

TABLE OF CONTENTS

1. Agenda and Workshop Information
2. Case Study
3. Assurance Alternatives 1-5
4. Background Materials
 - a. *Program Components*
 - b. *Stakeholder Concerns*
 - c. *Assurance Needs and Issues*
 - d. *Assurance Tools*
 - e. *Guidelines*

REQUEST FOR RSVP

In order to facilitate assignments to break-out sessions, we are requesting that workshop participants make a reservation. Call Valerie Kuntze, CALFED Bay-Delta Program, at (916) 657-2666, and give your name and the organization or constituency you represent. A reservation is not required to attend the workshop.

WORKSHOP AGENDA

ASSURANCES FOR PHASE II

Thursday, May 15, 1997
Capitol Plaza - 1025 Ninth Street
Temple Ballroom - Third Floor
Sacramento, California

- 1:00 p.m.** **Registration**
- 1:30 p.m.** **Welcome and Introductions (Lester Snow)**
- Overview of Assurances Development Process (Mary Scoonover)**
- Instructions for Breakout Sessions**
- Break**
- 2:45 p.m.** **Breakout Sessions (Session Leaders and Facilitators)**
- Break**
- 4:30 p.m.** **Summarize Breakout Sessions and Next Steps (Lester Snow, Mary Scoonover)**
- 5:00 p.m.** **Adjourn**

WORKSHOP PURPOSE

This workshop will explain what assurances mean to the CALFED Bay-Delta Program and the process being used to develop management structures, implementation measures and tools (assurances) to ensure that the long-term solution is implemented and operated as agreed. The specific purpose of the workshop is to identify interested stakeholders and constituents, review the preliminary assurance alternatives and assess how well the assurance alternatives address the stakeholders' concerns.

Your participation is very important to ensure the CALFED Bay-Delta Program develops assurances that, as much as possible, address stakeholder concerns and help the long-term solution meet the solution principles and assurance guidelines.

GROUND RULES FOR PARTICIPATION

To help everyone participate, we propose using the following ground rules to facilitate discussions:

- Recognize the time constraints of the session and phrase comments as clearly and concisely as possible.
- Everyone participates; no person or interest group dominates discussion.
- Respect the views of others.
- Participation is constructive; offer more than complaints.
- Participants should comment or ask questions only when called upon by the meeting leader or facilitator.

BREAKOUT SESSIONS

Format

Each breakout group will discuss two alternatives. To help ensure each session group has balanced stakeholder participation, we are requesting that workshop participants make a reservation by calling Valerie Kuntze, CALFED Bay-Delta Program office, (916) 657-2666. Give your name and the organization or constituency you represent.

CALFED Program staff are seeking in-depth comments from you about the assurance alternatives. After considering the material in this packet, please plan to actively participate in a breakout session. The expected outcomes from the sessions are: (1) an assessment of how well individual assurance alternatives address stakeholder concerns, the CALFED solution principles and guidelines; and (2) suggestions for improving the alternatives.

Breakout Session Agenda

- | | |
|------------------|--|
| 2:45 p.m. | Introductions (Session Leader) |
| 3:00 p.m. | Discuss and Assess Assurance Alternatives (Facilitator) |
| 4:00 p.m. | Wrap-Up (Facilitator and Session Leader) |
| 4:15 p.m. | Adjourn Sessions |

Questions to Frame Session Group Discussions

The following questions are posed to help focus discussion during the sessions.

- How well does the assurance alternative address issues and concerns raised by CALFED agencies and other stakeholders?
- What tools, if any, should be added, changed or deleted from the assurance alternatives?
- How well does the alternative meet the CALFED solution principles and guidelines listed in the packet?

CASE STUDY

Overview of Case Study

This section and the one following briefly describe the actions associated with the case study. In general, these actions can be broken into two categories: specific actions and programmatic actions. Specific actions are those actions that are both named and promised in the alternative (e.g., convert x land into y habitat). Programmatic actions are categories of actions that will take place where the Program does not specify which specific actions will take place (e.g., ecosystem restoration using adaptive management). It will be necessary to assure the implementation of both the specific and the programmatic actions. Because the CALFED Bay-Delta Program is currently preparing a programmatic level environmental review, many of the initial CALFED assurances will be programmatic in nature.

The case study is necessarily written with a broad brush. It is designed primarily to meet the four Program goals--Ecosystem Restoration, Water Supply Reliability, Water Quality and System Integrity. Secondly, the case study is designed to make the problem of assurances more approachable. The case study generally is consistent with CALFED draft alternative 3.b.

The **Ecosystem Restoration objective** is addressed by: (1) a major habitat restoration program in and above the Delta (including both specific actions and an adaptive management program); (2) improvements in flow and diversion timing patterns (made possible by new storage, efficiency improvements, water purchases, and the construction of multiple export intakes); (3) improvements in diversion screening; (4) increased flexibility in the location of diversions (made possible through the construction of multiple export intakes); and (5) improvements in water quality.

The **Water Supply Reliability objective** is addressed by: (1) new storage elements, managed partly for increased out-of-stream supply; (2) construction of the dual Delta transfer facility to allow more efficient and more frequent movement of water across the Delta; and (3) the water efficiency and water market elements.

The **Water Quality objective** is addressed by: (1) specific actions and programs designed to improve water quality within and in the tributaries to the Delta; and (2) the construction of a dual transfer facility to improve export water quality.

The **System Vulnerability objective** is addressed by: (1) programs to protect and upgrade existing levees; and (2) a program to upgrade emergency response to levee failure.

The case study incorporates two provisions specifically designed to make the assurance problem more manageable. The first provision is the adaptive management program for ecosystem restoration. Considering there is considerable uncertainty in our ability to predict which restoration activities will be most beneficial, the inclusion of a high quality adaptive

management program will significantly increase the likelihood that the solution will achieve meaningful restoration at a reasonable cost. The second provision is the selection of a dual transfer facility with limited capacity in the isolated component to help reduce concerns that export interests will seek to reduce expenditures on levee, water quality and environmental protection in the future, particularly when the isolated component is too small to carry projected levels of exports.

The case study is designed to bring to light significant and difficult assurance issues; however, it probably will not address every conceivable assurance issue.

Action Elements

1. **Ecosystem Restoration.** Represents all restoration activity, including Central Valley Project Improvement Act (CVPIA) and other programs.
 - a. Specific commitments
 - i. Enhance existing habitat
 - ii. Convert existing land uses to habitat
 - (1) Create meander zones
 - (2) Enhance vegetation on levees
 - (3) Levee setbacks
 - (4) Buffer habitat on the inside of levees
 - (5) Convert agricultural land to managed wetlands
 - (6) Convert Delta land to shallow habitat
 - iii. Screen certain local intakes
 - iv. Alter flow and temperature patterns to provide net fishery benefits. Flow benefits generated through combination of rules (changed flow/X2 standards) and market mechanisms
 - b. Programmatic commitments
 - i. Set long-term restoration goals and objectives
 - ii. Create a mechanism designed to meet long-term goals and objectives through restoration activities, while allowing discretion as to the means
 - iii. Establish monitoring and evaluation process
2. **Water Quality.** Includes requirements and programs from other agencies, e.g., the Regional Water Quality Control Board.
 - a. Specific commitments
 - i. Undertake specific pollutant source control actions (agricultural and urban)
 - ii. Mine drainage remediation programs
 - iii. Environmental water quality standards
 - iv. Delta salinity standards to protect Delta agriculture.

- b. Programmatic commitments
 - i. Water quality improvement program, based upon specific goals and objectives
 - ii. Implement watershed protection programs
 - iii. Establish monitoring and evaluation process
3. **Water Use Efficiency.** Categories identical to those used in the Water Use Efficiency work group. Transfer element could be broken out if desired.
- a. Programmatic commitments
 - i. Standardized rules for water transfers
 - (1) Define transferable water
 - (2) Mitigate local third party and environmental impacts
 - (3) Streamline approval process
 - ii. Water Reclamation
 - (1) Define BMP
 - (2) Eliminate institutional barriers to implementation
 - (3) Implementation and monitoring program
 - iii. Urban Water Conservation
 - (1) Define BMP
 - (2) Quantify targets
 - (3) Implementation and monitoring program
 - iv. Agricultural Water Efficiency
 - (1) Define EWMP
 - (2) Definite local planning process
 - (3) Create incentive process
 - (4) Implementation and monitoring program
 - v. Refuge Efficiency
 - (1) Define BMP
 - (2) Create Incentive process
 - (3) Implementation and monitoring program
4. **Delta Vulnerability.**
- a. Specific Commitments
 - i. Target levees for maintenance, repair, upgrades
 - b. Programmatic Commitments
 - i. Establish and implement emergency response program. Includes response to simultaneous multiple failures.
 - ii. Establish and implement long-term maintenance and subsidence management plan
 - iii. Seepage flood remediation program (mitigation for isolated system)

5. Conveyance.

a. Specific Commitments

- i. Construct dual conveyance facility
 - ii. Size the isolated portion of dual facility at 5,000 cfs
A second alternative will size the isolated portion of the dual facility at 15,000 cfs.
Either sized isolated facility will also include the following:
 - (1) Screen intake
 - (2) Operational rules--new rules designed to meet ecosystem needs while simultaneously improving supply reliability. Represents sum of all constraints on operation from all sources.
 - (a) Operate to achieve Delta fishery protection
 - (b) Operate to meet existing Delta water quality requirements
 - (c) Operate to meet export standards
 - (d) Operate in real time to protect fish etc. near intakes
 - (e) Meet all other existing laws, regulations, etc.
 - (f) Coordinate project operations with other user and environmental controlled water (market transfers, discretionary environmental supplies, etc.)
 - iii. Through-Delta portion
 - (1) Screened intake on Sacramento River
 - (2) Operational rules as with isolated portion
 - iv. Coordinated operations of the two facilities
 - (1) South Delta pumping minimums set to assure protection of South Delta water quality and direct island deliveries or channel releases to protect water quality
 - (2) Beyond this level, first priority is isolated system diversions, with second priority south Delta diversions, when isolated diversions curtailed for biological reasons
- b. Programmatic commitments**
- i. Mechanisms to change operational rules as understanding of biological needs changes

6. Storage Facilities.

a. Specific commitments

- i. Construct off stream storage facility north of the Delta
 - (1) Operations: Facility operated to benefit local users, export interests and environment
 - (a) Fill during periods of low environmental impact, e.g., during falling limb of pulse flows
 - (b) Water user share of storage operated to boost reliability for local and export uses, e.g., release storage to boost water supplies during dry years

- (c) Environmental share of storage operated to boost environmental flows during key periods, e.g., release storage to support flows during dry years or key seasons
 - (d) Access 200,000 acre feet of groundwater space north of the Delta
 - (2) Operations: Pump during dry periods, refill through percolation and in lieu during other periods
- ii. 200,000 acre feet storage in Delta island(s)
 - (1) Operations: Description similar to upstream storage
- iii. Construction of local facilities to maximize groundwater storage potential within Kern Fan (via conjunctive use, percolation, etc.)
 - (1) Operations: Description similar to upstream storage
- b. Programmatic commitments
 - i. Mechanisms to adapt storage operations based upon changing needs of users and changed understanding of environmental needs. Could lead to changed diversion patterns and/or changed discharge patterns in order to simultaneously provide environmental protection, restoration and water supply reliability.

7. Funding.

- a. Specific elements
 - i. Detailed allocation of funding sources. All of the following elements used:
 - (1) Diversion fees
 - (2) General obligation bonds (for ecosystem restoration)
 - (3) Revenue bonds (for facilities)
 - (4) Federal appropriations
 - (5) Existing funding sources
- b. Programmatic elements
 - i. Mechanisms to alter funding or benefit patterns, based upon various contingencies
 - (1) Shift funding based upon shifts in use patterns
 - (2) Reductions in funding after environmental goals and objectives achieved
 - (3) Mechanisms to cope with possible future new endangered species

ASSURANCE ALTERNATIVES

The following sections present five preliminary assurance alternatives consisting of a management approach and a complementary set of assurance tools such as legislation, regulations and contractual arrangements. These alternatives are based upon the case study; thus all Program content (components and elements) is assumed to be in place and agreed upon by the agencies and stakeholders.

These assurance alternatives are intended to stimulate discussion; they do not represent any consensus among the CALFED agencies. Workshop participants should consider and evaluate whether these alternatives or any of their components constitute the best approach for a particular assurance issue.

The outline of each alternative is presented in the following format:

Management Structure and Implementation Functions:

Who implements the Program and how decisions are made are explained in this section. Because not all CALFED Program actions will be fully defined in advance, considerable discretion will be granted to those who implement the Program. Decisions must be made about how to prioritize ecosystem restoration actions within the adaptive management framework, how to allow flexibility in the operation of the water projects, which water quality actions to fund, which levee improvements to fund, etc. Each alternative represents a set of choices about who will make these decisions and who will implement the various components and elements of the CALFED Bay-Delta Program.

Assurance Tools:

Each assurance alternative includes a summary discussion of the tools (such as new laws, regulations, contracts or other types of agreements) which might be used to increase the likelihood that the Program will be implemented. Each alternative has a particular emphasis in its combination of tools. Alternative 1 is based on voluntary agreements. Alternative 2 emphasizes agreements and use of bond instruments. Alternative 3 relies on legislation. Alternative 4 relies principally on market incentives and agreements. Alternative 5 uses a combination of legislation, bond language, agreements and physical limits.

Assessment:

What advantages does the alternative have? What are the disadvantages?

ALTERNATIVE 1: INFORMAL COORDINATION AMONG AGENCIES

Summary

Management Structure	Existing state and federal agencies carry out the Bay-Delta Program. Coordination between the agencies and allocation of ecosystem restoration funding is provided by CALFED.
Assurance Tools	A set of agreements, including a multi-species, habitat management/conservation plan, provides ecosystem and water supply reliability assurances. Additional agreements provide assurances for drinking water quality and for protection of upstream economies.
Assessment	Use of existing institutions and processes a plus. Unclear whether structure will lead to effective implementation of ecosystem restoration program. What happens if new ecosystem problems emerge?

Management Structure and Implementation Functions

Program Element	Management Structure and Implementation Functions
Ecosystem Restoration	<p>Resource agencies--Department of Fish and Game (DFG), U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS)--carry out specific elements and actions of the ecosystem restoration program, based on coordination and consultation through CALFED.</p> <p>The State Water Resources Control Board (SWRCB) modifies the Bay Delta Water Quality Control Plan (WQCP) to conform to agreed flow and diversion patterns.</p> <p>The Central Valley Project Improvement Act (CVPIA) water and CVPIA Restoration Fund remain under the control of the U.S. Department of the Interior.</p> <p>Biological opinions issued by USFWS and the NMFS remain in force, but are modified to reflect the ecosystem restoration program.</p> <p>CALFED administers an ecosystem restoration fund. A Federal Advisory Committee Act (FACA) chartered committee advises on allocation of restoration funds, based upon recommendations from the Interagency Ecological Studies Program (IEP). Funds are allocated to DFG, USFWS, other government agencies, and non-governmental organizations. The restoration program is carried out using market mechanisms (land purchases, water purchases, etc.), not regulatory means. The FACA committee will consist of a broad range of stakeholder interests.</p>

Program Element	Management Structure and Implementation Functions
Water Supply Reliability	<p>SWRCB modifies the WQCP to conform to agreed flow and diversion patterns.</p> <p>Biological opinions are modified to reflect operational changes for the Central Valley Project (CVP) and State Water Project (SWP) facilities resulting from implementation of the CALFED Program (ecosystem restoration and new facilities).</p> <p>The Department of Water Resources (DWR) and the U.S. Bureau of Reclamation (USBR) jointly construct the new storage and conveyance facilities and operate them according to regulatory requirements, including SWRCB standards, CVPIA requirements and Endangered Species Act (ESA) requirements.</p> <p>The Coordinated Operating Agreement (COA) is renegotiated to reflect these changes.</p>
Water Quality	<p>SWRCB, the Regional Boards and the U.S. Environmental Protection Agency (EPA) will implement a combination of regulatory controls and incentive programs to meet target water quality. Additional funds will be provided for this purpose as part of the CALFED solution. Also, environmental restoration funds may also be allocated for water quality improvement if recommended by the FACA committee.</p>
Levee System Integrity	<p>DWR is responsible for administering the new levee programs.</p>
Water Use Efficiency	<p>DWR and USBR provide technical support and financial assistance for locally implemented water conservation and efficiency improvement programs. DWR, USBR and SWRCB coordinate rules and processing of water transfers to facilitate an active statewide water market.</p>

Assurance Tools

Program Element	Assurance Tools
Ecosystem Restoration	<p>Assurances for the ecosystem restoration component are provided by secured funding independent of the annual state and federal appropriation process. An initial endowment is created through a one-time infusion of state general obligation bonds and federal appropriations. This money is used for capital costs and to purchase long-term benefits (such as water rights). A long-term, annual revenue stream is provided through diversion fees paid by participating water users.</p> <p>A set of agreements among the CALFED agencies and participating stakeholders includes a multi-species habitat management/conservation plan and funding arrangements. These agreements will include the following provisions:</p> <ol style="list-style-type: none"> 1. Participating water users will pay specified diversion fees into the ecosystem restoration fund administered by CALFED. 2. DWR, USBR and participating water users will operate water projects according to the flow, water quality and operational requirements encompassed within the CALFED Program, including SWRCB standards, CVPIA operations and ESA biological opinions. CVP, SWP and local project operators will agree to bypass water acquired for environmental enhancement purposes, and to provide storage and conveyance of environmental enhancement water at the cost of service if space is available. 3. Provided that provisions (1), (2), and certain minimum environmental implementation targets are met, water users will receive all necessary permits to implement the water supply component of the CALFED Program and will be fully indemnified against any changes in operational requirements due to future regulatory constraints of ESA or CVPIA, i.e., additional water required by future regulatory constraints will be provided by the ecosystem program. 4. Water users who do not pay diversion fees or who operate in violation of the operational requirements will lose the protection of the indemnity agreements. 5. Should the restoration program fail to meet certain minimum environmental goals and objectives according to a predetermined schedule, the agreements will be renegotiated. Should promised water supply facilities not be built on schedule, participating water users would be relieved of diversion fees and/or the agreements will be renegotiated. 6. Should environmental improvements allow for the delisting of species, the operational requirements specifically aimed at avoiding jeopardy will be modified, and water diverters and the environment will share in the benefits of the changed rules.
Water Supply Reliability	<p>The agreements described above under ecosystem restoration will also include the operational rules for new CALFED facilities and for the existing facilities of the CVP and SWP. These agreements will include operational rules for the CVPIA environmental water supplies.</p>

Program Element	Assurance Tools
Water Quality	<p>Delta water quality standards are protected by the revised WQCP and by operational rules for the CVP and SWP facilities.</p> <p>DWR, USBR and the export contractors will agree that Delta and export facilities are operated to preferentially channel water from the isolated system to urban areas.</p> <p>Ecosystem restoration funds can be used to purchase land, water or water rights, or other property for the purpose of improving water quality.</p>
Levee System Integrity	Assurances that the levee programs will be implemented are provided by securing funding not dependent on the annual appropriation process. Thus, funds are provided by bonds, fees imposed upon water users, or other revenue sources.
Water Use Efficiency	Implementation of water management and efficiency programs by local agencies is voluntary, but agencies must be certified as efficient by agricultural or urban council as a condition of receiving any benefits from CALFED Program.
Misc.	DWR and USBR will enter into agreements with upstream water agencies which provide that DWR and USBR will not move or wheel water purchased upstream if that purchase has been vetoed by Board of Supervisors from the county in which the transfer originated. The Board of Supervisors would be allowed to veto transfers only if the transfers violated specified criteria.

Assessment

Advantages	Minimizes changes to current agency operations and jurisdictions. Minimal increase in institutional overhead.
	Continues and builds upon known relationships established through existing CALFED structure and Operations Group.
	Clear avenues for enforcement of violations are created, and the interests of stakeholder groups are better aligned.
	Central management of CALFED ecosystem restoration money increases likelihood of effective program.
	Legislation probably not needed.
Disadvantages	Fails to consolidate administration of all restoration money.
	Rigidity of HCP makes implementation more vulnerable to surprises.
	Unclear that FACA ecosystem restoration committee will function efficiently.
	Unclear where money comes from to protect endangered species should new problems emerge in the future.
	Unclear how assurances for reduction in discharges can be assured within existing institutional structure.

ALTERNATIVE 2: ECOSYSTEM RESTORATION JOINT AUTHORITY

Summary

Management Structure	A Joint Authority (JA) is formed to implement the Ecosystem Restoration Component of the CALFED Program. Other components are implemented by existing agencies, with coordination and consultation through CALFED.
Tools	A set of agreements among the agencies and participating stakeholders provides ecosystem and water supply reliability assurances. Language in the bond instruments or bond authorizations for new Delta facilities provides rules on how those facilities can be operated. Modifications in diversion fees used to fund the ecosystem restoration program provide incentives for completion of facilities, regulatory stability and effective implementation of the ecosystem restoration program.
Assessment	Increased centralization of ecosystem restoration program improves ability to integrate implementation. However, JA could deadlock. Also, unclear that modifications in diversion fees provide adequate incentives to hold together stakeholder coalition.

Management Structure and Implementation Functions

Program Element	Management Structure and Implementation Functions
Ecosystem Restoration	<p>A JA, consisting of all CALFED agencies, implements the ecosystem restoration program. The structure of the JA and its mission, powers and purposes are set forth in federal and state authorizing legislation. The JA is governed by a Board of Directors consisting of representatives from the CALFED agencies. The Board appoints an Executive Director.</p> <p>The JA acquires and holds the necessary permits for specific elements and actions. Each member agency of the JA delegates CALFED Program implementation authority to the JA or agrees to operate its programs in accordance with the direction provided by the JA. This includes the Central Valley Project Improvement Act (CVPIA) restoration fund, CVPIA environmental water, Proposition 204 funds, etc. The restoration program is carried out using market mechanisms (land purchases, water purchases, etc.), not regulatory means.</p> <p>The State Water Resources Control Board (SWRCB) modifies the Bay Delta Water Quality Control Plan (WQCP) to conform to agreed flow and diversion patterns.</p> <p>Biological opinions from the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) remain in force but are modified to reflect implementation of CALFED Program.</p> <p>Voting rules for the JA will be structured to assure a balance between state and federal agencies and the environmental agencies and project operators.</p>

Program Element	Management Structure and Implementation Functions
Water Supply Reliability	<p>The Department of Water Resources (DWR) and the U.S. Bureau of Reclamation (USBR) jointly construct the new storage and conveyance facilities and operate them according to SWRCB standards, CVPIA requirements and ESA requirements.</p> <p>SWRCB modifies the WQCP to conform to agreed flow and diversion patterns.</p> <p>The Coordinated Operating Agreement (COA) is renegotiated to reflect these changes.</p>
Water Quality	<p>SWRCB, the Regional Boards and the U.S. Environmental Protection Agency (EPA) will implement a combination of regulatory controls and incentive programs to meet target water quality. Additional funds will be provided for this purpose as part of the CALFED Program. Also, environmental restoration funds may also be allocated for water quality improvement if authorized by the JA.</p>
Levee System Integrity	<p>DWR is responsible for administering the new levee programs.</p>
Water Use Efficiency	<p>DWR and USBR provide technical support and financial assistance for locally implemented water conservation and efficiency improvement programs. DWR, USBR and SWRCB coordinate rules and processing of transfers to facilitate an active statewide water transfer market.</p>

Assurance Tools

Program Element	Assurance Tools
Ecosystem Restoration	<p>Ecosystem restoration funding is made independent of the annual state and federal appropriation process. In addition to existing funds, an initial endowment is created through a one-time infusion of state general obligation bonds and federal appropriations. This money is used for capital costs and to purchase long-term benefits (such as water rights). However, the majority of new environmental restoration money comes through diversion fees.</p> <p>A set of agreements among the JA, CALFED agencies and participating stakeholders includes a multi-species, habitat management/conservation plan and funding arrangements for the ecosystem program. The agreement on diversion fees provides that if the restoration program fails to meet certain minimum environmental goals and objectives according to a predetermined schedule, diversion fees will be raised one time only, using a preset formula.</p> <p>Additional assurance is provided by language in the bond instruments or the bond authorizations used to fund the storage and conveyance facilities which sets rules and conditions for the new facilities. For example, such language might provide that:</p> <ol style="list-style-type: none"> 1. The isolated facility or the through-Delta facility may not be operated at a higher capacity than that specified in the CALFED Program. 2. Only water users/diverters who: (a) agree to pay diversion fees for restoration; (b) agree to bypass environmental enhancement water purchased by the ecosystem restoration program; and (c) obtain certification of water user efficiency from the urban and/or agricultural council are eligible to use or obtain benefits from the new CALFED facilities. 3. The state and federal projects will operate according to the flow, water quality and operational requirement encompassed within the CALFED Program, including SWRCB standards, CVPIA operations and ESA biological opinions. 4. The state and federal projects will provide capacity for environmental enhancement water at the cost of service if space is available.
Water Supply Reliability	<p>The agency and stakeholder agreements will include all the financial and operational rules for participating water users and will provide the conditions which must be met before money can be spent on ecosystem restoration by the JA.</p> <p>The schedule of diversion fees agreed to by participating water users will be tied to the completion of program facilities and the achievement of ecosystem goals. As facilities come on line, diversion fees for ecosystem restoration will increase. If facilities are delayed beyond projected completion dates, diversion fees will be reduced. As certain ecosystem goals and objectives are met, diversion fees will be reduced.</p> <p>Water users participating in the agreements on ecosystem funding will be protected from new regulatory requirements imposed on project facilities. If new regulatory actions require additional water or money from water users, the water and money will be supplied from the resources of the ecosystem program.</p>

Program Element	Assurance Tools
Water Quality	<p>Delta water quality standards are protected by the revised WQCP and by operational rules for CVP and SWP.</p> <p>DWR, USBR and the export contractors enter into agreements to assure that Delta and export facilities are operated to preferentially channel water from the isolated system to urban areas.</p> <p>The Ecosystem JA may purchase land, water and other property interests for the purpose for protecting and improving water quality.</p>
Levee System Integrity	<p>Assurance that the levee programs will be implemented are provided by securing funding not dependent on the annual appropriation process. Thus, funds are provided by bonds, fees imposed upon water users or other revenue sources.</p>
Water Use Efficiency	<p>CALFED will propose that the SWRCB promulgate water management regulations to improve water use efficiency. Additionally, water users who are not certified as efficient by the agricultural or urban council are not eligible for benefits of CALFED Program.</p>
Misc.	<p>Agreements will provide that new facilities may not be used for a water transfer which has been vetoed by the Board of Supervisors from the county in which the transfer originated. The Board of Supervisors would be allowed to veto transfers only if the transfers violated transfer criteria specified in the agreement.</p>

Assessment

Advantages	<p>Relatively minor changes to current agency operations and jurisdictions.</p>
	<p>Continues and builds upon known relationships established through existing CALFED structure and Operations Group.</p>
	<p>Clear avenues for enforcement of violations are created, and the interests of stakeholder groups are aligned.</p>
	<p>Creation of JA should lead to integrated ecosystem restoration implementation, despite continued existence of several restoration funds.</p>
Disadvantages	<p>Voting structure of JA could lead to conflict and gridlock.</p>
	<p>Unclear whether provisions for modification of diversion fee schedule will provide adequate incentives to retain stakeholder support for full implementation.</p>
	<p>Unclear how assurances for reduction in discharges can be assured within existing institutional structure.</p>

ALTERNATIVE 3: ECOSYSTEM RESTORATION JA AND OPERATIONS JA

Summary

Management Structure	Two new Joint Authorities (JA's) are formed, one to implement the Ecosystem Restoration Component, the second to operate the isolated facility constructed pursuant to the CALFED Program.
Tools	State and federal legislation creates the two new JA's, authorizes the ecosystem program and new facilities, and provides for additional financial infusions should certain ecosystem goals and objectives not be met. Legislation provides regulatory stability, provided that the ecosystem program is carried out as promised. Legislation provides for a balance between protecting upstream areas from the impacts of market transfers and the promotion of transfers.
Assessment	Potentially very efficient and effective. The legislation needed to implement this alternative would be highly controversial, however.

Management Structure and Implementation Functions

Program Element	Management Structure and Implementation Functions
Ecosystem Restoration	<p>The Ecosystem JA, consisting of all the CALFED agencies, implements the ecosystem restoration program. The structure of the JA and its mission, powers and purposes are set forth in federal and state authorizing legislation. The JA is governed by a Board of Directors consisting of representatives from all the CALFED agencies. The Board appoints an Executive Director.</p> <p>The JA acquires and holds the necessary permits for specific elements and actions of the ecosystem program. Each member agency of the JA delegates Program implementation authority to the JA or agrees to operate its programs in accordance with the direction provided by the JA. This includes the Central Valley Project Improvement Act (CVPIA) Restoration Fund, CVPIA environmental water, Proposition 204 funds, etc. The restoration program is carried out using market mechanisms (land purchases, water purchases, etc.), not regulatory means.</p> <p>Voting rules for the JA will be structured to assure a balance between state and federal agencies and between the environmental agencies and project operators. No one block--state or federal or environmental or operations--will have enough voting power to control the JA. The voting rules for the two JA's will not be identical, however.</p> <p>The State Water Resources Control Board (SWRCB) modifies the Bay Delta Water Quality Control Plan (WQCP) to conform to agreed flow and diversion patterns. These new flows would incorporate existing Endangered Species Act (ESA) and CVPIA requirements.</p>

Program Element	Management Structure and Implementation Functions
Water Supply Reliability	<p>The Operations JA, consisting of all the CALFED agencies, constructs and operates the isolated facility. The structure of the JA and its mission, powers and purposes are set forth in federal and state authorizing legislation. The JA is governed by a Board of Directors consisting of representatives from all the CALFED agencies. The Board appoints an Executive Director. The JA acquires and holds the necessary permits for the construction and operation of the isolated facility.</p> <p>The state and federal legislation creating the JA's also establishes the mechanisms through which the Operations JA will coordinate operations with the Department of Water Resources (DWR) and U.S. Bureau of Reclamation (USBR). In general, DWR and USBR will have contractual rights for certain deliveries to be made through the isolated facility. Some capacity will remain and be available for water transfers. The Operations JA will have the right to constrain diversions through the isolated facility (probably per agreement with the Ecosystem JA), provided that replacement water or compensation water is provided.</p> <p>Voting rules for the JA will be structured to assure a balance between and state and federal agencies and between the environmental and operational agencies. No one block--state or federal or environmental or operations--will have enough voting power to control the JA. The voting rules for the two JA's will not be identical, however.</p> <p>DWR and USBR jointly construct all new facilities other than the isolated facility and operate them according to SWRCB requirements.</p> <p>SWRCB modifies the WQCP to conform to agreed flow and diversion patterns. These new flows would incorporate existing ESA and CVPIA requirements.</p> <p>The Coordinated Operating Agreement (COA) is renegotiated to reflect these changes.</p>
Water Quality	<p>SWRCB, the Regional Boards and the U.S. Environmental Protection Agency (EPA) will implement a combination of regulatory controls and incentive programs to meet target water quality. Additional funds will be provided for this purpose as part of the CALFED Program. Also, environmental restoration funds may also be allocated for water quality improvement if authorized by the Ecosystem JA.</p>
Levee System Integrity	<p>DWR is responsible for administering the new levee programs.</p>
Water Use Efficiency	<p>DWR and USBR provide technical support and financial assistance for locally implemented water conservation and efficiency improvement programs. DWR, USBR and SWRCB coordinate rules and processing of transfers to facilitate a water market.</p>

Assurance Tools

Program Element	Assurance Tools
Ecosystem Restoration	<p>Ecosystem restoration funding is made independent of the annual state and federal appropriation process. In addition to existing funds, an initial endowment is created through a one-time infusion of state general obligation bonds and federal appropriations. This funding is used for capital costs and operating expenses.</p> <p>State and federal legislation provide assurances that the ecosystem restoration program will be implemented. (Note that for a higher level of assurance, some or all of the assurances could be provided by amendment to the California Constitution).</p> <p>In addition to creating the JA's, the legislation would include the following provisions:</p> <ol style="list-style-type: none"> 1. That the isolated facility or the through-Delta facilities may not be operated at a higher capacity than specified in the CALFED solution, or in violation of SWRCB standards. Citizen suits would be authorized to enforce this provision. 2. That the CVP and SWP and the new Operations JA would provide storage and conveyance capacity for environmental enhancement water at the cost of service if space is available. CVP and SWP will be required to bypass water acquired for environmental enhancement purposes. 3. That if the restoration program fails to meet certain minimum environmental goals and objectives according to a predetermined schedule, a one-time set of diversion fees will be imposed upon the CVP and SWP, using a preset formula.
Water Supply Reliability	<p>State and federal legislation will provide that if the ecosystem restoration requirements are met, the CVP and SWP will be fully protected against any loss of water as a result of state or federal ESA listings. Additional water requirements will be met by allocation from the water already controlled by the Ecosystem JA.</p> <p>State and federal legislation will provide that all necessary permits will be granted for construction and operation of new CALFED facilities and for implementation of the ecosystem restoration program, provided that the proposed facilities, operations and restoration program are consistent with the criteria in the CALFED Program.</p>
Water Quality	<p>State and federal legislation will provide that CALFED water quality targets will be met by through a combination of regulatory action and incentive programs.</p> <p>Delta water quality guarantees would be encompassed within the state and federal legislation.</p> <p>DWR, USBR and the export contractors enter into agreements to assure that Delta and export facilities are operated to preferentially channel water from the isolated system to urban areas.</p>

Program Element	Assurance Tools
Levee System Integrity	Assurance that the levee programs will be implemented is provided by securing funding not dependent on the annual appropriation process. Thus, funds are provided by bonds, fees imposed upon water users or other revenue sources.
Water Use Efficiency	State legislation requires water management planning and established efficiency targets for all agricultural and urban water suppliers.
Misc.	State legislation defines the conditions under which water could be transferred out of upstream areas in a water market. The legislation would be designed to protect upstream areas without unduly constraining the market.

Assessment

Advantages	Management of the Bay-Delta system in the hands of two overlapping JA's allows for increased integration of operations and ecosystem restoration.
	Structure of JA's requires cooperation, but not unanimity.
	Consolidation of overlapping standards and restoration funds should simplify implementation.
Disadvantages	Voting structure of JA's could lead to conflict and gridlock.
	Protection from state and federal ESA's highly controversial.

ALTERNATIVE 4: DELTA ECOSYSTEM RESTORATION AGENCY

Summary

Management Structure	A new legal entity, the Delta Ecosystem Restoration Agency (DERA), is created to implement the ecosystem restoration component. Other Program components are implemented by CALFED agencies, with coordination and consultation through CALFED.
Tools	A multi-party contract between DERA and water diverters includes limited liability for future regulatory changes, and enforceable conditions on water diverters.
Assessment	High potential effectiveness, but structure is untested.

Management Structure and Implementation Functions

Program Element	Management Structure and Implementation Functions
Ecosystem Restoration	<p>The ecosystem restoration component is implemented by a new legal entity, referred to here as DERA. This is a new institution or agency, legally distinct from existing agencies, with its own management and governance. DERA could be a government agency, a public corporation or some other construct. DERA is created by state and federal legislation. It is governed by a Board of Directors appointed by the Governor and Secretary of the Interior. However, nominations to the Board are made by state and federal environmental agencies, specified environmental organizations, and local governments likely to be affected by habitat restoration programs.</p> <p>DERA will act as lead agency for and hold the 404 Permit and other permits necessary to implement the Ecosystem Restoration Program, whether programmatic or project/site specific.</p> <p>DERA may:</p> <ol style="list-style-type: none"> 1. Buy, sell, lease or trade water rights, storage rights or conveyance rights. 2. Buy, sell, lease, trade land or purchase easements. 3. Provide incentives to agricultural and urban agencies for changed management practices. 4. Pay for screening. 5. Purchase export rights (or provide substitute water) to allow reductions of exports at the time of DERA's choosing. <p>DERA may perform these activities in its own right, or by grants to other agencies or organizations.</p> <p>The State Water Resources Control Board (SWRCB) modifies the Bay Delta Water Quality Control Plan (WQCP) to impose operating conditions on new facilities. Other environmental flow or operational improvements will be implemented by market transactions with DERA.</p> <p>DERA will conduct or coordinate necessary monitoring, data collection and analysis to measure performance of the program.</p> <p>Biological opinions from U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) remain in force. USFWS and NMFS continue to administer the federal Endangered Species Act (ESA). This includes issuing biological opinions for listed species and making determinations about listings for additional species.</p>

Program Element	Management Structure and Implementation Functions
Water Supply Reliability	<p>SWRCB modifies the WQCP to conform to agreed flow and diversion patterns.</p> <p>The Department of Water Resources (DWR) and U.S. Bureau of Reclamation (USBR) jointly construct the new storage and conveyance facilities, and operate them according to SWRCB standards, Central Valley Project Improvement Act (CVPIA) requirements and ESA requirements.</p> <p>The Coordinated Operating Agreement (COA) is renegotiated to reflect these changes.</p>
Water Quality	<p>SWRCB, the Regional Boards and the U.S. Environmental Protection Agency (EPA) will implement a combination of regulatory controls and incentive programs to meet target water quality. Additional funds will be provided for this purpose as part of the CALFED solution. Also, environmental restoration funds may also be allocated for water quality improvement if authorized by the DERA.</p>
Levee System Integrity	<p>DWR is responsible for administering the new levee programs.</p>
Water Use Efficiency	<p>DWR and USBR provide technical support and financial assistance for locally implemented water conservation and efficiency improvement programs.</p>

Assurance Tools

Program Element	Assurance Tools
<p>Ecosystem Restoration</p>	<p>Ecosystem restoration funding is made independent of the annual state and federal appropriation process. DERA will receive an initial endowment of money and water to enhance and restore the environment above and beyond baseline conditions (habitats, regulatory requirements, etc.). The initial endowment will consist of the following:</p> <ol style="list-style-type: none"> 1. General Obligation Bonds. 2. Existing restoration money such as the CVPIA Restoration Fund. 3. The CVPIA b(2) water. The b(2) water will be converted into quantified contractual water, storage and conveyance rights with USBR. This modification will require federal legislation. 4. Storage rights in specified new storage facilities. 5. Transferable conveyance rights in the isolated facility. <p>DERA will receive annual operating income, as well, from variable diversion fees paid by certain water users, pursuant to a multi-party contract with DWR, USBR and other diverters. The contract will include the following provisions:</p> <ol style="list-style-type: none"> 1. DERA will provide a limited indemnity against future regulatory changes. To the extent that future regulatory changes have an impact upon water supplies, DERA will reallocate a certain portion of its income and its endowment toward making water users whole. This could involve providing the additional water from DERA resources, purchasing new water rights or providing compensation water to water users. 2. Beyond this limited indemnity, any additional losses in supply will be the responsibility of the water projects or other third parties. 3. Payment of the diversion fees to DERA by water users. As facilities come on line, diversion fees for ecosystem restoration will increase. Once facilities are complete, fees will go up one time based on a preset formula, if ecosystem goals are not met within a specified time. As certain ecosystem goals and objectives are met, diversion fees will be reduced. 4. Compliance with SWRCB standards and existing ESA biological opinions. 5. Diverters will allow water purchased for environmental purposes to flow through the Delta as an enhancement to existing flow requirements. 6. Agencies violating the agreement would not be protected by the limited indemnity.

Program Element	Assurance Tools
Water Supply Reliability	<p>Reliability assurances are provided through a multi-party contract as described in the "ecosystem restoration" section above. Assurances are derived through a limited indemnity provided by DERA and by a variable diversion fee schedule which provides incentives to environmental stakeholders to support the completion of facilities.</p> <p>All requirements for water users participating in the agreement discussed above-- financial and operational--will be spelled out before money can be spent on ecosystem restoration by DERA.</p>
Water Quality	DWR, USBR and the export contractors will enter into contracts providing that Delta and export facilities are operated to preferentially channel water from the isolated system to urban areas.
Levee System Integrity	Assurance that the levee programs will be implemented provided by securing funding not dependent on the annual appropriation process. Thus, funds are provided by bonds, fees imposed upon water users or other revenue sources.
Water Use Efficiency	Agencies which are not certified as efficient by the urban and/or agricultural councils will pay additional diversion fees imposed by the SWRCB. These fees will be set high enough to encourage efficiency. The funds will be placed in a revolving fund and used to fund water efficiency projects.
Misc.	New legislation would define the conditions under which water could be transferred out of upstream areas. The legislation would be designed to protect upstream areas without unduly constraining the market.

Assessment

Advantages	Centralized ecosystem restoration structure has potential to be highly effective.
	Maximal use of market incentives may increase effectiveness of limited ecosystem restoration budget.
	Clear avenues for enforcement of violations are created, and the interests of stakeholder groups are aligned.
Disadvantages	DERA as an institution is untested.
	Extensive use of market forces for environmental protection untested.
	Unclear how assurances for reduction in discharges can be assured within existing institutional structure.

ALTERNATIVE 5: ECOSYSTEM RESTORATION/FACILITY OPERATIONS AGENCY

Summary

Management Structure	A new agency, the Delta Ecosystem Restoration and Management Agency (DERMA) is created to implement the ecosystem restoration component of the CALFED Program to construct, own and operate new storage and conveyance facilities.
Tools	State and federal legislation, multi party agreement and bond language directs DERMA to implement CALFED Program. Physical limitations on isolated facility.
Assessment	Potentially highly effective. However, this degree of centralization likely to be highly controversial.

Management Structure and Implementation Functions

Program Element	Management Structure and Implementation Functions
Ecosystem Restoration	<p>DERMA is created by state and federal legislation. It is governed by a Board of Directors appointed by the Governor and Secretary of Interior. However, nominations for the Board are made by:</p> <ol style="list-style-type: none"> 1. State and federal environmental agencies. 2. State and federal water management agencies. 3. Specified environmental non profit organizations. 4. State and federal water contractors. 5. Local governments likely to be affected by habitat restoration programs and project operations. <p>Each of these categories is granted a certain number of seats on the Board to assure balance.</p> <p>DERMA acquires and holds the necessary permits for specific elements and actions, both for construction of facilities and ecosystem restoration. All restoration assets, including the Central Valley Project Improvement Act (CVPIA) Restoration Fund, CVPIA environmental water and Proposition 204 funds are assigned to DERMA. The restoration program is carried out using market mechanisms (land purchases, water purchases, etc.), not regulatory means.</p> <p>The State Water Resources Control Board (SWRCB) modifies the Bay Delta Water Quality Control Plan (WQCP) to conform to agreed flow and diversion patterns.</p> <p>Biological opinions from the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) remain in force. USFWS and NMFS continue to administer the federal Endangered Species Act (ESA). This includes issuing biological opinions for listed species and making determinations about listings for additional species.</p>

Program Element	Management Structure and Implementation Functions
Water Supply Reliability	<p>SWRCB modifies the WQCP to conform to agreed flow and diversion patterns.</p> <p>DERMA constructs and operates the new storage and conveyance facilities according to regulatory requirements, including SWRCB standards, CVPIA requirements and ESA requirements. DERMA will enter into contracts with the Department of Water Resources (DWR) and U.S. Bureau of Reclamation (USBR) for delivery of some portion of existing water supply and for new water yield from the CALFED facilities.</p>
Water Quality	<p>SWRCB, the Regional Boards and the U.S. Environmental Protection Agency (EPA) will implement a combination of regulatory controls and incentive programs to meet target water quality. Additional funds will be provided for this purpose as part of the CALFED solution. Also, environmental restoration funds may be allocated for water quality improvement if authorized by DERMA.</p>
Levee System Integrity	<p>DWR is responsible for administering the new levee programs.</p>
Water Use Efficiency	<p>DWR and USBR provide technical support and financial assistance for locally implemented water conservation and efficiency improvement programs.</p>

Assurance Tools

Program Element	Assurance Tools
Ecosystem Restoration	<p>Ecosystem restoration funding is made independent of the annual state and federal appropriation process. In addition to existing funds, an initial endowment is created through a one-time infusion of state general obligation bonds and federal appropriations. This money is used for capital costs and to purchase long-term benefits (such as water rights). However, the majority of new environmental restoration money comes through diversion fees.</p> <p>Language in the bond instruments used to fund the storage and conveyance facilities includes various requirements for the new facilities. For example, the bond authorization might:</p> <ol style="list-style-type: none"> 1. Provide that the isolated facility or the through-Delta facility may not operate at a higher capacity than specified in the CALFED Program. 2. Provide that access to the new facilities is limited to water diverters who: (a) pay their diversion fees for restoration; (b) agree to bypass environmental enhancement water; and (c) obtain a certification of water user efficiency from the urban and/or agricultural council. 3. Require DERMA to operate according to the flow, water quality and operational requirements encompassed within the CALFED Program, including SWRCB standards, CVPIA operations and ESA biological opinions. <p>Legislation authorizing the creation of DERMA also would provide for diversion fees and a one-time increase to be imposed if the restoration program fails to meet certain minimum environmental goals and objectives according to a predetermined schedule.</p> <p>Also, physical constraints will be used as an assurance tool. The isolated system will be constructed as an enclosed pipe with a capacity of 3,000 cfs. The new off-aqueduct storage south of the Delta will be used as an urban reservoir. Water will be moved into off-aqueduct storage using the Delta Mendota Canal all year, then run through to southern California during the winter.</p>
Water Supply Reliability	<p>The legislation creating the environmental endowment derived from bonds and federal appropriations, and the agreements with participating water users on diversion fees, will contain provisions on how ecosystem restoration money can be spent. A series of triggers will be created. As new facilities come on line, additional money will be freed up for restoration. If new regulatory requirements are imposed which would impact water supplies, some of the ecosystem money will be used to acquire the water needed, i.e. to ensure indemnification of participating water users.</p> <p>Water contractors will write contracts with DERMA which preserve existing supply patterns and allocate the benefits expected from the new facilities.</p>

Program Element	Assurance Tools
Water Quality	The small size of the isolated facility aligns the interests of Delta farmers and exporters for high quality Delta water and preserves the "common pool." Operation of the isolated system and off aqueduct storage assures high urban water quality.
Levee System Integrity	Assurance that the levee programs will be implemented is provided by securing funding not dependent on the annual appropriation process. Thus, funds are provided by bonds, fees imposed upon water users, or other revenue sources.
Water Use Efficiency	Water users who are certified as efficient by agricultural or urban council are eligible for benefits of CALFED Program.
Misc.	The isolated facility will not have unused capacity. Since the ability to move new water across the Delta is only marginally improved, new protections for upstream areas are probably unnecessary.

Assessment

Advantages	Centralized agency offers high potential for integrated restoration and operations.
	Physical constraints reduce reliance upon legal assurances.
Disadvantages	Voting structure of DERMA could lead to conflict and gridlock.
	Unclear whether provisions for triggers on use of environmental funds provides adequate alignment of interest.
	Physical limitations reduce attractiveness benefits the solution can provide.
	New centralized management likely to be highly controversial with existing agencies and stakeholders.
	Unclear how assurances for reduction in discharges can be assured within existing institutional structure.

BACKGROUND
MATERIALS

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PROGRAM COMPONENTS

The CALFED Bay-Delta Program components provide the framework of general categories of actions that will need to be implemented. Although the long-term solution has not yet been identified and described in detail, it will probably include these components at some level of implementation:

1. **Ecosystem Restoration**
 - a. Habitat restoration activities
 - b. Adaptive management measures
 - c. Environmental water supply and use
2. **Water Quality**
 - a. Urban goals
 - b. Agricultural goals
 - c. Environmental goals
3. **Water Use Efficiency/Water Management**
 - a. Urban practices
 - b. Agricultural practices
 - c. Environmental water practices
4. **Delta Levees/System Integrity**
 - a. Maintenance measures
 - b. Emergency measures
5. **Conveyance Improvements**
6. **Storage Component**
 - a. Upstream facilities
 - b. South of Delta facilities
 - c. Conjunctive use/banking programs
7. **Financing**
 - a. Revenues
 - b. Expenditures
 - c. Cost allocations

STAKEHOLDER CONCERNS

This section describes the assurance concerns that stakeholders have voiced in workshops, public meetings and scoping meetings, written comments submitted to CALFED and the California Assembly Process, Assurances Work Group meetings and informal discussions with CALFED staff.

1. Environmental Groups

- a. Implementation of ecosystem improvements. Environmental groups want assurances that improvements in ecosystem structure and function will be implemented and achieved without changing the ecosystem restoration goals and objectives.
- b. Funding. They want an assurance of adequate funding for an agreed period of time, to carry out the restoration projects. Since the ultimate funding needs are not well defined, funding levels should include a margin of safety or be variable to reflect changes in perceived needs.
- c. Adaptive management approach. For those physical/biological improvements which cannot now be defined (final land use, flow pattern, water quality patterns), the environmental groups want a decision-making process (an adaptive management approach) to assure that valid decisions will be made in the future to achieve restoration. Such approach or process should provide for the modification of flow and diversion patterns and amounts and the implementation of restoration activities, whether through regulatory means or market mechanisms, based upon well defined goals and priorities. It should provide that the mission and goals of ecosystem restoration are insulated against weakening.
- d. Operations. Environmental groups want assurances that new and existing water facilities will be operated according to agreed upon operational rules.
- e. Water use efficiency. Environmental groups want assurances that urban and agricultural water users will use water as efficiently as possible.

2. Fishery Interests

- a. Water for fish. Fishery interests want an assurance that adequate fish flows and water quality will be provided and protected into the future.
- b. Habitat for fish. They will also want assurances that habitat restoration measures will be implemented.
- c. Regulatory certainty. Fishery interests will want an assurance that adaptive management will not lead to unreasonable regulatory constraints or limits on commercial or recreation fishing.

3. Export Urban

- a. Water supply reliability. Export agencies want assurances that the export water supply, in terms of quantity and reliability, will be adequate and sufficient to meet current and future demand at a reasonable cost.
- b. Water quality improvements. They also want an assurance that water quality of Delta exports will be maintained at a level that allows for affordable treatment to meet drinking water standards.
- c. Regulatory certainty. The exporters want assurance of regulatory certainty in the future (i.e, that regulatory constraints in the Delta will not change or will change only in accordance with a predetermined agreement or plan.)
- d. Costs. Export agencies want to know the limits of their financial obligations and that there is a reasonable relationship between their costs and the benefits received.
- e. Facilities. Facilities which are identified in the Program must be permitted, funded, constructed and operated according to agreed upon rules.

4. Export Agriculture

- a. Water supply reliability. Agricultural exporters want an assurance that in the future their water supply will be dependable, within reasonable hydrologic parameters, and of sufficient quality to meet demand at costs low enough to maintain production profitability and land values.
- b. Regulatory certainty. The agricultural exporters want protection from future regulatory constraints on exports from all possible sources (ESA, CVPIA, Clean Water Act, similar state laws).
- c. Costs. They want an assurance that additional water supplies produced by the CALFED Program will be affordable and that their share of costs will be in proportion to the benefits received from the Program.
- d. Facilities. Agricultural exporters want an assurance that any facilities included in the Program will be constructed, permitted and operated according to the agreed upon rules.

5. Delta Agriculture

- a. Water supply reliability. The basic assurance need is continued reliable access to enough high quality water to meet demand, at costs low enough to maintain profitability and land values.
- b. Delta protection. Delta interests want an assurance that the existing levee system will be maintained and that the Delta as a "common pool" will be protected.
- c. Water rights. Delta interests want an assurance that water rights and other contractual rights will not be impaired by the CALFED Program.

6. Upstream Agriculture

- a. Water rights. The basic assurance need for upstream agricultural agencies is that the water rights for the existing agricultural water supply will not be compromised in the future.
- b. Costs. Upstream interests want an assurance that there will be a rational relationship between costs and benefits received and that their share of the payments for the Program are well defined in advance and capped.
- c. Regulatory certainty. They want an assurance that existing and unavoidable regulatory constraints (such as fish screens) will be implemented in a way that provides some certainty of stability and durability (i.e., shelf life).
- d. Water transfers. To the extent that water transfers are a critical part of the preferred alternative, the upstream interests will need assurances that the water market will be operated and regulated in a way that protects and mitigates against third party economic and environmental impacts.
- e. Area of origin. They will also want an assurance that area of origin and watershed protection priorities will be maintained.

7. Upstream Rural

- a. Water supply reliability. The rural counties want an assurance that water needed for agriculture and future urban development is not shifted out of the upstream areas. Related to this is a concern that exporters use water as efficiently as possible.
- b. Area of origin. Rural counties want protection of area of origin and watershed priorities under state law.
- c. Watershed management. These agencies are also looking for some assurance of a revenue stream to support watershed management programs.

8. Upstream Urban

- a. Water rights protection. The basic assurance need is protection of their water rights and supply, e.g., continued ability to divert high quality water above the Delta.
- b. Costs. Upstream urban interest want an assurance that their share of Program costs will be quantified and capped.

9. San Joaquin Tributaries/friant

- a. Water supply. The basic assurance need is that the CALFED Program will have no significant water cost or impact on their water rights. There are concerns about the need for environmental water on San Joaquin system (where will this water be obtained? at whose cost?) which may need to be addressed by assurances.

10. East San Joaquin

- a. Water supply reliability. These interests want an assurance of long-term reliable supply of water, at an affordable cost.
- b. Area of origin. They want an assurance that the area of origin and watershed protection priorities under state law will be upheld.
- c. Groundwater protection. They want an assurance that the CALFED Program will not result in further groundwater overdraft problems in eastern San Joaquin County.

11. Delta Recreation

- a. Recreation access. Recreation interests want some degree of assurance that the Program will not materially impair the use of the Delta for recreational purposes.

12. Urban Business Interests

- a. Economic climate. Urban business interests want an assurance that the CALFED Program implementation will bring an end to the water wars, provide healthy environmental conditions and ensure high quality, reasonable cost water for the future economic development of the State.

13. Rural/Agricultural Related Business And Labor Interests

- a. Economic climate. Business and labor interests which are dependent on agricultural production want assurance that Program implementation will not result in significant disruption of the agricultural economy and job opportunities.

14. San Francisco Bay Interests

- a. Bay protection. Interest groups concerned with the protection of the San Francisco Bay want an assurance that implementation of the CALFED Program will not adversely affect the availability of pulse and flushing flows in and through the Bay.

Assurance Needs and Issues

Stakeholders' concerns can be integrated with the Program components to generate a list of assurance needs. Many of these assurance needs raise additional issues or questions. The assurance needs and issues raised by the case study would probably be raised by other scenarios as well.

1. Ecosystem Restoration Needs

- a. That the specific habitat restoration actions included in the Program will be implemented.
- b. That instream flows and Delta outflows identified in the Program will be provided.
- c. That the operational rules for water management (storage patterns, in-stream flows, diversions) identified in the Program will be adhered to.
- d. That improvements in the Delta ecosystem will restore reliability to export water supplies and allow additional exports to meet growing demands.
- e. That the adaptive management approach will be durable and effective, with secure funding, stable goals and objectives, and protection from political interference.
- f. That the adaptive management approach will provide for discretionary authority to make decisions in pursuit of goals and objectives, particularly in such areas as management of the water supply allocated to ecosystem restoration and acquisition of habitat.
- g. That foreseeable changes in regulatory constraints on commercial and recreational fishing will not have unreasonable impacts on these sectors.

2. Water Quality Needs

- a. That the specific actions identified in the Program to improve urban, agricultural and environmental water quality are implemented.

3. Water Use Efficiency Needs

- a. That efficiency programs for urban, agricultural and environmental uses will be implemented.
- b. That efficiency programs will not impair water rights.
- c. That appropriate mitigation for water transfers will be implemented.

4. Delta Levee Integrity Needs

- a. That actions to maintain delta levees and channels will be implemented.
- b. That programs for protection of levees, channels, infrastructure and land uses from catastrophic events will be implemented.

5. Conveyance Needs

- a. That new conveyance facilities will be permitted, funded, constructed and operated.
- b. That the water supply reliability will be restored to exports and additional benefits in quantity, quality and reliability will be realized from new conveyance facilities.
- c. That foreseeable changes in regulatory constraints will not impair or preclude new conveyance facilities, i.e., the conveyance improvements will have "shelf life."
- d. That operation of the new conveyance facilities will not impair water rights.

6. Storage Facilities Needs

- a. That new storage projects will be permitted, funded, constructed and operated.
- b. That the water supply benefits of new storage, in quantity and reliability, will be realized.
- c. That foreseeable changes in regulatory constraints will not impair new storage improvements.
- d. That new storage facilities or conjunctive use or groundwater banking programs will not impair water rights.
- e. That local groundwater supplies, economies and environmental conditions be protected by appropriate mitigation measures from adverse impacts of conjunctive use and banking programs.

7. Finance Needs

- a. That a revenue stream for ecosystem restoration be quantified and stable.
- b. That funding for other Program components and actions be provided in a timely manner.
- c. That the costs of the Program be spread equitably and commensurate with the benefits received.

8. General Needs

- a. That a process be developed to address unforeseen circumstances that prevent key elements of the solution from being implemented or operated as agreed.
- b. That the mitigation and monitoring actions of the Program be implemented.
- c. That public participation be provided throughout implementation of the Program.
- d. That local economies and environmental conditions be protected from adverse impacts of the program or that adequate mitigation is provided.
- e. That the Program is durable and has "shelf life," i.e., is protected from political and foreseeable regulatory interference.
- f. That water rights, area of origin and watershed protection priorities under state law are protected.

TOOLS OR METHODS OF ASSURANCE

This section describes a preliminary list of tools and methods of assurances available to meet the assurance needs and stakeholders' concerns.

1. **Constitutional Amendments.** Federal or state. Article X §2 of the California Constitution, for example, calls for the reasonable and beneficial use of all water. Constitutional amendments are difficult to obtain, and difficult to modify once obtained.
2. **Statutes.** Federal or state. Examples of statutes that govern management of a resource include the state and federal endangered species laws, state and federal water quality statutes (the Porter-Cologne Act and the federal Clean Water Act), state and local land use statutes and the federal Central Valley Project Improvement Act. Statutes may be modified by act of Congress for federal statutes and by the Legislature for state statutes.
3. **State voter referenda.** Voter referenda can be used for a variety of purposes, but the most common are to enact particular legislation (such as Proposition 13 which enacted constitutional and statutory limits on local financing and property taxation) or to approve particular bond measures (such as the series of California Parks and Wildlife bond measures or the bond measure funding Bay-Delta ecosystem measures [Proposition 204]). Modification of voter referenda is normally more difficult than modifying statutes, and at a minimum requires action by the Legislature.
4. **Regulations.** Federal or state. Adopted by administrative agencies to guide implementation of their duties and obligations. An example is the California Environmental Quality Act (CEQA) guidelines. Regulations are proposed by federal or state agencies and subject to public review and comment prior to adoption. Regulations may be modified by administrative agencies.
5. **Judicial actions.** Federal or state court judgments, orders, validations, consent decrees. Can be modified only by future judicial decrees or statutory changes passed by Congress or the Legislature. Examples: the Racanelli decision on the 1978 Water Quality Control Plan and the California Supreme Court opinion in the National Audubon case, particularly the application of the "public trust" doctrine.
6. **Executive orders.** The President and Governor both may issue executive orders. The Governor issued an executive order to form the Water Policy Council, for example. Executive orders may be modified by action of the President or Governor.
7. **Administrative agency orders.** Examples are water right permits or permit amendments. Administrative agency orders are applications of statutes and regulations to a particular individual or group. They can be modified by subsequent order, but generally require notice and a hearing before the agency may do so.

8. **Contracts.** Legal agreements between two or more individuals or entities. Generally, no one party may unilaterally modify the terms or conditions of a contract. Enforcement may be specified in the terms of the contract and remedy for breach is available through the courts.
9. **Memoranda of understanding/agreement.** MOU/MOAs are interagency agreements with varying levels of specificity. Many are general agreements to cooperate that may be terminated at will by any party. Others are more specific and bind the agencies to a particular financial or programmatic commitment. The CALFED Agencies' MOU describing the roles and responsibilities of each agency with respect to preparation of the Bay-Delta Programmatic EIR/EIS is an example.
10. **Joint powers agreements.** State law authorizes public agencies (including federal, state and local agencies) to enter into agreements in which they "jointly exercise any power common to the contracting parties." Federal legislation would be needed to authorize a federal agency to participate in a joint powers agreement with a state agency.
11. **Financing mechanisms.** Various processes are available for generating capital and operating revenues. Water user fees are one example.
12. **Bond measures.** Provisions in the authorizing legislation or in the bond instruments could be used to establish Program requirements, schedules or related commitments.
13. **Market incentives.** Market forces can be used to encourage or discourage specific behaviors. For example, a water transfer market can create an incentive to use water more efficiently so that the unused portion can be sold.
14. **Physical constraints.** Constructing a conveyance facility to carry a specified amount of water is one example of a physical solution to an assurance problem.
15. **Parallel implementation.** Implementing elements of differing components in parallel processes might provide an assurance that one component is not completed before another is begun.
16. **Public oversight/public involvement process.** Public involvement, public advisory processes and dispute resolution mechanisms will be part of the assurances program.
17. **New institutions.** Created to implement, manage or fund any of the Program components. For example, an environmental water authority may be created by federal and state statute to ensure adequate supplies of water for environmental purposes in the future.

18. **Multiple Species Protection Plans.** A recent tool evolving out of the federal and state endangered species programs is the multiple species protection plan. These plans, which are usually called Habitat Conservation Plans (HCPs) under federal law, and Natural Community Conservation Plans (NCCPs) under California law, generally preserve a portion of a particular habitat for one or more species, and at the same time provide some certainty or stability for the public and private land owners by limiting future regulatory actions in the same area.

19. **Programmatic permitting.** Regulatory assurances could be provided in some circumstances but a programmatic permitting process for the CALFED Program, which would incorporate certain agreements regarding the actions to be required in the event of future regulatory constraints.

GUIDELINES

The Guidelines should be viewed as rule-of-thumb criteria to help in the development and evaluation of individual assurances and assurance packages. Note that there is overlap between some of the guidelines.

- **Satisfy the solution principles (implementable, durable, affordable, equitable, reduce conflicts, no significant redirected impacts).**
- **Provide high confidence that identified actions will be taken and that identified programs will operate as promised.** The Program simply cannot guarantee performance. Ecosystem function and population targets cannot be assured within a finite budget. Water supply reliability levels cannot be guaranteed given the possibility of future climate change. Also, the assurance package should not be used to compensate for perceived problems in the solution itself.
- **Ensure that the solution contain clearly articulated performance criteria and proposed schedules for attaining Program goals.**
- **Specify that the written description of the solutions constitutes the entire agreement.** Parties' unstated assumptions about the implementation of particular components should not be binding.
- **Structure the solution to be self-executing.** The CALFED solution, once implemented, should be minimally dependent upon discretionary actions by actors outside the solution framework.
- **Include recovery mechanisms.** The solution should contain internal mechanisms capable of responding to surprises and disappointments.
- **Provide for implementation of the entire Program, even if that implementation occurs in stages or phases.**
- **Allow for adaptive management, wherever the current state of knowledge is inadequate to made definitive choices now.**
- **Allow for variations in the need for certainty on discrete program components.** Some parts of the Program may need to be "set in stone," whereas in other areas the parties may be willing to agree to a more open-ended or flexible process. This may contradict the adaptive management guideline in some cases.

- **Work within existing statutes, regulations and institutions where feasible.**
- **Involve the public in decision making.** In order to maximize the likelihood of continued public support, the solution should contain mechanisms for soliciting, influencing and responding to public opinion.
- **Craft an integrated package of assurances that work well together.**
- **Minimize costs.** The proposed assurance package should be structured so as to provide the necessary assurances at the lowest possible cost.