ERP projects.
2. Project level environmental documentation and permitting as needed (yr 1-7)
3. Full coordination with other ongoing activities which address ecosystem restoration in the Bay-Delta system (yr 1-7); e.g., CVPIA, Four Pumps Agreement, etc.
4. Restore three major habitat corridors in the Delta (Yolo Bypass, Mokelumne, and San Joaquin - approximately 25,000 acres) with a mosaic of habitat types to improve ecological function and facilitate recovery of endangered species (yr 1-7)
5. Implement three large-scale, whole-stream restoration adaptive management (pilot) projects to inform Stage 2 decisions. Each pilot project will be structured according to adaptive management methodologies and monitored and evaluated to determine the ecosystem response throughout the Bay-Delta landscape.
 - Select three streams that meet adaptive management testing criteria (possibly Clear Creek, Deer Creek, and Tuolumne River) and implement all long-term restoration measures in the ERPP to determine the effectiveness of similar restoration for other streams in Stage II
 - Coordinate stream restoration with the watershed management common program strategy
6. Develop an ecosystem water market (potentially \$20 million per year) (yr 1-7); e.g., acquire 100,000 acre-feet of water for critical ecosystem and species recovery needs
7. Pursue focused research to resolve the high priority issues and uncertainties associated with instream flow, exotic organisms, Bay-Delta food web dynamics, and other issues to inform the adaptive management process and make critical decisions in Stage 2 (yr 1-7)
8. Establish partnerships with universities for focused research
9. Complete the remaining 60% of the easements and/or acquisition for the Sacramento River meander corridor [approximately \$30 million required] (yr 1-7).
10. Acquire flood plain easements, consistent with ecosystem needs, along San Joaquin River (yr 4-7); e.g., there may be more opportunities for easements if Corps of Engineers proceeds with flood plan
11. Continue high priority actions that reduce stressors of direct mortality to fishes (yr 1-7):
 - Aggressively screen existing unscreened or poorly screened diversion on

- the Sacramento River, San Joaquin River, and tributary streams
- Remove select physical barriers to fish passage
- 12. Continue gravel management (yr 5-7); e.g., isolate gravel pits on San Joaquin River tributaries and relocate gravel operations on Sacramento River tributaries (most gravel work would be implemented in subsequent stages with designs and plans for ecosystem reclamation of gravel mining sites)
- 13. Improve research, monitoring, detection, and control of exotic species (yr 1-7); e.g., border inspections, balanced management, water hyacinth control, funded early response
 - Implement invasive plant management program in Cache Creek
 - Develop ballast water management program
- 14. Continue scientific evaluations (yr 1-7); e.g., evaluation of instream flow needs
- 15. Explore ways to provide incremental improvements in ecosystem values throughout the Bay-Delta system in addition to habitat corridors described above (yr 1-7); e.g., pursue actions that are opportunity-based (willing sellers, funding, permitting, etc.), provide incremental improvements on private land through incentives, develop partnerships with farmers on “environmentally friendly” agricultural practices, etc.
- 16. Incorporate ecosystem improvements with levee associated subsidence reversal plans (yr 1-7)

Assurances - For many stakeholders, the major assurance issue surrounding the implementation of the ERP is the question of how and by whom the program is managed and governed. There appears to be general agreement that, whatever the form of the management entity, the manager of the ERP should be able to perform the following functions:

- a. Buy and sell water and property through purchase, lease, etc
- b. Develop and participate in incentive programs and market transactions
- c. Contract with private parties and public agencies for project implementation
- d. Obtain funding from public and private sources for projects and programs

The ERP manager should also be able to function in the context of adaptive management. This will require a clear articulation of the process for decision making on ERP actions, priorities and funding. Some of the assumptions regarding adaptive management are that ERP vision statements and goals are fixed; that ERP implementation objectives and targets may only be changed under certain circumstances (to be determined); and that discretion over implementation of actions remains solely with the ERP manager.

Given these assumptions about function and adaptive management, many stakeholder groups and participants of the Assurances Work Group believe that it would be advantageous to have a new entity (probably a new public agency or conservancy/trust) whose sole purpose is ERP implementation. State and federal legislation would be required to establish a new public agency, trust or conservancy to implement the ERP, including the adaptive management plan, and to manage water allocated for environmental purposes. This concept is discussed in more detail in a separate document.

Another major issue for ERP implementation is financing. Through a combination of federal and state appropriations, Proposition 204, local agency contributions to Category III projects, CVPIA Restoration Fund, and other funds such as Four Pumps, there may be in excess of \$1 Billion available for ERP actions over the next 10 to 15 years. However, many participants in the CALFED process believe that additional funding may be necessary. Three distinct options for ERP funding have been identified, and the financing plan will probably include some combination of these.

- **User fees** - Most CALFED participants believe that long term funding outside of the scope of the annual state and federal budget process is necessary. One option under consideration is the levy of fees on water users and other users (power, recreational, fisheries) within the delta watershed, to partially fund ecosystem restoration. Such fees could be linked to the timely completion of water supply facilities in order to link the ecosystem restoration program and the water supply reliability program's success. The linkage would work in both directions, i.e. progress on facilities permitting and construction would be conditioned on continued funding of ERP, and continued implementation of ERP would be conditioned on progress in permitting and constructing facilities.
- **Federal and state appropriations** - Another option for funding ERP implementation is to seek legislation authorizing state or federal funds. A related option is to authorize the continuous appropriation of the CVPIA Restoration Funds to be used for ERP.
- **Bonds** - Another option is general obligations bonds, similar to Proposition 204.

Another major issue for ERP implementation is to ensure that a secure supply of water for environmental and instream purposes is available. While distinct options can be identified to do this, the most success will likely be achieved by a combination of these.

- Federal legislation to amend CVPIA - One method to secure water for the ERP is to seek legislation assigning at least some of the 800,000 acre feet of fish and wildlife water provided by Section 3406(b)(2) of the CVPIA to the ERP manager. This water would become a contractual entitlement of the ERP manager.
- Water rights under state law - Another option would be to modify state water rights law to allow the ERP manager to acquire instream water rights. (Water Code section 1707 allows instream transfers, but does not provide for an actual instream water right.)
- Transfer market access - The ERP manager will also need to be able to access water markets in order to augment baseline instream flows. Thus, the ERP manager will need sufficient funds to participate in the market.

The ERP Implementation Plan will provide for an independent scientific review process to assess the progress of restoration and monitoring actions, as well as the status of planning efforts for future actions. Scientific peer review will help ensure durable and effective adaptive management of the ERP. The review panel will prepare a report annually recording their findings and recommendations. This peer review group will advise and consult with the ecosystem manager on issues within its purview.

Depending on the level of stakeholder involvement provided at the CALFED program oversight level and in the ERP management entity itself, a citizens advisory committee may be desired to advise and consult on implementation of the ERP. The committee would provide advice to the ecosystem restoration manager on implementation, monitoring and planning.

The ERP adaptive management plan will include a set of objective performance measures (narrative or numerical) which will be used as benchmarks or checkpoints for gauging the success or failure of a specific action. Performance measures can be defined by whether a particular ecological indicator is achieved within a reasonable period of time, or by whether a specific action or set of actions is implemented within a certain period of time. If the ERP is not achieving the desired performance measures, other program actions can be delayed or deferred until remedial action is taken.

After some agreed upon period of time or after achieving agreed upon performance objectives, the CALFED agencies and the ecosystem manager will propose revisions to the Bay Delta Water Quality Control Plan (WQCP) which would include environmental water quality and outflow requirements. The proposed revisions may include revised operational rules for existing delta facilities. When new facilities become operational, CALFED and the ecosystem manager may propose further revisions to the WQCP.

ERP implementation will be linked to levee restoration projects and to construction of water supply facilities. For example, permit work, construction and/or operation of an isolated facility (in the event that contingent strategy were to be implemented) might be conditioned on achieving agreed upon performance objectives of the ERP. Similarly, continued funding of the ERP may be linked to adequate progress on achieving improvements in water supply reliability.

Water Quality

The water quality program will consist of a wide variety of actions to provide good water quality for environmental, agricultural, drinking water, industrial, and recreational beneficial uses of water. The majority of current water quality actions rely on comprehensive monitoring, assessment, and research to improve understanding of effective water quality management and on the ultimate control of water quality problems at their sources. The Stage 1 water quality effort focuses on reducing constituents contributing toxicity to the ecosystem and affecting water users.

1. Project level environmental documentation and permitting as needed (yr 1-7)
2. Support ongoing (Department of Pesticide Regulation/State Water Resource Control Board MAA, the SWRCB nonpoint source Program, etc.) and develop new educational programs relating to urban and agricultural runoff (yr 2-7); e.g., point-of-sale literature packaged with pesticide and herbicide materials, educate applicators on proper use of pesticides and herbicides, etc.
3. Initiate high priority water quality improvement actions (yr 1-7); e.g. for mercury, copper, selenium, pesticides, organic carbon, and improved salt management from agricultural drainage (including constituents such as bromide).
4. Studies/testing/pilot evaluations (yr 1-7); e.g., research Cache Creek mercury issues including habitat restoration potential for contributions to methyl mercury formation, research ecological effects of toxicants, research impacts of ecosystem restoration on organic carbon, research on reducing impacts of agricultural and urban discharges, conduct field level selenium exposure response studies
5. Implementation (and continued refinement) of needed actions based on results of the studies/testing/pilot evaluations (yr 3-7)

6. Continue to clarify use of and fine-tune water quality performance targets and goals (yr 1-7)
7. Participate in toxic site remediation if federal "Good Samaritan" protections are obtained (yr 3-7)
8. 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
9. Develop a plan sufficient to meet forthcoming EPA and Department of Health Services standards for bromide (by yr 7)

Assurances - The Stage 1 water quality programs and actions, such as source control/land retirement, can be funded by annual appropriations, bond proceeds, user fees or some combination thereof. The precise combination will be an issue for negotiation among the stakeholders and the CALFED agencies during Stage 1.

Watershed Program

The watershed program is designed to provide for coordination and integration of existing and future local watershed programs and to provide technical assistance and funding for watershed activities relevant to achieving the goals and objectives of the CALFED Bay-Delta Program. The watershed program encompasses all natural watersheds to the Bay-Delta system. The actions during Stage 1 are a mix of watershed coordination activities and demonstration projects designed to show benefits to the Bay-Delta system.

1. Implement an outreach, coordination, and partnering program with local watershed groups including landowners, Resource Conservation Districts and watershed councils (yrs 1-7)
2. Provide watershed stewardship funds to local watershed groups (yrs 1-7)
3. Fund existing watershed clearinghouse functions to ensure public participation, disclose information, and monitor watershed projects (yrs 1-7)
4. Implement watershed restoration activities and/or demonstration projects, including those in the upper watershed, which demonstrate a benefit to restoring the Bay-Delta system (yrs 1-7)
5. Implement project level environmental documentation and permitting as needed (yrs 1-7)
6. Pursue and fund focused research to resolve the high priority issues and uncertainties associated with watershed restoration (yrs 1-7)
7. Develop and refine watershed conceptual models to quantify economic and non-economic benefits that accrue from watershed management or restoration

- activities (yr 1-3)
8. Establish and fund a watershed restoration project review panel to assist local watershed groups and private landowners in restoration project concept, design, and implementation (yrs 1-7)
 9. Fund coordination with other CALFED and non-CALFED programs on watershed related activities (yrs 1-7)

Assurances - The basic assurance need is for secured funding for locally managed watershed programs and projects. Funding will be included in CALFED bonds and/or appropriations.

Storage

New storage will be included in the preferred program alternative. Storage of water in surface reservoirs and groundwater basins can provide opportunities to improve the timing and availability of water for all uses when conditions (see pages 13 and 14) for implementation are satisfied.

South-of-Delta Groundwater Banking and Conjunctive Use - *This requires coordination with local agencies. This first stage includes construction of several projects. Additional 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. Provide funding assistance for groundwater plan development (yr 1-7)
3. Identify potential projects and local cooperating entities and define CALFED role (yr 1-3)
4. Conduct baseline monitoring and modeling (yr 1-5)
5. Conduct field and pilot studies (yr 2-7)
6. Project environmental documentation and permitting (yr 3-7)
7. Project design (yr 4-7)
8. Conduct demonstration projects and construct two to three production 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
9. Study additional potential project sites (yr 2-7)

North of Delta Groundwater Banking and Conjunctive Use - *This is primarily a coordination effort with local implementing entities but could include some public projects. This first stage includes investigations for coordination with new regional*

surface storage. 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. Provide funding assistance for groundwater plan development (yr 1-7)
3. Identify potential projects and local cooperating entities and define CALFED role (yr 1-3)
4. Initiate baseline monitoring and modeling (yr 1-7)
5. Initiate field and pilot studies (yr 2-7)
6. Project environmental documentation and permitting (yr 3-7)
7. Project design (yr 4-7)

Surface Storage - *Surface storage could be constructed upstream of the Delta, in or near the Delta, and/or storage filled by diversions through the Delta-Mendota Canal or the California Aqueduct. Depending on the amount of storage needed, new offstream storage and/or expansion of existing onstream reservoirs could add up to several million acre-feet of new storage. The first stage consists primarily of studies and evaluations necessary for permitting. This will allow surface storage projects to be ready for construction when the projects are selected for implementation. For a summary of stakeholder concerns including surface storage see page 9.*

1. Identify local cooperating entities and CALFED role (yr 1-3)
2. Environmental documentation (yr 1-5)
3. Feasibility studies (yr 1-5)
4. Field and pilot studies (yr 1-5)
5. 404(b)(1) analyses: project site screening, least cost evaluations, and equivalency analyses (yr 1-5)
6. Site selection (yr 4-5)
7. Evaluate improvements to potential conveyance to storage (yr 1-5)
8. Permits and operating agreements (yr 5-7)
9. Begin construction if predefined conditions and linkages are satisfied (yr 6-7)

Conveyance

The conveyance element describes three configurations of Delta channels and related facilities for moving water through the Delta and to the major export facilities in the southern Delta:

- *The Delta channels are maintained essentially in their current configuration with some improvements in the southern Delta.*
- *Significant improvements to northern Delta channels would accompany the southern Delta improvements contemplated under the existing system conveyance above.*
- *The contingent strategy of the dual Delta conveyance is formed around a combination of modified Delta channels and a new canal or pipeline connecting the Sacramento River in the northern Delta to the SWP and CVP export facilities in the southern Delta.*

Much of the first stage consists of studies and evaluations of the major conveyance features. This will allow conveyance projects to be ready for permitting and construction in later stages should the projects be necessary to meet Program objectives. Some construction of improvements in the south and north Delta could occur within the first stage to improve conditions for ecosystem and water management reliability.

South Delta Improvements - *South Delta improvements consist of methods to control flow, stage and circulation, improve fish passage, fish screen and salvage facilities, and provide SWP/CVP interties upstream and downstream of the export pumps. South Delta conveyance improvements included in Stage 1 would function with either the primary or contingent conveyance strategy.*

1. Complete environmental documentation and permitting including 404(b)(1) analysis (yr 1-2)
2. Design south Delta improvements (yr 1); among others, such improvements could include:
 - Operable Old River fish barrier
 - Three south Delta waterway control structures
 - Clifton Court Forebay intake structure
 - Channel enlargement along Old River
 - Modified operation rules
3. Implement south Delta improvements [balanced to improve water supply and environmental conditions] (yr 2-4)
4. Implement an intertie between the Delta-Mendota Canal (at approximately Mile 8) and California Aqueduct downstream of export pumps (yr 2-4)
5. Construct fish screen demonstration project [full module of approximately 2500 cfs] for Tracy Pumping Plant (yr 1)

6. Convert fish screen demonstration project at Tracy Pumping Plant to production facility and expand capacity if appropriate (yr 4-6)
7. Implement first increment of new south Delta screening [full module at north end of Clifton Court Forebay] (yr 2-6)
8. Evaluate (and/or pilot test) benefits/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 enhancement (yr 1-4)
9. Project environmental documentation and permitting for SWP/CVP intertie (yr 2-4)
10. Design SWP/CVP intertie upstream of export pumps [tie Tracy Pumping Plant to Clifton Court Forebay] (yr 5-6)

North Delta Improvements - *North Delta improvements consist of a new screened diversion and significant channel modifications including setback levees. The screened diversion and associated channels may be implemented in modular stages in order to resolve technical screening and fish passage issues at the appropriate scale. Stage 1 will focus on studies and design prior to construction. Select channel improvements may be constructed but the majority of the improvements, if any are selected, will be constructed in Stage 2. These through Delta improvements are the primary conveyance strategy of the preferred program alternative. However, a contingent strategy with dual Delta conveyance [through Delta with some isolated conveyance capacity] is maintained in case through Delta conveyance does not meet Program goals.*

1. Project environmental documentation (yr 1-5)
2. Feasibility studies for screened diversion and fish passage facilities, channel modifications, and habitat improvements (yr 1-5)
3. Field and pilot studies (yr 1-5)
4. Environmental documentation for land acquisition (yr 2-3)
5. Land acquisition (yr 4-6)
6. 404(b)(1) analyses; project site screening (yr 1-6)
7. Permits and operating agreements (yr 4-6)
8. Design of selected improvements (yr 4-6)
9. Construct selected improvements (yr 7)
10. Pilot studies for dredge material reuse (yr 1-7)

Isolated Facility - *The isolated facility consists of a new canal or pipeline connecting the Sacramento River in the northern Delta to the SWP and CVP export facilities in the southern Delta. CALFED is retaining the dual Delta conveyance with an isolated facility as a contingent strategy. However, as mentioned above, dual Delta conveyance will only be implemented if through Delta improvements do not meet Program goals and solution principles. The following Stage 1 actions provide progress on initial studies in case the isolated facility is found necessary to meet CALFED objectives. For a summary of*

stakeholder concerns including water use efficiency see page 8.

1. Project environmental documentation (1-7)
2. Feasibility studies (yr 1-6)
3. Field and pilot studies (yr 1-6)
4. 404(b)(1) analyses; project site screening (yr 1-6)
5. Assess right-of-way issues that could impact CALFED's ability to maintain a viable contingency for a potential future habitat corridor and facility right-of-way (yr 2-7)

Assurances for Storage and Conveyance - Stage 1 will not include actual construction of new surface storage or conveyance facilities. Thus, the assurance issues deal with the planning and permitting process for new facilities. Assurances are provided primarily by implementation timing, linkages and the "conditional" decision making process. There are two aspects to facilities assurances: first, water users want assurance that facilities, if agreed upon, will in fact be constructed and operated as planned; second, Delta, upstream and environmental interests want assurances that new facilities, if constructed, will not be operated to their detriment.

If new facilities are constructed, costs must be allocated among the parties. The actual cost sharing agreements will be worked out during Stage 1. Generally, the guiding principle will be that those who benefit from new facilities will pay for them.

Project operators, water users, and exporters are concerned that CVP and SWP operations not be unreasonably constrained in the future by new ESA regulatory requirements. If the ERP and the Conservation Strategy provide a sufficient level of environmental protection, restoration and operational flexibility, CALFED may be able to provide some level of regulatory certainty to water users that new ESA listings or other regulatory constraints will not further water supply reliability. This issue will also have to be resolved during Stage 1.

Implementation of improvements in water supply reliability will be linked to achievements in other parts of the program. For example, permits and approvals for an isolated conveyance facility in the Delta could be conditional on funding of common program elements at a specified level; and/or achievement of agreed upon milestones or benchmarks for common program elements (e.g., water quality objectives, water use efficiency criteria, miles of levee improvements, establishment and operation of a successful fish recovery monitoring program, etc.).

Water rights and area of origin priorities must not be impaired by development of new storage and conveyance facilities. During Stage 1, such assurances can be developed, e.g.:

- a. Conditions on water rights for new facilities.
- b. Rules for wheeling water through the state and federal facilities to minimize third party and environmental impacts.
- c. Rules for conjunctive use programs including provisions minimizing third party and environmental impacts.
- d. Dedication of a portion of new storage capacity to upstream uses (areas of origin).

The critical assurance issues for successful implementation of new conjunctive use programs are local control, protection of water rights and protection of area of origin priorities.
