Levee System Integrity Program Plan

Responses to Comments

LEVEE SYSTEM INTEGRITY PROGRAM PLAN
RESPONSES TO COMMENTS

1.4 Mission

LS-1.4-1

The Delta must generally remain in its current configuration to achieve CALFED Bay-Delta Program (CALFED Program) objectives and meet CALFED solution principles. This conclusion is derived from the California Water Code, Section 12981. In the Water Code, the Legislature finds and declares that: (1) the Delta's uniqueness is particularly characterized by its meandering waterways and many islands; (2) in order to preserve the Delta's invaluable resources, the physical characteristics of the Delta should be preserved in their present form; and (3) the key to preserving the Delta is the system of levees and waterways that define the islands. The current configuration of the Delta is shown in the Sacramento-San Joaquin Delta Atlas (DWR, 1995).

CALFED does not intend to maintain the status quo. CALFED agrees that some changes to the present configuration will be beneficial, providing there are no significant redirected impacts. For example, setback and cutoff levees could be constructed, channels dredged, ecosystems restored, subsidence reversed, and conveyance enhanced. The Levee System Integrity Program (Levee Program) is being developed and evaluated at a programmatic level. More focused analyses and documentation for specific projects will occur in subsequent efforts.

LS-1.4-2

A fundamental CALFED Program concept is that the four problem areas (ecosystem quality, water quality, water supply reliability, and levee system integrity) are interrelated and CALFED cannot describe or address problems in one problem area without addressing related problems in the other areas. In the past, most proposed projects were single-purpose projects that led to conflict. By adopting a multi-faceted approach to solving the interrelated problems of the Bay-Delta system, CALFED will avoid redirected impacts on others. For CALFED to be successful, a sufficient level of funding must be provided in all of the major problem areas to assure improvements occur simultaneously. Thus the proposed funding level for the Levee Program is justified, because it is balanced by equivalent funding in the other problem areas.

LS-1.4-3

A fundamental CALFED Program concept is that the four problem areas (ecosystem quality, water quality, water supply reliability, and levee system integrity) are inter-related and that CALFED cannot address problems in one problem area without addressing related problems in the other areas. Reducing levee system vulnerability is essential to all areas of CALFED, as the levees protect potential CALFED project elements. For CALFED to be successful, a sufficient level of funding must be provided in all of the major problem areas to ensure that improvements occur simultaneously. Thus, the proposed funding level for the Levee System Integrity Program is balanced by equivalent funding in the other problem areas.

The benefits of the levee program are multi-faceted and duplicative, bearing statewide significance. Some benefits are not easily quantified. Yet the Delta levees must generally remain in their current configuration to achieve CALFED objectives and meet CALFED solution principles. Even if land use were to change and levees were to be abandoned at some point in the future, these changes are not expected to occur quickly. The levees must be improved and maintained in the interim to protect existing assets as well as proposed CALFED Program projects.

2.1.2 Scope

LS-2.1.2-1

One of the CALFED solution principles is to pose no significant redirected impacts. CALFED recognizes the importance of coordinating Ecosystem Restoration Program, Levee Program, and Storage and Conveyance actions to avoid unnecessary adverse impacts. The respective program managers are coordinating their actions with each other and with technical and stakeholder groups. Stakeholders are encouraged to provide direct input at Bay-Delta Advisory Committee (BDAC) meetings held approximately monthly.

LS-2.1.2-2

One of the CALFED solution principles is to pose no significant redirected impacts. Any significant flood control impacts due to Ecosystem Restoration Program actions will be mitigated—regardless of where the Ecosystem Restoration Program actions are implemented.

LS-2.1.2-3

Although Table 3 in the Levee System Integrity Program Plan provides data regarding only the levee system, Appendix D, "Special Projects Information Matrix," provides important information on the resources protected by the levee system. Appendix D includes information on island acreage and levee mileage, life and personal property, agricultural production, water quality, recreation, cultural resources, infrastructure of local and statewide concern, and habitat and ecosystems. This information will need to be updated regularly to provide the best information for decision makers.

CALFED does not propose the construction of setback levees as a means to improve levee system integrity or reliability. Land acquisition needed to improve levee integrity would be minimal. Levee centerline alignments may move slightly landward to accommodate levee rehabilitation to the Public Law (PL) 84-99 Delta Specific Standard. CALFED intends to pursue easements, not fee title, whenever possible. CALFED is exploring ways to allow landowners to use the easements for access roads and equipment staging areas. The current cost estimate includes acquisition of easements for 3,419 acres for PL 84-99 improvements and 1,209 acres for associated seepage repairs.

All known levees that would be affected under the Base Level Protection Plan, which is the largest element of the Levee Program, are listed in the Levee System Integrity Program Plan. The actions of the Special Improvement Projects Program are subject to periodic analysis for statewide need and therefore are difficult to predict. Actions include general levee improvement, seismic retrofitting, and subsidence correction. Setback levees may be pursued to achieve Ecosystem Restoration Program and Storage and Conveyance benefits.

LS-2.1.2-4

The Levee Program objective is to reduce the risk to land use and associated economic activities, water supply, infrastructure, and the ecosystem from catastrophic breaching of Delta levees. Improvements to levees outside the legal Delta are beyond the scope of this objective. However, CALFED is concerned about the impacts associated

with the development of setback levees and the rehabilitation of existing levees. The Levee Program is coordinating with the U.S. Army Corps of Engineers (Corps) and the State Reclamation Board (Board) in their efforts on the Sacramento-San Joaquin River Basins Comprehensive Flood Control Study that currently is underway. The comprehensive study is a more appropriate venue to address improvements to levees outside the legal Delta.

LS-2.1.2-5

The California Department of Water Resources' (DWR's) Bulletin 192-82 and the Corps' PL 84-99 standards are from a practical standpoint the same. The 300-year flood elevation in the Delta is only slightly higher than the 100-year event because of tidal influence. Both are agricultural standards that recognize that the landside slopes often must be flattened significantly to obtain a satisfactory factor of safety with respect to stability. Both standards indicate that the waterside slope is 2 horizontal to 1 vertical.

CALFED recognizes the importance of coordinating Ecosystem Restoration Program and Levee Program actions. The respective program managers are coordinating their actions. The results of this coordination are included in the Levee System Integrity Program Plan, Ecosystem Restoration Program Plan, and the Multi-Species Conservation Strategy. Prospective concept designs for Ecosystem Restoration Program/Levee Program coordination have been developed. Specific locations for their implementation will be addressed in subsequent environmental documents for individual projects.

LS-2.1.2-6

The Levee Program objective is to reduce the risk to land use and associated economic activities, water supply, infrastructure, and the ecosystem from catastrophic breaching of Delta levees. Improvements to flood control and levees outside the legal Delta are beyond the scope of this objective. However, CALFED is concerned about the impacts associated with flood control and development outside the Delta. The Levee Program is coordinating with the Corps and the Board in their efforts on the Sacramento-San Joaquin River Basins Comprehensive Flood Control Study that currently is underway in order to maximize benefits and eliminate redirected impacts on both programs. The comprehensive study is a more appropriate venue to address improvements to levees outside the legal Delta.

LS-2.1.2-7

One of the CALFED solution principles is to pose no significant redirected impacts. CALFED recognizes the importance of coordinating Ecosystem Restoration Program, Levee Program, and Storage and Conveyance actions to avoid unnecessary adverse impacts. The respective program managers are coordinating their actions. Also, CALFED is coordinating with the Corps and the Board in their efforts on the Sacramento-San Joaquin River Basins Comprehensive Flood Control Study that is currently underway. The study area includes major tributaries into the Delta. The CALFED Program and planning efforts will be compatible with the comprehensive study.

LS-2.1.2-8

A state program currently funds levee improvements to the Bulletin 192-82 level of protection. The Levee Program is proposing to improve Delta levees to the PL 84-99 standard, which offers a level of protection similar to the Bulletin 192-82 standard. Both standards are agricultural standards.

LS-2.1.2-9

CALFED does not propose to construct setback levees as a means of improving levee system integrity or reliability. Setback levees may be pursued to achieve ecosystem restoration and storage and conveyance benefits. The CALFED Program is being developed and evaluated at a programmatic level. More focused analyses and documentation for site-specific projects will occur in subsequent efforts.

CALFED is concerned about impacts associated with the development of setback levees. The merits and liabilities of setting back levees will be closely scrutinized. The construction of setback levees will be considered on a site-specific basis. Landowners and other stakeholders will be consulted during project formulation.

2.1.6 Maintenance

LS-2.1.6-1

One of the CALFED solution principles is to pose no significant redirected impacts. Any significant flood control impacts due to Ecosystem Restoration Program actions will be mitigated—regardless of where the Ecosystem Restoration Program actions are implemented. Levee integrity will be maintained, and associated channel maintenance and ecosystem restoration projects will not be allowed to diminish the level of protection. Local agencies will be responsible for maintaining project and non-project levees. The Board will approve plans for the maintenance and improvement of the project and non-project levees, including plans for the annual maintenance of the levees in accordance with the criteria adopted by the Board.

2.1.7 Oversight and Inspections

LS-2.1.7-1

The levee inspection reports will be public documents and therefore will be accessible to the public. The priority of projects under the Special Improvement Projects element will be based on the importance or degree of statewide benefits and the need for flood protection. CALFED suggests that the priority of Special Improvement Projects be approved by the California Water Commission and CALFED Policy Group and that the priority of projects be consistent with CALFED objectives. CALFED will welcome public input through these groups.

2.2 Delta Levee Special Improvement Projects

LS-2.2-1

CALFED thanks you for your input in helping us to fill out these tables.

2.2.3 Project Priority

LS-2.2.3-1

The goal of the special improvements projects is to provide additional flood protection above the base level protection (PL 84-99) for Delta islands that protect public benefits. Priority of projects is to be based on the importance or degree of statewide benefits and the need for flood protection. CALFED suggests that project prioritization be approved by the California Water Commission and CALFED Policy Group and that a Levee Implementation Group, made up of agency representatives and stakeholders, develop the priority list of special improvement projects consistent with CALFED objectives.

2.3.5 Proposed Program

LS-2.3.5-1

The Delta must remain basically in its current configuration to achieve CALFED objectives and meet CALFED solution principles. Attempts to substantially change the levee system or land use would be viewed as non-implementable and, therefore, would not meet CALFED's solution principles regardless of cost concerns. Even if land use were to change and levees were to be abandoned at some point in the future, these changes are not expected to occur quickly. The levees must be improved and maintained in the interim to protect existing assets, as well as proposed CALFED Program projects. Over the past 25 years, the State's existing levee program has demonstrated that levees in the Delta can be stabilized cost effectively. Levee rehabilitation costs compare favorably to the cost of restoring elevations of subsided Delta islands.

Subsidence control measures will be incorporated into the Levee Program Base Level and Special Improvement projects. Grant programs will be funded to develop new measures that address subsidence. The Comprehensive Monitoring, Assessment, and Research Program (CMARP) will assist in quantifying the effect and extent of inner-island subsidence and its linkages to all CALFED objectives. CALFED welcomes innovative ideas from all stakeholders. All measures must meet CALFED's six solution principles.

LS-2.3.5-2

Continued subsidence will affect CALFED objectives to varying degrees. The Levee System Integrity Program Plan focuses on subsidence that affects levee integrity. Current best management practices (BMPs) to correct subsidence effects on levees will be implemented, and grant projects will be funded to further research on subsidence effects on levees. Subsidence control measures will be incorporated into base level and special improvement projects. Stage 1 Levee Program actions include: (1) implementation of current BMPs to correct subsidence effects on levees, and (2) promotion of CMARP activities to quantify the effect and extent of inner-island subsidence through ongoing and new research projects.

LS-2.3.5-3

Subsidence in the Delta is caused mainly by near-surface processes, including consolidation/settlement, shrinkage, and decomposition of organic soils. In comparison, deep-seated causes of subsidence, such as groundwater extraction, contribute little to subsidence in the Delta. Outside the Delta, subsidence caused by groundwater overdraft is a concern. CALFED's Water Management Strategy includes a groundwater storage and conjunctive use component. As with all CALFED programs, the Water Management Strategy will adhere to the solution principles.

2.5.2 Past and Present Efforts

LS-2.5.2-1

CALFED envisions that the Levee System Integrity Program will revitalize the levee rehabilitation industry in the Delta. Through the normal course of upgrading and maintaining the levees, a fleet of specialized heavy-marine construction equipment will be present in the Delta and thus be available for emergency response. CALFED does not intend to assemble and maintain a fleet of barges and equipment just for emergency flood fights and repair.

LS-2.5.2-2

CALFED assembled an expert seismic/geotechnical team to evaluate the seismic risk to Delta levees. The team included very knowledgeable and experienced persons. The analyses and assessments presented in the report are based on the most current available information. Until further research and study are conducted, this team's collective assessment is "state-of-the-art."

While the seismic team's report quantifies the magnitude of the current seismic vulnerability of levees, CALFED agrees that the "seismic risk problem" has not been defined. However, CALFED continues to seek knowledge and solutions to the seismic risk problem. Two teams have been formed. One team of geotechnical engineers is developing recommendations for seismic upgrades and other measures to reduce levee failures. Another team has been tasked to perform a risk assessment of factors that contribute to levee failure, evaluate the consequences of failure, and develop risk management options. Once these two studies are completed, the seismic risk problem should be better understood.

LS-2.5.2-3

The following sentence has been removed from the Levee System Integrity Program Plan, pending results of the risk management analysis currently being planned:

> "The assessment determined that a significant seismic risk is present; however, improved preparedness can reduce the potential damage."

2.5.3 Proposed Risk Assessment

LS-2.5.3-1

Given the numerous public benefits protected by Delta levees, the focus of the CALFED strategy is to improve levee integrity. The Levee System Integrity Program Plan will build on the successes of existing programs in achieving its goals of improving and maintaining levee integrity, improving emergency response, and identifying and managing the risks to Delta levees. By selecting the Corps' PL 84-99 standard, (minimum static factor of safety of 1.25 and minimum freeboard of 1.5 ft), as the base level protection, levee integrity will be increased throughout the Delta. In addition, under special improvement projects, flood protection will be increased for key islands that provide statewide benefits to the ecosystem, water supply, water quality, economy, and infrastructure. Through the Emergency Management and Response Plan, emergency response capabilities and resource allocation will be improved to a level that multiple concurrent levee breaks can be efficiently and quickly closed and other levee threats eliminated.

Over the past years, the existing Delta Levee Maintenance Subventions and Special Flood Control Project Programs have reduced the flood and seepage risk by improving levees. Numerous research and demonstration projects have been conducted that determined how to reduce many threats to levees. Recently, a seismic risk assessment was made by a group of experts in the fields of seismology and geotechnical engineering, and an evaluation of subsidence has been conducted by scientists and geotechnical engineers familiar with Delta levees. (Refer to reports in the appendices to the Levee System Integrity Program Plan.)

CALFED staff will work with stakeholders, the public, and state and federal agencies to develop and implement a Delta levee risk assessment and risk management strategy to be completed during Stage 1 as listed in the Implementation Plan. CALFED will incorporate the findings from the Seismic Vulnerability, Geotechnical, and

Risk Assessment Subteams into an overall risk assessment. Once the risk to Delta levees is quantified and the consequences evaluated, CALFED will develop and implement an appropriate risk management strategy.

LS-2.5.3-2

The Levee System Integrity Program Plan proposes, as a minimum, to improve and maintain Delta levees to the PL 84-99 standard. By selecting the Corps' PL 84-99 standard, (minimum static factor of safety of 1.25 and minimum freeboard of 1.5 ft), as the base level protection, levee integrity will be increased throughout the Delta. In addition, under special improvement projects, flood protection will be increased for key islands that provide statewide benefits to the ecosystem, water supply, water quality, economy, and infrastructure. Through the emergency management and response plan, emergency response capabilities and resource allocation will be improved to a level that multiple concurrent levee breaks can be efficiently and quickly closed and other levee threats eliminated. CALFED concurs that the program should be designed to limit any interruption of services and supplies following a major catastrophe to 6 months or less.

LS-2.5.3-3

CALFED continues to seek knowledge and solutions to the "levee risk problem." Two teams have been formed. One team of geotechnical engineers is developing recommendations for seismic upgrades and other measures to reduce levee failures. Another team has been tasked to perform a risk assessment of multiple factors that contribute to levee failure, evaluate the consequences of failure, and develop risk management options. Once these two studies are completed, the overall risk to Delta levees should be better understood.

CALFED staff will work with stakeholders, the public, and state and federal agencies to develop and implement a Delta levee risk assessment and risk management strategy. CALFED will incorporate the findings from the Geotechnical and Risk Assessment Subteams into an overall risk assessment. Once the risk to Delta levees is quantified and the consequences evaluated, CALFED will develop and implement an appropriate risk management strategy.

4.2 Proposed Program

LS-4.2-1

CALFED is concerned about the impacts associated with the development of setback levees. The merits and liabilities of setting back levees will be closely scrutinized. Constructing and maintaining setback levees on Delta soils containing large amounts of peat can be difficult and very costly. Therefore, use of setback levees may not be feasible in many cases. Landowners and other stakeholders will be consulted during project formulation.

LS-4.2-2

CALFED seeks to minimize habitat-related conflicts with local maintenance agencies and address conflicts between the Levee Program and the Ecosystem Restoration Program. The Levee Program will build on the success of existing programs, such as the Assembly Bill (AB) 360 program, in developing methods for successful levee and ecosystem coordination. Levee Program and Ecosystem Restoration Program staff are working in close coordination to develop additional strategies that will minimize conflicts between goals of the two programs. Program staff jointly developed levee cross sections that would minimize potential conflicts.

In general, it is desirable to provide separation of the habitat from the levee cross section. An existing environmental baseline must be set, and all existing habitat required to meet AB 360 habitat goals should be

relocated off the levee structural cross section where possible. Other vegetation on the levees must not impinge on the structural levee section. The structural section is the minimum section required for levee integrity; therefore, additional material must be placed above and beyond the levee structural section to accommodate vegetation.

Levee Program and Ecosystem Restoration Program staff have coordinated with California Department of Fish and Game (DFG) staff, who have identified many potential restoration sites in the Delta and are working to coordinate the selection of Ecosystem Restoration Program levee habitat restoration sites with local residents who have greatest knowledge of the Delta terrain. A small task force (including representatives of North, Central, and South Delta Water Agencies; the Delta Protection Commission; and the National Heritage Institute) assembled to identify attractive sites for habitat restoration. Their efforts resulted in a report titled, "Alternative Proposals for CALFED Ecosystem Restoration Program in the Delta" (State of California, Delta Protection Commission, July 10, 1998).

LS-4.2-3

The impact of vegetation on levee integrity, maintenance, and emergency response is well documented in several state and federal design and maintenance manuals. The statements made in the Levee System Integrity Program Plan concerning vegetation on levees are well founded on published information and experience with designing, maintaining, and flood fighting Delta levees. Two reference documents are the Corps' 1978 Design and Construction of Levees Manual (Engineer Manual 1110-2-1913, Washington, DC), and the recently updated (1999) Guidelines for Landscape Planting and Vegetation Management at Floodwalls, Levees, and Embankment Dams (Engineer Manual 1110-2-301, Washington, DC).

The Levee Program and Ecosystem Restoration Program staffs are working in close coordination to develop strategies that will minimize conflicts between the goals of the two programs. Independently, levee vegetation and habitat restoration demonstration projects are being constructed and promoted throughout the Delta. Information obtained from these and future studies will further help integrate Program goals.

LS-4.2-4

Participation in the Levee Program will be voluntary, and local agencies that participate will prioritize projects based on their individual needs. If funding is limited, the Board will apportion the funds among those projects identified by DWR as most critical and beneficial. Also, as listed in Table 13 (Levee System Integrity Program Proposed Cost Sharing), footnote "a," in the Levee System Integrity Program Plan, all user costs are subject to an "ability to pay" analysis.

LS-4.2-5

One of the CALFED solution principles is to pose no significant redirected impacts. Levee upgrades will be made to avoid any impacts on East Bay Municipal Utility District aqueducts. Any significant unavoidable impacts due to Levee Program actions will be properly mitigated.

5. Permit Coordination

LS-5-1

CALFED acknowledges that the Levee Program and Ecosystem Restoration Program could benefit from clean dredged material, and that the Storage and Conveyance Program and general flood control could benefit from

dredging Delta channels to increase flow capacity. Over the past decade, however, it has become increasingly difficult to dredge in the Delta because of very short work windows to satisfy endangered species requirements and Central Valley Regional Water Quality Control Board (CVRWQCB) waste discharge concerns. CALFED approved a $500,000 Category III grant to DFG, the Delta Protection Commission, and the CVRWQCB to establish waste discharge requirements and obtain general order permits that would allow dredging and reuse of non-saline dredged material.

Board approval for the reuse of saline dredged materials will be pursued following approval of non-saline materials. CALFED recognizes that the Long-Term Management Strategy (LTMS) Program has a significant upland disposal goal, as does the Save The Bay report. Once the reuse of saline dredged materials receives Board approval and is found to be economically viable, CALFED will pursue the reuse of saline dredged materials from the Bay.

LS-5-2

CALFED's need to dredge and reuse the material is clear. CALFED further agrees that potential partnership opportunities exist with bay dredgers. The Levee Program has been communicating with the LTMS Program to identify areas where coordination between the programs would be beneficial. Linkages between the Levee Program and the LTMS Program are discussed in the Programmatic EIS/EIR. The availability of needed borrow or dredged material is being investigated on a programmatic level. Implementation will be analyzed on a project-specific level.

6.0 Linkages

LS-6-1

CALFED's role is to coordinate issues and funding. Program elements are expected to be implemented through existing programs to the greatest extent possible.

1. Base level protection will be achieved through an extension of the existing Subventions Program defined in the California Water Code, commencing with Section 12980, except that CALFED recommends selection of the Corps' PL 84-99 Delta Specific Standard as the minimum base level standard. The Board has jurisdiction over all levee rehabilitation and maintenance, and will be the local sponsor as required. The Board is authorized to make such rules and regulations that are necessary to carry out its responsibilities, consistent with the California Water Code.

2. The special improvement projects element of the Levee System Integrity Program Plan will be carried out through an extension of the existing Special Projects Program as defined in the California Water Code. Project plans will be developed by DWR in cooperation with the local agency, the public beneficiary, and DFG. Project plans will be subject to the approval of the appropriate local agency or agencies and DFG.

3. Subsidence control measures will be incorporated into the base level and special improvements projects. The California Water Code's Special Flood Control Projects Program states that local agencies will acquire easements from the crown along levees for the control and reversal of subsidence in areas where DWR determines that such an easement is desirable to maintain structural stability of the levee.

4. The Emergency Management and Response Plan will build on existing state, federal, and local agency emergency management. It will propose specific actions that will improve response flexibility to ensure that appropriate resources are available and properly deployed, and provide for effective disaster recovery measures. The existing emergency management structure is designed to coordinate activities of multiple state, federal, and local agencies with varying responsibilities to provide emergency assistance in the event

of a disaster. The Standardized Emergency Management System (SEMS) provides a framework for coordinating state and local government emergency response in California, using the Incident Command System (ICS) and mutual aid agreements. SEMS facilitates setting priorities, cooperation among agencies, and the efficient flow of resources and information.

Nevertheless, many issues and concerns overlap between the Levee Program and other CALFED components, and between the Levee Program and ongoing programs of other agencies. The Levee Program strives to identify all possible connections and areas of overlap, to coordinate with other programs to the maximum possible extent for mutual benefit, and to ensure that Levee Program objectives do not conflict with other programs. Implementation of the Levee Program will require regular input from stakeholders, the technical community, and the public. A Levee Program Coordination Group will be formed at the beginning of Stage 1 implementation to coordinate technical and non-technical issues between the BDAC and the CALFED Policy Group. The coordination group would also coordinate levee actions with all other CALFED actions.

10. Funding

LS-10-1

The Levee System Integrity Program Plan strategy to reduce the risk from catastrophic breaching of the levees does not include the creation of a new governing body. All program elements are expected to be implemented through existing programs, with the emphasis on establishing adequate and stable funding. The Levee Program will build on the strengths of, and seek continuity with, existing funding programs such as the Subventions Program and Special Projects Program. In addition, the Levee Program will seek to resolve problems in current funding strategies and identify mechanisms that best secure long-term funding.

10.1.2 Proposed Funding Provisions

LS-10.1.2-1

The existing Subventions and Special Projects Programs have received over $108 million between 1988 and 1998. Local levee-maintaining agencies have matched much of this State funding. This joint capital outlay demonstrates a significant commitment to levee maintenance and restoration programs on the State and local level. CALFED plans a significant increase in current funding levels with the addition of federal funding to the existing State and local funding.

11. Stakeholder Science Review

LS-11-1

The Levee System Integrity Program Plan strategy to reduce the risk from catastrophic breaching of the levees does not include the creation of a new governing body. All program elements are expected to be implemented through existing programs that work well but are hampered by a lack of adequate and consistent funding.

Nevertheless, many issues and concerns overlap between the Levee Program and other CALFED components, and between the Levee Program and ongoing programs of other agencies. The Levee Program strives to identify all possible connections and areas of overlap, to coordinate with other programs to the maximum possible extent for mutual benefit, and to ensure that Levee Program objectives do not conflict with other programs. Implementation of the Levee Program will require regular input from stakeholders, the technical community, and the public. A Levee Program Coordination Group will be formed to coordinate technical and non-technical issues

between the BDAC and the CALFED Policy Group. The coordination group also will coordinate levee actions with all other CALFED actions.

13. Suisun Marsh Levee System

LS-13-1

CALFED has added the Suisun Marsh levee system to the Levee Program in order to achieve ecosystem quality, water supply reliability, and water quality objectives. Efforts to clarify linkages of these actions to the CALFED objectives are ongoing in the Suisun Marsh levee investigation and will be completed during early Stage 1 as listed in the Implementation Plan. The investigation results will further clarify the appropriate direction to be taken in planning Suisun Marsh levee work.

Ensuring the integrity of the exterior levees in the Suisun Marsh sustains seasonal wetland values provided by the marsh's managed wetlands. Improved levees will ensure that managed wetlands are not converted to tidal wetlands due to levee failure. Instead, conversion will be planned, with consideration of landowner support, Ecosystem Restoration Program targets, regional wetland goals, endangered species recovery plans, and Delta water quality objectives.

The following alternatives are being considered for the Suisun Marsh levees:

- Include all the exterior levees (approximately 229 miles) in the Levee Program. The existing "Suisun Marsh Exterior Levee Standard" would be adopted.

- Protect part of the levee system. Reconfigure the marsh to protect existing managed wetlands and develop new tidal wetlands.

programs, will be studied further to determine whether they are entirely sustainable. Land retirement for salinity (and selenium) control through the CALFED Program is considered a final option. Increasing the water quality in the San Joaquin River will also benefit wildlife and water users in the Delta. Costs for such activities will initially be shared by various agencies and farm owners. CALFED staff is seeking funding for larger implementation at cost-effective rates.

7.5.1 Local Actions

WQ 7.5.1-1

The recommended changes have been made in the WQPP.

WQ 7.5.1-2

While the WQPP mentions a maximum of 37,400 acres of land that might be retired under this program (as a last-ditch effort), there is no effort to retire 25 percent of the approximately 7 million acres of irrigated farmland in the San Joaquin Valley. In so far as the RWQCB needs to adopt a salinity objective in the San Joaquin River, and CALFED participates in the scientific research that leads to a justifiable objective, it does not mean that CALFED is exerting any regulatory hammer. Most of the CALFED actions center around activities that promote on-farm solutions. Furthermore, the CALFED Salinity/Selenium Workgroup has stated that it wishes to promote only those projects that are sustainable. In summary, CALFED will participate in the scientific process of setting an objective, as it will in other water quality areas. CALFED also will research methods to reduce pollutant levels in discharges of concern. In addition, CALFED is researching other solutions that are more regional and do not involve individual businesses. All of this work should not be construed as promoting a regulatory hammer or eliminating millions of acres of farmland.

WQ 7.5.1-3

It is correct that formal economic feasibility has not been determined for these actions. These actions are still an area that can be studied to determine economic and technical feasibility, as well as whether the actions are sustainable. Technical feasibility includes demonstration that the project removes and disposes of salt while protecting water resources and wildlife. Disposal of salt includes potential marketing as well as in-valley and out-of-valley disposal. CALFED proposes to fund research in all of these areas to determine what is feasible.

WQ 7.5.1-4

The integrated on-farm management actions were developed by representatives of the California Department of Food and Agriculture, UC Davis, and a farmer in the Westlands area. In the beginning project, a farmer was able to reclaim marginal farmland and has not discharged salt to landfills or the river. The study of whether this is a truly sustainable project has not been conducted; however, interim studies have proven some effectiveness. Recently, interest in the process has increased. As many as six other facilities are in various stages of planning to use this method to maintain or increase productivity of their farmland. The CALFED Salinity/Selenium Workgroup has contacts for the commentor's edification.

WQ 7.5.1-5

The contradiction mentioned does arise when drainage is left unchecked. Irrigation reduction may reduce overall salt discharge, but drainage reduction with higher salt concentrations may not. However, drainage reduction coupled with real-time discharges can reduce impacts of salts discharged in the return water. Drainage reduction

can also be conducted by methods that remove salt from the system. It is agreed that sometimes the removal of salts is limited to increased salt levels in soils, which will eventually destroy the utility of the cropland. Therefore, this method may not be selected by the CALFED Salinity/Selenium Workgroup, which has decided to seek projects that are sustainable.

7.5.2 Basinwide Actions

WQ 7.5.2-1

CALFED will support monitoring studies of the San Joaquin River watershed and will support development and implementation of a comprehensive plan for improving the quality of the San Joaquin River. The SJVDIP is the entity bearing primary responsibility for this work. CALFED staff have worked closely with the SJVDIP in the realization that salt and selenium management in the San Joaquin Valley has important effects on the Bay-Delta estuary. This close-working relationship will continue, as will CALFED's technical and financial assistance to the SJVDIP. CALFED will support actions that enable water quality objectives to be met at Vernalis while respecting area of origin and watershed protection laws.

WQ 7.5.2-2

Salinity is an important determinant of the feasibility of wastewater recycling and groundwater conjunctive use as elements of a broad-spectrum water management approach to resolving the water supply problems associated with the Delta estuary. This is especially true for southern California, where the relatively high cost of fresh water supply makes recycling and conjunctive use projects attractive as alternatives. The Delta Drinking Water Council that is being formed by CALFED is charged to evaluate and recommend needed intermediate and long-term water quality targets. The Council will be asked to consider the need for a salinity target to increase water management options, particularly in southern California. The Council will also be asked to consider the need for other actions designed to reduce salinity in water supplies diverted from the Delta. The CALFED Program is not expected to cause an overall increase in the salinity of water diverted from the Delta and should not, therefore, cause negative impacts on groundwater quality that would require mitigation. If other measures prove inadequate, the scope of the Program allows for consideration of facilities to improve water quality.

WQ 7.5.2-3

CALFED supports development of a comprehensive program to control salinity in the San Joaquin River, in cooperation with the CVRWQCB and the SJVDIP. While the CALFED Program is intended to reduce conflicts among beneficial uses of the waters of the Bay-Delta estuary, it has been acknowledged from the outset that not all problems associated with water supply, water quality, and water management in California can be solved through the CALFED Program. The CALFED Program will help to mitigate the impacts of the SWP and CVP but may not reduce all such impacts to less-than-significant levels.

WQ 7.5.2-4

CALFED is a cooperative, inter-agency effort involving many state and federal agencies with management or regulatory responsibilities for the Bay-Delta. Each participating agency bears its respective authorities and responsibilities, independent of CALFED efforts. One primary purpose of CALFED is to facilitate the collaborative and cooperative use of these authorities and responsibilities, as well as CALFED resources, to better address the range of problems facing the Bay-Delta.

CALFED does not possess independent, regulatory authority over water quality. However, CALFED does recognize the need for participating agencies to exercise their responsibilities with regard to water quality. CALFED will work with all entities in support of achieving its water quality goals.

The Water Quality Program calls for implementation of a range of tools by participating agencies and interested parties to accomplish its goals. These tools include, but are not limited to, voluntary efforts, use of economic incentives, and exercising regulatory authority by appropriate agencies. The appropriate mix of tools will vary, depending on the problem, existing activities, and where CALFED's Program can add value.

WQ 7.5.2-5

The question of whether the scope of the CALFED Program should include a solution to the problem of salt accumulation in the San Joaquin Valley was considered at length during the scoping period of the Program. Because an existing program (SJVDIP) has primary responsibility for addressing the drainage problems of the Valley, it was decided that CALFED would act in a supporting role to the SJVDIP. CALFED would provide funding and other support as appropriate to the primary CALFED mission of reducing conflict in the system by improving ecosystem functions, providing good water quality for all beneficial uses, increasing water supply reliability, and improving levee system integrity. State, federal, and local agencies are actively conducing an environmental evaluation of a drain alternative. CALFED has chosen to defer inclusion of a drain alternative until the outcome of the environmental study is known and a drain alternative that meets CALFED solution principles of no redirected impacts is identified.

Salt disposal requires transport out of the valley, long-term in-valley storage, or use of residual salts as a commodity. Currently, the San Joaquin River is the conduit for out-of-valley salt disposal. CALFED is proposing to use real-time monitoring of the San Joaquin River to release salt buildup on agricultural land without reducing water quality of the San Joaquin River and Delta. CALFED is also proposing residual use of salt through the integrated on-farm management system. The integrated on-farm management system creates a crystalline salt by-product from used irrigation water and attempts to market the salt for industrial use. These activities will be used to their fullest extent in attempts to balance the salt loadings within the San Joaquin Valley. As pointed out, an out-of-valley drain could convey saline water to the Pacific Ocean either directly or through the Bay and Delta. The out-of-valley drain proposal is very controversial, with suspected negative ecological impacts, and therefore is not recommended as a priority action.

WQ 7.5.2-6

CALFED is not in a position to offer assurances for the correction of the salinity problem in the San Joaquin Valley. The problem is vast, and the solution will likely be complicated and costly. CALFED is committed to working with the RWQCB to help develop tools necessary to meet the TMDLs that the Board will consider. CALFED has funded other monitoring efforts and will likely fund salinity monitoring efforts as well. CALFED also proposes to conduct projects that will eliminate some salt discharges to the San Joaquin River while maintaining agricultural productivity.

WQ 7.5.2-7

CALFED staff has been working with major water contractors to determine costs of salinity treatment for both drinking water and agriculture. Salt affects both irrigation water and drinking water. Treatment technology and costs will be considered in the development of solutions for individual areas.

WQ 7.5.2-8

The recommended change has been incorporated into the WQPP.

WQ 7.5.2-9

CALFED is working with irrigation districts, drainage districts, the RWQCB, environmental groups, and other interested parties to address agricultural drainage. Salt removal, selenium removal, oxygen-depleting compounds, and pesticide toxicity control are key areas of our efforts. In many cases, the effort focuses on preventing contaminants from reaching the river. The effort is an attempt to balance needs of the ecosystem while protecting the agricultural economy of California's Central Valley.

WQ 7.5.2-10

At the time of writing the June 1999 Draft Programmatic EIS/EIR, the concept of an out-of-valley drain to off-shore disposal was not actively discussed, at least not among the contributors to the document. To date, there are no known studies of this type of proposal to determine its feasibility. It has been CALFED's position to first support the in-valley solutions. The original concepts of the out-of-valley drains proved controversial and are suspected to result in negative environmental impacts. Through adaptive management, CALFED may consider less controversial drain options with no negative environmental impacts. This topic is still beyond the scope of this Programmatic EIS/EIR for lack of information. It should be mentioned that other solutions for salinity and other problems also are not addressed in the Programmatic EIS/EIR for lack of information.

WQ 7.5.2-11

CALFED has formed a stakeholder and agency workgroup for salinity/selenium issues. That workgroup is relatively new and has decided on one principle: to work on projects that are sustainable. This decision reflects the desire to seek durable solutions that will protect Central Valley farmland while reducing salinity of San Joaquin River water. Members of the work group have also expressed interest in out-of-valley drainage. State, federal, and local agencies are actively conducting an environmental evaluation of a drain alternative. CALFED has chosen to defer inclusion of a drain alternative until the outcome of the environmental study is known and a drain alternative that meets CALFED solution principles of no redirected impacts is identified. The Salinity/Selenium Workgroup is charged with determining individual projects that will meet CALFED salinity/selenium objectives. Determination of this sort requires prioritization of project actions, development of new project alternatives (including research and pilot projects), and environmental documentation. Such environmental documentation will include feasibility of the project. If many project actions are proposed at the same time, or evaluated at the same time, a comparison and discussion of linkages will be included. It is possible that many of the proposed actions mentioned in the WQPP will not meet the qualification of being sustainable and will therefore not be reviewed further.

WQ 7.5.2-12

Real-time management of salinity in the San Joaquin River will provide some benefit to removing salt from drainage areas in the San Joaquin Valley. It will not provide any benefit to undrained areas such as Westlands Water District and the Tulare Lake basin. Real-time management is not expected to meet all of the salt disposal needs of the drainage areas. Other salt disposal options will likely need to be used in order to meet San Joaquin River salinity objectives. Real-time management may also incorporate monitoring that may lead to salt disposal restrictions during times not currently regulated. Such management may require additional structures to store

water in advance of being able to discharge. CALFED is proposing to fund some initial work towards real-time monitoring in early implementation.

WQ 7.5.2-13

The reference has been changed to "Chapter 5.3 in the impact analysis of this Programmatic EIS/EIR contains data on the water quality of supply water from the Delta." Other references to yet unreleased reports and studies have been deleted.

WQ 7.5.2-14

The information needed in the area of real-time management is noted in the bulleted section—namely, multifunction water quality analyzers; a data quality assurance system; flow and quality control systems; and an institution to coordinate among regulatory, operators, and other entities.

WQ 7.5.2-15

CALFED is considering the construction and use of barriers to help maintain static water levels in parts of the Delta. The use of the barriers and other in-Delta modifications (as well as operational changes) may promote the export of fresh waters, thus preventing some of the recycling that occurs now. These changes, coupled with removal of salt from drain waters, will promote longevity of San Joaquin Valley agriculture. Further steps in these directions would enhance the longevity of agricultural production in the valley. No studies have been completed to specify whether each individual method is feasible or effective.

WQ 7.5.2-16

Solution approaches in the Water Quality Program do not specifically address this portion of the river. However, for pollutants or water quality conditions with a portion of their origin in the aforementioned portion of the watershed, control measures and studies will be proposed. CALFED does not assume any authority or jurisdiction over any state or federal agency that is conducting work on the San Joaquin River. The role of CALFED is to supplement the efforts of other agencies, to bring about a technically sound solution in a timely manner.

WQ 7.5.2-17

In Chapter 7 in the WQPP, a few projects include water treatment and recycling. To develop regionwide recycling and treatment, infrastructure needs to be in place for collection of the drainage water. In some instances, CALFED is proposing treatment of drainage water to remove salts; the water then is recycled in irrigation canals. In areas where infrastructure is not available, on-farm systems work well. CALFED proposes to investigate and possibly promote integrated on-farm management, which collects drain water within a farm's boundary, reuses the water on successively more salt-tolerant crops, and finishes with solar evaporation and harvesting of salt crystals.

WQ 7.5.2-18

Although the project you support is likely to be viable, a project-specific initial study and environmental document must be completed prior to implementation. This EIS/EIR is programmatic and therefore does not contain sufficient documentation to implement site-specific projects. In the case of recirculation of diversion water, the CALFED water management program proposes to assess costs and benefits of such a project.

WQ 7.5.2-19

The "CALFED program" referred to in the statement is the real-time water quality management program. As explained in the section discussing "Real-Time Management," the goal of real-time water quality management is to make multiple use of water that is already being stored or released for other purposes. For example, releases currently are being made from tributaries to the San Joaquin River for the explicit purpose of providing pulse/attraction flows for fish; releases also are being made from New Melones Reservoir for the explicit purpose of providing dilution flows to meet water quality objectives at Vernalis (in accordance with SWRCB Water Rights Decision-1422). Coordination of existing reservoir releases for fish flows with existing discharges of salt can result in reducing overall reservoir releases needed explicitly to provide dilution flows. Should dilution flows cease, the real-time management would use the assimilative capacity of the San Joaquin River to meet salinity discharge needs without exceeding salinity criteria.

7.5.3 Evaluation of Other Sources of Salinity

WQ 7.5.3-1

CALFED supports completion by the CVRWQCB of the Basin Plan Amendment for salinity and boron. CALFED will encourage and, as appropriate, consider supporting the effort toward timely completion.

WQ 7.5.3-2

CALFED analyses have demonstrated that there are multiple sources of salinity in the Delta, and their interactions are complex. Similarly, the salinity of Delta waters can be affected by a range of actions, including operational changes on the part of the users of Delta waters, controlling discharges from land surfaces, and addressing problems with salt accumulation in the San Joaquin Valley. Since its inception, CALFED has intensively studied these problems and potential solutions, and will continue to do so as the Program evolves. The operational scenarios studied by CALFED have assumed various caps on diversions through the pumps, and the salinity effects of these operational scenarios have been quantified. Results of these analyses are used in the Programmatic EIS/EIR impact analysis.

8.2 Problem Statement

WQ 8.2-1

The Grassland Bypass Project has been a successful cooperative project, involving willing landowners who are committed to reducing salt, boron, and selenium concentrations in the San Joaquin River through intensive water management and water use efficiency actions. The June 1999 WQPP identifies the Grassland Bypass Project (on page 8-11) as the kind of cooperative effort that CALFED should support. We have added more information about this successful effort in the WQPP.

8.4.1 Sources

WQ 8.4.1-1

The San Joaquin Valley produces more agricultural products than the state of Texas. This is made possible, in part, by irrigation water brought in from the Bay-Delta. Loss of this farmland would significantly reduce California's economy. Selenium sources of the San Joaquin Valley come primarily from the Western Hills (the Coast Ranges). Other sources of selenium in the Bay-Delta include refineries. Salt concentrations in the San

Joaquin Valley are caused by imported water and various salts added to the water through use, such as water softener regeneration, fertilizer use, municipal wastewater salt, and other industrial salts. Sediment comes from agriculture, construction, and erosion.

8.5.1 Agricultural Sources

WQ 8.5.1-1

The question of whether the scope of the CALFED Program should include a solution to the problem of salt accumulation in the San Joaquin Valley was considered at length during the scoping period of the Program. Because an existing program (SJVDIP) has primary responsibility for addressing the drainage problems of the valley, it was decided that CALFED would act in a supporting role to the SJVDIP. CALFED would provide funding and other support as appropriate to the primary CALFED mission of reducing conflict in the system by improving ecosystem functions, providing good water quality for all beneficial uses, increasing water supply reliability, and improving levee system integrity. State, federal, and local agencies are actively conducting an environmental evaluation of a drain alternative. CALFED has chosen to defer inclusion of a drain alternative until the outcome of the environmental study is known and a drain alternative that meets CALFED solution principles of no redirected impacts is identified. Other methods described in the WQPP lack completed research necessary for widespread implementation. Certainly, the feasibility of isolating selenium for production requires considerable additional study but may pay dividends if determined feasible.

WQ 8.5.1-2

Land retirement for controlling selenium discharges into the San Joaquin Valley is contemplated through the CALFED Program as one of a suite of actions designed to address this problem. Retirement will be undertaken only where less extreme alternatives fail, and only to the extent that landowners are willing to participate in such a program. The CALFED objective is for lands to remain under private ownership and control. CALFED will pursue this approach until it is conclusively demonstrated that retirement is necessary, and that land retirement will be successful and cost effective in controlling the problem. Ideally, land retirement will not be needed for selenium control. Because insufficient information is available on what specific areas could be affected by such a program, any attempt to define the types of land to be retired or types of crops currently grown would be speculative and unsupportable. The CALFED Programmatic EIS/EIR is a programmatic document that is intended only to establish a broad overall framework for a comprehensive suite of actions that must be studied and documented in detail prior to their implementation. Identifying land retirement as one of a number of potential approaches to resolving selenium problems is a commitment only to further study, not to proceeding with implementation.

8.5.2 Refineries

WQ 8.5.2-1

Prior to use of any treatment method, site-specific environmental documentation must be completed. Protecting wildlife in wetland treatment systems is a noted concern.

WQ 8.5.2-2

CALFED will be working on supporting efforts to reduce selenium from refineries. It is important to note that selenium in the San Joaquin River and other water bodies should not be allowed at levels that could affect the environment. The question of whether the scope of the CALFED Program should include a solution to the

problem of salt accumulation in the San Joaquin Valley was considered at length during the scoping period of the Program. Because an existing program (SJVDIP) has primary responsibility for addressing the drainage problems of the valley, it was decided that CALFED would act in a supporting role to the SJVDIP. CALFED would provide funding and other support as appropriate to the primary CALFED mission of reducing conflict in the system by improving ecosystem functions, providing good water quality for all beneficial uses, increasing water supply reliability, and improving levee system integrity. State, federal, and local agencies are actively conducting an environmental evaluation of a drain alternative. CALFED has chosen to defer inclusion of a drain alternative until the outcome of the environmental study is known and a drain alternative that meets CALFED solution principles of no redirected impacts is identified.

10.4 Problem Description

WQ 10.4.0-1

Turbidity is considered detrimental to fish habitat. Spawning areas for anadromous fish extends well into the watershed. Consequently, CALFED does address sedimentation and erosion in many areas within our geographic scope. It is acknowledged that the water quality section is not the appropriate place to address sedimentation in the upper watershed or where no Bay-Delta ecological impacts are noted. Instead, sedimentation in upper watershed areas will be addressed in overall watershed restoration within CALFED and other efforts. The proposal of turbidity reduction activities without a nexus to the Bay-Delta has been removed from the WQPP. Discussions of sedimentation that impairs habitat connected to the Bay-Delta will be retained in the WQPP. Integration with the Ecosystem Restoration Program will be sought to ensure proper treatment of any suspected nexus.

10.5 Approach to Solution

WQ 10.5.0-1

Activities in many of the CALFED Program elements overlap. The CALFED scope was originally set very wide because of the interaction of the different Program elements. The ecosystem water quality program integrates with the other common programs and has active integration efforts with the Watershed, Levee System Integrity, drinking water quality, and Water Use Efficiency Programs.

10.5.1 Priority Actions

WQ 10.5.1-1

Sedimentation of fisheries breeding habitat reduces the quality of the breeding grounds and therefore detracts from other efforts to preserve or restore these habitats. Proposed best management practices (BMPs) to reduce sedimentation will be implemented in areas with direct effects on these specific types of habitat. It is envisioned that BMPs first will be implemented on a voluntary basis. The extent of the problem may require additional incentives to implement BMPs. Regulatory measures would be employed by regulatory agencies if progress is not sufficient through other methods. Incentives to employ BMPs may include cost sharing.

10.5.2 Information Needed

WQ 10.5.2-1

The discussion of turbidity without a nexus to the Bay-Delta has been removed from the WQPP. If a discussion of floodplain management is retained, it will contain the need to study impacts, costs, and benefits of the proposal. Studies of floodplain management will need to be conducted along with flood control methodology discussed in Chapter 6, "Organochlorine Pesticides." CALFED is not a regulatory agency and does not impose any BMPs through regulations. The CALFED role complements the respective roles for regulatory and planning agencies involved in the same areas of water quality.

11. Toxicity of Unknown Origin

WQ 11.0.0-1

The support and encouragement is acknowledged. CALFED will maintain a working relationship with pesticide manufactures as well as user groups, regulatory agencies, environmental groups, and other industries that might be responsible for toxicity of unknown origin, such as non-pesticide toxicity.

11.3 Objective

WQ- 11.3.0-1

Toxic material removed from water, or prevented from entering water, would no longer be toxic to aquatic organisms. These substances may not be toxic to terrestrial animals if contained on land. In some cases, such as for pesticides, preventing pesticides from entering waterways would both increase the effectiveness of the pesticide and protect aquatic organisms. Most pesticides are designed to be neutralized after a short time. Other toxic materials such as copper should not pose a significant threat to terrestrial animals, including humans. Prior to initiating any solution, the appropriate environmental documents must be completed to comply with environmental regulations.

12. Implementation Strategy

WQ 12.0-1

The Water Quality Program will reduce the discharge of contaminants to waterways in the Sacramento and San Joaquin River watersheds, which will reduce the concentration of contaminants at the drinking water pumps. An improvement at the pumps will result in an improvement at the tap. To provide safe water at the consumer's tap, water agencies obtain source water of varying quality and then treat it as necessary to meet drinking water standards. Because the Delta is not a pristine source, water drawn from the Delta is currently treated, and will always need to be treated, before it is supplied to consumers. The value of the Water Quality Program is that the program may reduce the mass of contaminants that must be removed at the treatment plant.

WQ 12.0-2

Please see common response 14.

WQ 12.0-3

Please see common responses 5 and 14.

WQ 12.0-4

Please see common response 9.

WQ 12.0-5

Source control is a key element in CALFED's water quality improvement strategy. Specific pollution prevention actions can be found in Table 3 ("Early Implementation Actions") and Table 4 ("Stage 1 Actions") in the June 1999 WQPP. CALFED plans to conduct pilot studies for integrated on-farm management of selenium in order to develop and implement better source control management measures (paragraph 2 on page 12-5 in the June 1999 WQPP). Tables 3 and 4 have been removed from the WQPP; however, similar information is found in the Implementation Plan.

WQ 12.0-6

Please see common responses 2 and 4.

WQ 12.0-7

Please see common response 14.

WQ 12.0-8

Please see common response 2.

WQ 12.0-9

Please see common response 2.

WQ 12.0-10

Studies, research, and incentives for implementation of water quality actions directed toward a water quality agency would augment that agency's effectiveness in developing the appropriate levels of protection or methods by which reduction can be made in the most cost-effective manner. Directed actions are intended to support work already in progress. CALFED agencies participate in the CALFED consortium, understanding that CALFED has no authority to direct an agency or private party. In the case of low DO, CALFED is supporting work initiated by the RWQCB; in effect, the CALFED Program is protecting industrial interests by supporting good science and tool development.

WQ 12.0-11

Figures 15 and 16 in Chapter 12 in the WQPP were flow paths of studies and actions, not decision trees. The path is as follows: after a project action has been included in the programmatic environmental document and that document is adopted, the action is either grouped as a study or a physical process. Studies are further grouped by types of solutions. Results of the study parameters or study results are directed to expert panels. If the studies lead

to physical processes, such as source control, those processes may need to be documented in a supplemental programmatic environmental document, if the process is not already included. Once included in a programmatic environmental document, actions are grouped by type. Before actions can be implemented, project-specific environmental documentation must be provided. These figures have been removed from the WQPP; however, similar information is contained in the Implementation Plan.

12.1 Introduction

WQ 12.1-1

CALFED effort will be devoted to achieving the most improvement in water quality at the least environmental cost. Affordability is a key CALFED solution principle that must also be met. CALFED intends to develop partnerships with farmers to make needed improvements in order to reduce conflict in the Bay-Delta system without causing significant redirected impacts. CALFED funding assistance is an important means by which redirected impacts are to be avoided.

12.3 Principles

WQ 12.3-1

CALFED is a cooperative, inter-agency effort involving many state and federal agencies with management or regulatory responsibilities for the Bay-Delta. Each participating agency bears its respective authorities and responsibilities, independent of CALFED efforts. One primary purpose of CALFED is to facilitate the collaborative and cooperative use of these authorities and responsibilities, as well as CALFED resources, to better address the range of problems facing the Bay-Delta.

CALFED does not possess independent, regulatory authority over water quality. However, CALFED does recognize the need for participating agencies to exercise their responsibilities with regard to water quality. CALFED will work with all entities in support of achieving its water quality goals.

Such support will benefit the regulatory and regulated communities alike. The objective is to improve water quality with minimal economic impact on industry. Without CALFED support, development of remedial methods would be the responsibility of the regulated community, and objectives would be based on information available to the regulatory agencies in the time allowed.

WQ 12.3-2

CALFED is a cooperative, inter-agency effort involving many state and federal agencies with management or regulatory responsibilities for the Bay-Delta. Each participating agency bears its respective authorities and responsibilities, independent of CALFED efforts. A primary purpose of CALFED is to facilitate the collaborative and cooperative use of these authorities and responsibilities, as well as CALFED resources, to better address the range of problems facing the Bay-Delta.

CALFED does not possess independent, regulatory authority over water quality. However, CALFED does recognize the need for participating agencies to exercise their responsibilities with regard to water quality. CALFED will work with all entities in support of achieving its water quality goals. CALFED acknowledges the primacy of existing water quality agencies and does not seek to impose any new tier of governance.

WQ 12.3-3

Peer review and adaptive management described by the WQPP is intended to address the science behind the most effective ways to solve individual water quality problems within the CALFED solution area. CALFED acknowledges the primacy of existing water quality agencies and does not seek to impose any new tier of governance, by review of regulatory methods or any other regulatory work.

WQ 12.3.0-4

Targets developed by the Water Quality Technical Group are for the use of prioritizing CALFED projects and have no influence on regulatory water quality levels. Regulatory water quality levels are developed under specific methodology to ensure proper levels of regulation.

WQ 12.3-4

As a nonregulatory entity, CALFED has no authority to impose its water quality targets as mandatory standards or to enforce any such standards, although some of its constituent agencies do have regulatory authority. Water quality regulations are formulated through processes that are external to the CALFED process. CALFED's practice is to adopt as its objectives appropriate standards as they are established by the regulatory agencies. The TMDL process, involving the EPA, and the SWRCB and the RWQCBs, is an example of a separate regulatory activity that can influence CALFED Program objectives. CALFED recommends that interested parties become involved with these regulatory processes, as public involvement is incorporated into these processes.

Under the authority of the SWRCB and the RWQCBs, waters of the state are not to be degraded, except where avoidance of such degradation is not in the best interest of the public. Under the SWRCB and RWQCBs monitoring of waste discharges is established (for permitted dischargers). Monitoring is intended to reflect the quantity and quality of the discharge. In the event that grab sampling cannot produce this assurance, composite (or continuous) samplers are employed. Through such sampling, regulatory agencies, such as the RWQCB, determine compliance for TMDL implementation programs. All of these activities will remain at the regulatory agency level and will not directly involve CALFED. CALFED maintains a supportive role in producing technically justifiable TMDLs and monitoring of ambient water to determine ecological suitability.

WQ 12.3-5

CALFED is committed to fulfilling its goal of providing good quality water for all beneficial uses. As applied to drinking water, the long-term water quality objectives are for a TOC concentration of 3.0 mg/L and a bromide level of 50 μg/L, or an equivalent level of public health protection to be provided by a cost-effective combination of alternate source water, source control, and treatment. Although no specific salinity objectives have been developed to support agricultural and urban uses, stakeholders have recommended salinity targets of 220 mg/L and 150 mg/L TDS to support agricultural uses and to enhance opportunities for wastewater recycling and groundwater conjunctive use. In fulfilling its commitment, CALFED is obligated to abide by its solution principles, including the principles that the solutions must be implementable and affordable; therefore, CALFED is inherently committed to assuring the technical feasibility and cost effectiveness of its actions.

12.4 Early Implementation Actions

WQ 12.4-1

The discrepancies have been reconciled.

12.5 Stage 1 Actions

WQ 12.5-1

The source control actions planned for Stage 1 will certainly reduce inputs of pollutants into Delta waters and will result in continual improvement in the quality of these waters as the actions proceed, as compared to the situation that would exist in the absence of the Program. Through Stage 1 and Phase I of Program implementation, CALFED will proceed toward achieving its drinking water quality objectives. CALFED ecosystem restoration actions may have the potential for degrading water quality, at least over the near term. The pilot testing, and monitoring and assessment that will accompany each of these actions will determine whether any negative water quality impacts are occurring. If this should prove to be the case, mitigation measures will be implemented to reduce the impact to a less-than-significant level. Potential mitigation measures might include actions such as impounding water to reduce impacts of turbidity and treating discharges to remove metals, organic carbon, or other undesirable constituents. Impacts of increasing population will indeed present water quality challenges, with or without the CALFED Program. Increasing urbanization will result in greater volumes of urban stormwater discharges into the Bay-Delta estuary system, increased discharges of treated wastewater, increased airborne sources of water quality degradation, and increased likelihood of accidental spills of toxic materials into the waterways of the estuary. The CALFED Program will be involved in planning for development projects and will make recommendations for source prevention, source control, and treatment of these discharges as appropriate. While the CALFED Program is intended to reduce conflicts among beneficial uses of the waters of the Bay-Delta estuary, it has been acknowledged from the outset that not all problems associated with water supply, water quality and water management in California can be solved through the CALFED Program. The Program can, however, exert leadership toward the goal of optimum management of the state's water resources.

WQ 12.5-2

The Programmatic EIS/EIR is intended to establish an overall framework within which detailed project planning and implementation will go forward. It is therefore appropriate and necessary that detail is lacking from the programmatic document. CALFED is committed to the principle of continuous improvement in the water quality of the Bay-Delta estuary until these waters are of good quality to support all beneficial uses, including drinking water supply. CALFED is also committed to ongoing stakeholder involvement in planning and implementing effective water quality improvement actions. CALFED has recently formed a Delta Drinking Water Council comprised of interested stakeholders, including suppliers of drinking water taken from the Delta. The Council, supported by a committee of stakeholder technical experts and by independent scientists as needed, will advise CALFED management on implementation of effective drinking water quality actions. The scope of planned drinking water quality actions is by no means limited to source control, although some source control actions were given high priority for implementation because they could be rapidly implemented, because implementation costs can be lower than for more complex actions, and because they are expected to produce measurable results in terms of reduced loadings of constituents.

Currently proposed CALFED source control actions are likely to be somewhat limited in their capacity to improve Delta water quality. On the other hand, safe drinking water is presently being produced from the Delta, as defined by the current ability to meet drinking water standards. If drinking water regulations were to remain

unchanged, it is probable that safe drinking water could continue to be produced from the Delta, even without CALFED actions. It is not yet clear what level of source water quality improvement will be necessary to meet CALFED drinking water quality goals, as it cannot now be determined what future standards will need to be met or schedule for needed changes. CALFED's adaptive management approach is designed to be responsive to changing needs and conditions, to arrive at solutions that fit future needs. If meeting these needs requires further actions, these actions are within the scope of the Program.

WQ 12.5-3

A fundamental tenet of the CALFED Program is to develop cooperative relationships among all stakeholders, to pursue the common good of reducing the conflicts in the bay-Delta estuary system. Closely linked with this concept is emphasizing voluntary efforts over compulsion. The Program will achieve maximum success if all parties are dedicated to its success, and this dedication is most likely to come if the benefits of solving our problems are emphasized. Still, being successful will mean that a number of actions must take place whether all involved parties agree or not. Therefore, regulatory enforcement and other means of securing needed outcomes are available in situations where cooperative, voluntary efforts are not applicable or sufficiently effective.

Detailed impact analysis will be conducted as specific projects are developed during the implementation phase of the CALFED Program. These impacts will be documented as required by law, and mitigation measures will be identified and implemented as appropriate—as a condition of proceeding with projects. Financial assistance to enable water treatment upgrades is within the scope of the Program.

WQ 12.5-4

Additions to the list of CALFED drinking water quality actions will be developed with stakeholder involvement through the Drinking Water Constituent Work Group and the Delta Drinking Water Council.

WQ 12.5-5

CALFED is committed to continuous improvement in water quality for all beneficial uses of Delta waters, including drinking water supply. CALFED's commitment to drinking water quality improvement is to assure Delta waters can be feasibly and cost-effectively treated to meet current and future standards to protect public health, while avoiding significant redirected impacts of its actions. Therefore, inherent in CALFED planning is the need to improve water quality and avoid water quality degradation as a condition of being able to proceed with Program implementation. CALFED analyses indicate that, when the Program is implemented, the quality of water diverted from the Delta will be at least as good as would be the case in the absence of the CALFED Program. CALFED water quality actions will be geared toward maximizing this improvement. Therefore, long-term negative water quality impacts on diverters of Delta waters should not result from CALFED actions, although short-term impacts are possible as a result of such factors as construction activities and the effects of normal year-to-year hydrologic variations on CALFED actions. Impacts of this nature resulting from CALFED activities would be subject to disclosure in project-specific environmental documentation and subject to mitigation.

Stakeholders have recommended that CALFED establish salinity targets and interim water quality milestones. The need for such targets and milestones is to be considered by the Delta Drinking Water Council, the primary stakeholder advisory group to the CALFED drinking water program.

Water quality actions currently planned for Stage 1 of Program implementation are not likely to result in significant changes in the mix of sea water and fresh water in the Delta. Accordingly, salinity improvements from the currently envisioned Program are expected to be modest, although perhaps significant. CALFED recognizes

the importance of controlling salinity to enhance wastewater recycling and groundwater conjunctive use. This need will be taken into account as the Program evolves. The scope of the CALFED Program is sufficient to enable consideration of means of reducing sea water and fresh water mixing in the Delta, if that should prove necessary to the success of the Program.

WQ 12.5-6

Neither the list of actions nor the time frame are cast in concrete, as the commentor asserts. The list of actions has been amended to reflect changes in proposed activities listed in individual sections in the WQPP. Time frames by which projects can be started depend on funding and agreement from stakeholder and agency groups. Even prioritization will depend on previously mentioned work groups. Text associated with these tables has been revised to note the changeable nature of the tables, subject to revision according to CALFED adaptive management.

WQ 12.5-7

The Water Quality Program does not involve any components intended to alter the salinity in the Suisun Marsh area. Modeling (see Section 5.3 in the Programmatic EIS/EIR) shows negligible changes in salinity near Port Chicago (the edge of Suisun Bay).

12.6 Linkages

WQ 12.6-1

At the current programmatic level of detail, broad linkages among Program elements have been identified, such as potential negative impacts of ecosystem restoration actions on drinking water quality. It is true that linkages among Program elements must be specified in much greater detail; however, much of the needed specificity can occur only when detailed actions are planned during the implementation phase of the Program. The programmatic document was not intended to identify all linkages and relationships among CALFED actions; it is intended to establish an overall framework within which the needed specificity will be created. CALFED is committed to identifying Program linkages in significantly greater detail as Program detail emerges through the implementation planning process.

12.7 Management and Governance

WQ 12.7.0-1

Any project actions taken prior to legislative authorization for CALFED to contract on its own will be conducted through existing agencies and will be subject to current laws and regulations. The implementation schedule is discussed in response WQ 12.5-5.

12.7.1 Water Quality Program

WQ 12.7.1-1

No state or federal agency is required to take action based on any CALFED work group or council decision. All state and federal agencies have individual mandates and authorities that CALFED cannot override.

12.7.3 Water Quality Policy Team

WQ 12.7.3-1

CALFED recognizes efforts are in progress through the CVRWQCB, with the assistance of urban water agencies, to develop a Drinking Water Protection Policy. The Delta Drinking Water Council will be asked to consider whether to recommend CALFED policy-level and financial support for development of a Drinking Water Protection Policy. A recommendation from the Council would go to the BDAC and CALFED management for a decision.

12.7.5 Delta Drinking Water Council

WQ 12.7.5-1

The Delta Drinking Water Council is being formed as a subcommittee of the BDAC as required under federal law pertaining to public involvement. CALFED has invited the participation of stakeholders representing Contra Costa Water District, Antelope Valley-East Kern Water Agency, Helix Water District, Solano County Water Agency, City of Los Angeles, The Metropolitan Water District of Southern California, and Santa Clara Valley Water District. While the Council will report directly to the BDAC, Council representatives also will be invited to appear before the CALFED Policy Group as appropriate when Council recommendations are being considered. It is anticipated that the Council will play a strong role in recommending drinking water quality matters for Policy Group consideration and adoption. In the event that the Policy Group should, on occasion, decide not to follow the recommendations of the Council, it is anticipated that clear reasons for not accepting Council recommendations will be provided.

WQ 12.7.5-2

Invitations for membership on the Delta Drinking Water Council have been sent to key stakeholders, including representatives of agencies producing and distributing drinking water taken from various locations in the Delta. This group is intended to be a close working group that will provide the needed coordination of drinking water agency and CALFED actions to efficiently pursue improvement of public health protection. Representation on the Council was designed to enhance this coordination. As drinking water considerations are critical to the future of the Bay-Delta system, the Council is composed of a range of stakeholders who will be affected by CALFED actions directed at drinking water quality improvement. This representation is considered proportionate and appropriate.

WQ 12.7.5-3

The Delta Drinking Water Council will be asked to consider the need for a dedicated Water Quality Account to fund drinking water actions. The Council may recommend to the CALFED Policy Group that such an account be established.

WQ 12.7.5-4

The Delta Drinking Water Council will be asked to consider whether to recommend interim water quality milestones for adoption by the CALFED Policy Group. If the Council has done its work and the Policy Group has adopted interim water quality milestones by the time of finalizing the Programmatic EIS/EIR, the milestones will be included in the final Programmatic EIS/EIR.

12.7.7 Water Quality Technical Group

WQ 12.7.7-1

Please refer to response WQ 1.5-1 for a response to this comment.

WQ 12.7.7-2

Capturing stormwater flows for groundwater recharge is an excellent idea and one that will be studied in the CALFED Integrated Storage Investigation. Among the issues addressed will be the feasibility of capturing storm flows and infiltrating the stormwater into the groundwater without causing adverse effects on soil conditions or on groundwater. The faster that water is allowed to infiltrate (usually through a coarse soil such as sand), the higher the likelihood of contamination of the aquifer from the infiltrated water. In the Central Valley, raising groundwater levels can be helpful in most places. We must be careful not to mobilize toxics with a higher water table. The investigation should address these issues.

WQ 12.7.7-3

The use of tule marshes and other detention basins is being considered for the reduction of toxic contaminants in the stormwater treatment evaluation. CALFED has not yet funded these studies but may contribute to studies of this nature in the future. Some of the main concerns that need to be answered are whether contaminants filtered out of stormwater in such systems render the detention basin or tule marsh more ecologically damaging. In terms of groundwater infiltration, such marshes on the perimeter of the Delta frequently have clay soils that promote retention of water—which makes the marsh but also precludes infiltration of water.

WQ 12.7.7-4

CALFED does not have authority over water rights and cannot change overdraft practices that have led to depletion of the aquifers. However, CALFED is promoting some actions that are designed to reduce the need for releases to meet a salinity standard in the San Joaquin River. CALFED does not have authority over releases from any water containment system and therefore is not able to offer assurances on how releases are made. CALFED does not impose regulatory criteria in the river, but CALFED may participate in studies to support technically defensible salinity goals in the river. If salinity goals, or some regulatory equivalent, are met at all points in the river, releases would not be required. To this end, the WQPP proposes activities that would remove salt from agricultural return or drain water. Reusing drain water to its fullest will also reduce salinity by conserving flows in the river.

WQ 12.7.7-5

Although groundwater recharge is being contemplated, environmental reviews and feasibility studies have not been completed. In those activities, water quality will be considered. In addition to salts and metals, pH, hardness, pathogens, and other contaminants will be evaluated. It is essential that aquifers not be contaminated and that existing water purveyors be protected.

2.8 Finance Strategy

WQ 12.8-1

The CALFED drinking water objective is to protect the health of consumers by pursuing measures such as source control, alternate source waters, and treatment. To fully protect public health, the water must be safe to drink when it arrives at the taps of consumers. Accordingly, actions that may affect all parts of the system from source waters, through treatment, to delivery of finished drinking water to consumers is within the identified scope of the CALFED Program. The appropriate division of investments among the various approaches must be determined with the involvement of the stakeholders. The Delta Drinking Water Council and the BDAC are venues through which public involvement is enabled. CALFED welcomes all interested parties to participate in helping to determine the most appropriate emphases for correcting drinking water problems associated with Delta waters.

WQ 12.8-2

Wastewater recycling through groundwater recharge and other means is a high priority for CALFED. Accordingly, studies of health effects associated with such projects are within the scope of activities in which CALFED may participate.

WQ 12.8-3

As stated previously, CALFED actions are intended to add scientific and economic consideration to the development of water quality objectives and to control measures. This is evident in the role of CALFED in the low DO efforts in the San Joaquin River. CALFED is paying for the technical investigation of causes and sources of oxygen-depleting substances and is proposing to fund investigation of their control. The adaptive management process used by the Low DO Group simply changes focus toward more effective studies or systems and does not compromise assurances gained in the process. In doing so, it is intended that the new studies and control systems adhere to sound technical credibility. All of these processes are open to interested parties, to ensure that individual assurances are not jeopardized by advancing science.

12.9 Adaptive Management Strategy

WQ 12.9.0-1

The list of actions on pages 114 through 118 in the June 1999 Revised Phase II Report are abbreviated summaries of Stage 1 actions that are intended to be completed in the first 7 years of the Program. Early implementation actions pages 12-17 and 12-18 in the June 1999 WQPP are actions that are intended for implementation within the first 2 years of the Program. The latter table (Table 3) provides much greater detail on the intended actions. These actions were meant to correspond to specific summaries of activities listed in the June 1999 Revised Phase II Report. Upon review, some early implementation actions may not have been adequately described in the June 1999 Revised Phase II Report summaries. Through the stakeholder process, some other early implementation actions have been moved up in priority. These priority changes were not reflected entirely in the June 1999 Revised Phase II Report. The two lists have been further reviewed and revised for accuracy in the Revised Phase II Report. Tables 3 and 4 have been deleted from the WQPP; however, similar information can be found in the Implementation Plan.

Water Transfer Program Plan

Responses to Comments

WATER TRANSFER PROGRAM PLAN
RESPONSES TO COMMENTS

0. General Responses

WT 00-1

Requiring water suppliers to meet water use efficiency requirements in order to participate in a water transfer will not likely impede a water market. This requirement, as currently discussed in the Water Use Efficiency Program Plan, is that a water supplier will participate in urban or agricultural planning and implementation programs that are administered by the California Urban Water Conservation Council (CUWCC) and the Agricultural Water Management Council (AWMC). A key aspect of these programs focuses on the identification of feasible conservation measures, not necessarily the immediate implementation. Therefore, a water supplier could easily be in compliance with the council's process prior to implementing all feasible conservation measures. They would then be able to participate in a water transfer by acquiring water (buyer) until feasible conservation measures can be put in place or generating revenue (seller) to finance water conservation measures.

WT 00-2

The Water Transfer Program Plan does not attempt to estimate the potential volume of water that may be transferred under any particular market conditions. Not only is it extremely difficult to understand the reaction of buyers and sellers to market, water resource, and local conditions, it is also difficult to estimate how much water could physically be transferred in a given year because of capacity constraints. The Water Transfer Program is intended to resolve issues regarding the functions of a market: operational and technical rules; third-party resource protections, and conveyance opportunities. The Preferred Program Alternative does not include any specific transfer as part of the Water Transfer Program. (Other elements of the CALFED Bay-Delta Program [CALFED Program], such as the Ecosystem Restoration Program, do identify water transfer actions. These actions will obtain temporary water supplies for in-stream flow purposes and will be subject to project-specific environmental compliance when willing sellers are identified.)

WT 00-3

Water transfers are based on the premise of a voluntary transaction between a willing seller and a willing buyer. Transfers on this basis have been occurring for several years. The Water Transfer Program simply seeks to improve the structure in which this current water transfer market operates. CALFED is not in the business of developing specific water transfer proposals (except for programs funded through CALFED that may seek to purchase water from willing sellers to augment in-stream flows). Specific transfer proposals will continue to be developed by local interests interested in participating in a water market.

CALFED is not attempting to discourage or promote particular water transfers intended to move water from one area of the state to another. CALFED is not halting water transfers until such time as new storage is developed. CALFED is not implementing actions that would result in mandatory or uncompensated water transfers.

Many stakeholders have expressed concern that CALFED will promote transfers that violate water rights established in the California Water Code, adversely affecting both local surface water and groundwater resources.

This concern is groundless. The Water Transfer Program entails changes, clarifications, and enhancements to approval procedures, operational requirements (e.g., reservoir refill and carriage water requirements), and analysis and disclosure requirements. Nothing in the program changes existing water rights or other California Water Code provisions such as the "no injury" rule, authorizes inappropriate transfers, or stops appropriate transactions.

CALFED agencies with transfer approval jurisdiction intend to add a new condition that will require transfer proponents to provide an analysis of potential groundwater impacts. This information will result in increased understanding of groundwater impacts that may be associated with a proposed transfer and allow for approval, conditioning, or denial of the proposal by the appropriate regulating entity based on information that may have otherwise not been provided.

It should also be noted that, as of October 1999, Governor Davis has signed legislation (Senate Bill [SB] 970) that includes additional water rights protection provisions. The author of this bill, Senator Jim Costa, intended these provisions to provide additional water rights protection to those who offer their water for temporary transfer to other users, including the environment. The CALFED agencies believe that this bill sufficiently addresses the issue of whether additional water rights protection is needed. It should be noted that SB 970 also attempted to shorten and streamline the approval process administered by the State Water Resources Control Board (SWRCB).

WT 00-4

A viable water market exists today—"interim rules" already are in place. As discussed in Section 2 in the Water Transfer Program Plan, hundreds of thousands of acre-feet of water are transferred between various water users throughout the state each year. Nevertheless, certain problems with water transfers are yet to be fully resolved. In this context, the CALFED agencies developed the Water Transfer Program. The program focuses on resolving these problems while facilitating the further development of the water market.

For instance, statutes and rules governing water transfers exist at both the state and federal levels, but in the absence of case law or SWRCB precedent, everyone does not agree with their interpretation and application by the entities granted jurisdictional authority. CALFED has identified programmatic-level actions to clarify and standardize these rules. Because the rules are complex and each transfer situation is unique, it could take several months to years to make changes to the existing rules and procedures. In the meantime, deliberations at the SWRCB on specific water transfers may help to provide more immediate clarity on interpreting a few provisions of the California Water Code.

Additional related information is found in responses WT 4-7 and WT 4.5.1-2.

WT 00-5

CALFED is a consortium of state and federal agencies with water or environmental management responsibilities in the Bay-Delta system. Therefore, the decision makers of CALFED are the same agencies that are active in discussing water transfer matters in forums outside CALFED. As part of CALFED, these same agencies are working together to better define and disclose their water transfer policies and procedures, thus allowing CALFED to find opportunities for improvement. However, as CALFED works toward solutions, stakeholders continue to bring water transfer issues before the SWRCB and the California Legislature, hoping for rapid changes to be implemented. Unfortunately, these actions take time and energy away from these same agencies participating as part of CALFED. In the absence of specific policy direction and/or authority to do otherwise, particular CALFED agencies will operate under their current policies and positions. CALFED's objective is to facilitate consensus that may lead to changes in these policies when and where they may be appropriate.

WT 00-6

Performance criteria developed for the Water Transfer Program will consist of ensuring that actions identified in Section 4 in the Water Transfer Program Plan are implemented, including establishment and funding of a clearinghouse and adoption by state and federal approving agencies of additional impact disclosure requirements. In essence, a performance criterion could be developed for each of the actions listed in Section 4 in the program plan. These performance criteria should be able to be easily met and implemented.

WT 00-7

As stated in other sections in the Programmatic EIS/EIR, the Preferred Program Alternative does not include land fallowing as a direct means of obtaining water supplies. Land fallowing, however, may result from locally initiated water transfer proposals, Ecosystem Restoration Program actions, and Levee System Integrity Program actions. Several of these actions are intended to improve habitat and levee integrity but are not included as a water supply measure. Any changes to the use of water associated with these lands would need to be discussed with the water rights holder at the time of the specific action.

WT 00-8

The Programmatic EIS/EIR does not include a description of historical transfers and their benefits to both the buying and selling participants and regions, but substantial benefits for all parties can be achieved from properly designed and executed water transfers. Not only can a transfer provide a revenue stream for one-time capital expenditures, it can also provide a useful revenue stream to assist economic sustainability and regional water resource goals for a community—if proactively planned with the appropriate project "ownership."

WT 00-9

Water transfers involve a change in the use of water rights on a temporary or permanent basis. For transfers subject to SWRCB jurisdiction, the water rights holder must petition for a change. CALFED has no intention of changing this basic premise. Generally, a water user who is provided water through a water right held by a water supplier does not have the authority to transfer that water without the water rights holder's (supplier's) permission. In the case of the Central Valley Project (CVP), federal law allows for "user"-initiated transfers, but the U.S. Bureau of Reclamation (Reclamation), as a practical matter, still gives the district-specific oversight authority prior to federal approval.

WT 00-10

Parties proposing water transfers need to be able to document how much water is to be made available for transfer and what action or actions are responsible for that availability. Such assessments require proponents to satisfy the queries of other legal users that "real" water is available. The best way to accomplish this is through comprehensive measurement systems that document water movement throughout a particular system—whether that be a reservoir, a district delivery system, or a farmer's irrigation system. Documentation does not necessitate metering of every field delivery.

WT 00-11

Water transfers are one of several water management tools included in the Preferred Program Alternative. CALFED is assuming that the current water market will continue to function and, with CALFED's improvements, will be stronger in the future. However, other aspects of the Program do not depend on changes

to the existing water market. Even given the existing water market, CALFED's other actions will still be implementable and will move the State toward a long-term solution.

WT 00-12

Parties proposing water transfers need to be able to document how much water is available for transfer and what action or actions result in that availability. Such assessments allow proponents to demonstrate that "real" water is available. Water currently flowing to degraded groundwater or salt sinks is an ideal example of real water that can be conserved and made available to transfer. Other examples include reservoir reoperations, land fallowing, and conjunctive use. Regardless of the method used to make water available for transfer, the transfer must satisfy the California Water Code's "no injury" rule with respect to legal users of water, including in-Delta water rights holders.

WT 00-13

This comment speculates on the possible outcome of Phase 8 of the SWRCB's Bay-Delta proceedings. The Water Transfer Program Plan makes no assumption about any specific result of that proceeding with respect to water allocations. The program plan assumes only that a voluntary, willing seller/willing buyer water transfer market is part of the water management landscape in California and will continue to be an important tool for water management in the future. The program also acknowledges that water transfers in and of themselves do not create additional water supply, but they do play a role in a complete solution to the long-term water management problems of the state. This issue is also addressed in the components on water use efficiency, conjunctive use, and storage.

WT 00-14

The existing water market indicates that the price paid to the seller ranges from $20 to $200 an acre-foot. It is likely that increased competition for the limited amount of water made available by willing sellers will raise these prices. However, it is very unlikely that this price will increase so high that no one will be farming. This is primarily because of other options, such as water conservation, water recycling, and even sea water or brackish water desalting that become more competitive as the price for water on the market increases. These options also can be more reliable as a local supply and have other advantages over water transfers.

Furthermore, according to the Department of Water Resources' (DWR's) Bulletin 160-98, the demand for municipal and industrial (M&I) water will be about 40 percent of total agricultural use in 2020. Even if all M&I demand was met with agricultural transfers, it would not put agriculture out of business.

WT 00-15

The CALFED Program's proposal to in part condition the construction of new storage on making improvements in the structure of the water transfer market is likely to be satisfied by implementing the actions described in the Water Transfer Program Plan. There are no target quantities in this proposed condition. The condition could be satisfied, for instance, by implementing the water transfer information clearinghouse, clarifying definitions of transferable water, and having agencies adopt additional disclosure requirements.

WT 00-16

The requirement to show efficient use by both the buyer and the seller in a water transfer transaction is based on the premise that all water users should be using water in the most efficient manner feasible (as discussed in the Water Use Efficiency Program Plan). This requirement would be satisfied by a seller being in compliance with planning and implementation guidelines developed and administered by the CUWCC and the AWMC.

Furthermore, CALFED is not involved in the Colorado River 4.4 Plan negotiations or in any legislation relating to it.

WT 00-17

CALFED has included actions to improve the current California water market as one of several water management tools to help improve water supply reliability for all uses. Therefore, the working definition of a water market is simply that which exists already. CALFED is not trying to create a new market in order to shift substantial volumes of water from seller to buyers. Vast amounts of water do not need to be transferred for a "market" to exist. CALFED is trying to improve processes and protocols that provide the oversight in order to ensure that the existing market functions more effectively.

1.1 Why CALFED Has Included Water Transfers in the Preferred Program Alternative

WT 1.1-1

Attachment 1 to the Water Transfer Program Plan lists the participants in the Bay-Delta Advisory Committee's (BDAC's) Water Transfer Work Group. The group met monthly for over a year, from August 1997 until November 1998. Although the participation of members listed in the attachment fluctuated, most were present at one or more of the 14 meetings held. This group was instrumental in helping to identify issues and constraints and to develop and discuss potential solution options.

WT 1.1-2

The Water Transfer Program Plan does not propose any changes to current legal requirements for water transfers, except that specified information regarding a proposed transfer would be provided to the Water Transfer Clearinghouse and, in some cases, proponents may need to provide some additional impact assessments. The clearinghouse would not have any regulatory authority over a transfer (see response WT 4.4.1-10). The program plan recognizes that water transfers must be developed by local interests and will be subject to local control and approval, subject also to applicable federal and state law and the regulatory jurisdiction of the SWRCB.

1.2 The Role of Water Transfers in Water Management

WT 1.2-1

As described in this section in the Water Transfer Program Plan, water transfers are considered to be one of many water supply management tools available to help resolve current water conflicts. Water transfers are based on the premise of "willing seller/willing buyer" and will continue to help meet water supply needs as hydrology and regulations continue to change. However, because markets are based on the willingness to sell, CALFED cannot readily predict the quantity of water that may be made available for sale under different conditions. Even without this information, the CALFED agencies believe that it is inaccurate to assume that water transfers are a threat to responsible planning. Responsible planning is a fundamental precept of the CALFED Program and, as a result,

CALFED has developed the Preferred Program Alternative that combines numerous complex and inter-linked actions to resolve a statewide problem. Additional related information is found in responses WT 1.2-8 and WT 4.4-2.

WT 1.2-2

The potential benefits offered by water transfers identified in this section in the Water Transfer Program Plan are not applicable in all cases nor in all regions of the state. Each benefit, however, is a legitimate one that has been achieved by one or more transfers in the past. CALFED does not assume that any future water transfers would provide all of these benefits. Benefits will be case specific. In other words, some water transfers will be based on actions that do not reallocate one beneficial use for another (for example, conservation of flows to saline sinks), while other transfers are basically a reallocation of one use of water to another. Regardless of the type of transfer, all water transfers are subject to state and federal laws intended to protect other legal water users (including groundwater users) and the environment from adverse impacts due to the transfer.

Furthermore, CALFED recognizes that water transfers are not a source of "new" water. Rather, they are a mechanism to allow water to move between water rights holders and other users, including the environment. Refer to response WT 1.2-4 for additional information.

WT 1.2-3

As described in this section in the Water Transfer Program Plan, one of the primary benefits of water transfers is "helping to relieve the mismatch ... by moving water available in one area to satisfy needs in another area." This is a broad description for allowing the reallocation, on a temporary or permanent basis, of water diverted for one use to be transferred for use elsewhere. Transfers shift existing water uses and generally do not result in additional diversions from the environment, although they can result in a change in the timing of those diversions. (For instance, if some water currently diverted to export regions for agricultural uses was transferred to an urban use [also in the export area] through land fallowing or conservation activities, future demands for increased export diversions to meet growing urban needs could be reduced, although existing diversions levels would remain constant.)

This also means that water transfers can provide water for other uses within the same basin. Transfers do not necessarily result in water moving out of a basin.

WT 1.2-4

Water transfers are simply the legal mechanism to move water between legal users of that water. If conservation efforts reduce evaporation or reduce water flowing to unusable groundwater sources, it is the conservation effort that creates the "new" water, not the transfer activity. This is an important distinction. The statutes and policies that govern water transfers are based on how the water is made available to transfer, not on the simple fact that there is a "transfer." For instance, water quantities expected to be made available through conservation, land fallowing, reservoir reoperation, contract entitlement shifts, or other mechanisms need to satisfy particular tests to ensure that those quantities truly exist and that they can legally be transferred from one user to another. CALFED agrees that many mechanisms can create new water, but it is not the transfer that does so. It is the method employed by the water user to implement a change in the place of use. The SWRCB treats a transfer proposal as an application for a "change" of a water right. The transfer is simply the mechanism to move the water made available through some action.

WT 1.2-5

CALFED agrees that water transfers can result in the movement of water between uses with different economic values. However, CALFED is not trying to direct a certain type of market. A market needs to operate with relative freedom to allow the value of water to users and the State's economy to determine who is willing to sell, who is willing to buy, and at what price. The Water Transfer Program is improving the framework within which this market will continue to function (the policies, rules, and protocols). Some water may be transferred from "low-value" uses to "high-value" uses, if the willingness exists. This is a difficult scenario to evaluate in a programmatic document. Therefore, the Water Management Strategy refinement process may be the more appropriate location to perform different "willingness to sell" scenarios. This work is already underway and is envisioned as a tool for helping to make decisions during Stage 1.

WT 1.2-6

The CALFED agencies do not believe that all water currently put to beneficial use in the Sacramento Valley will be transferred to areas outside the Sacramento Valley. However, one of the Water Transfer Program objectives is that more analysis and disclosure of potential impacts, including cumulative impacts, of water transfers be part of the public debate on specific transfer proposals.

WT 1.2-7

Water transfers can be designed to operate on several different time frames. One-year, annual long-term, optional shortage contingencies, and permanent transfer of water rights are all examples. The Owens Valley example cited by many stakeholders as a reason to be concerned with protecting water rights is actually an instance of a permanent sale of water rights. Although the permanent transfer of water rights may still occur, the majority of transfers that have been happening and are anticipated by buyers and sellers are 1-year transfers and various types of long-term arrangements with life spans of 5, 10, or 20 years. The current transfer provisions in the California Water Code specify that transfers of this sort do not change the underlying water rights.

Furthermore, as of October 1999, Governor Davis has signed legislation (SB 970) that includes additional water rights protection provisions. The author of this bill, Senator Jim Costa, intended these provisions to provide additional water rights protections to those who offer their water for sale—helping to further ensure that water rights held by many northern California interests would not be put at risk by offering water for temporary transfer to other users, including the environment. The CALFED agencies believe that this bill removes the need for additional water rights protections.

WT 1.2-8

Water transfers will continue to be governed by California water rights law. Actions taken by the United States or other countries under agreements such as the North American Free Trade Agreement will not undermine the State's system of water rights.

1.2.1 Relationship to Other Programs

WT 1.2.1-1

As described in this section in the Water Transfer Program Plan, the CALFED agencies believe that storage and conveyance must be enhanced to allow transfers to play an optimal role in statewide water management (this enhancement is described more fully in the Phase II Report). However, even without improvements in storage

or conveyance, CALFED intends to resolve issues that constrain the existing transfer market, including such issues as third-party impacts, operational rules, and approval processes.

WT 1.2.1-2

As described in this section in the Water Transfer Program Plan, the Preferred Program Alternative includes several mechanisms to ensure that water is available for augmenting in-stream flows or for improving the health of fisheries. One such mechanism is water transfers—purchasing water from a willing seller. The Water Transfer Program is improving the framework within which transfers operate. The transfer program, however, is not where specific water transfer needs are discussed. These and other mechanisms, including regulatory actions, fish screens, flexibility in Delta operating standards, the Environmental Water Account, and habitat restoration—to name a few—are discussed in other parts of the Preferred Program Alternative. The Water Transfer Program is evaluating additional mechanisms described in Section 4 in the Water Transfer Program Plan, such as improved tracking and monitoring protocols for water transferred to the environment and the possibility of establishing additional protections for in-stream flows. CALFED sees water transfers and improvements in the water transfer framework as one tool to be used in achieving the goal of a healthy ecosystem.

2. Water Transfers Defined

WT 2-1

As discussed in the sidebar in this section in the Water Transfer Program Plan, CALFED is not in the water transfer business. Because of the Program's focus on the structure and operation of the water market, analysis of specific water transfers is not appropriate in this programmatic environmental document. As willing sellers and willing buyers continue to come together, individual transfer proposals will need to comply with state and/or federal regulatory and environmental requirements. At such time, these transfers will necessarily undergo more detailed analysis to ensure that water rights are protected, third-party impacts are appropriately handled, and environmental impacts are avoided or mitigated.

2.1 Water Transfer Law and Policy: State and Federal

WT 2.1-1

The overview of water transfer law in this section in the Water Transfer Program Plan was intended to be just that, an overview. CALFED will consider expanding some aspects of the overview to try to articulate Central Valley Project Improvement Act (CVPIA) provisions and how they interact with state law, and to explain the definition of "imported water" as used by the SWRCB.

WT 2.1-2

The CALFED Program does not have any legal or regulatory jurisdiction over transfers or over the application of the "no injury" rule in state law. CALFED does not intend to recommend changes to the current system of water rights as defined in the California Water Code. The program plan recognizes and attempts to describe how Water Code sections such as the "no injury" rule are generally applied by the regulatory agencies.

Individual water transfer proposals will be subject to applicable federal and state law and, in some cases, the regulatory jurisdiction of the SWRCB. The SWRCB has no authority to directly address groundwater rights but does consider impacts on groundwater users as part of its evaluation of "no injury" for specific water transfer proposals.

Furthermore, provisions in the Water Code do require water transfer proposals to satisfy groundwater management requirements as one aspect of approval (for instance, Section 1745.10). Most proposed transfers do not fall under these provisions, however.

To help with this situation, as stated in Section 4.4.2 in the Water Transfer Program Plan, CALFED is recommending that agencies with review authority require transfer applicants to provide groundwater impacts assessments prior to review of the application. This disclosure requirement is intended to provide analysis when it otherwise may not be required.

WT 2.1-3

The CALFED Program does not have any legal or regulatory jurisdiction over transfers or over the application of the "no injury" rule in state law. CALFED does not intend to recommend changes to the current system of water rights as defined in the California Water Code. Individual water transfer proposals will be subject to applicable federal and state law and, in some cases, the regulatory jurisdiction of the SWRCB. CALFED is not intending to promote one type of transfer over another.

3.3 Environmental, Socioeconomic, and Water Resources Protection

WT 3.3-1

The potential solution options identified for each issue in this section in the Water Transfer Program Plan were developed through numerous stakeholder and inter-agency meetings. The strategic plan of action to resolve each of these issues is described in Section 4 in the program plan. For each issue, only one solution option was brought forward. The selected option was the result of many months of stakeholder and CALFED agency meetings and discussions. The solutions chosen typically do not fully satisfy all stakeholders and CALFED agencies. They do, however, represent consensus solutions that provide some satisfaction to all parties. Most of these actions will not require legislation and can be implemented within the existing framework of laws, statutes, and policies.

3.3.1 Third-Party Socioeconomic Impacts

WT 3.3.1-1

The potential for third-party water quality degradation in export areas due to low-quality source water transferred into the area is limited. This concern is generally resolved through requirements placed by the approving agency (DWR, Reclamation, or SWRCB) on the source water provider to meet particular water quality requirements. For instance, prior to directing transferred water into the California Aqueduct, DWR requires the proponent to ensure that the water being introduced passes particular water quality standards. Water quality requirements such as these are generally the rule. In some situations, however, the approving agency may allow the standards to be violated, which may result in some impacts. These circumstances will continue to be handled on a case-by-case basis and do not lend themselves to a universal solution.

3.3.2 Groundwater Resource Protection

WT 3.3.2-1

The CALFED Program has developed a set of conjunctive use principles that articulate the need for local ownership, local involvement, and local acceptance of conjunctive use projects—including a need to adequately address third-party concerns. These principles can be found in the Phase II Report.

3.3.5 In-Stream Flow (Section 1707) Transfers

WT 3.3.5-1

Water Code Section 1243 provides that the use of water for recreation and preservation and enhancement of fish and wildlife resources is a beneficial use of water. When the SWRCB receives an application to appropriate water for other beneficial uses, the SWRCB must notify the California Department of Fish and Game (DFG), which may make recommendations to the SWRCB regarding the amount of water required for the preservation and enhancement of fish and wildlife resources. Pursuant to Sections 1243 and 1243.5 and the recommendation received from DFG, the SWRCB may impose conditions on a permit or license for the preservation or enhancement of fish and wildlife. However, Section 1243 does not authorize the SWRCB to receive an application or issue a permit for an in-stream appropriation. An appropriative water right requires a diversion of water for some reasonable and beneficial use.

Section 1707 provides that a water user entitled to the use of water, under any type of water right, may petition the SWRCB for a change in purpose of use to preserve or enhance wetlands, fish, wildlife or recreation in or on the water. The proposed use does not require a diversion of water. The SWRCB must make certain findings to approve a Section 1707 change petition, including no increase in the amount of water used and no unreasonable effect on another legal use of water. A Section 1707 transfer could result in the dedication of water held under any type of water right to environmental purposes. Presumably, this could reduce the amount of water available for downstream users, depending on the place and purpose of use of the water (for example, Delta outflow). The SWRCB would need to make a finding that any such reduction in availability does not constitute an "unreasonable effect" on another legal user of water.

3.4.1 Transferable Water and the "No Injury" Rule

WT 3.4.1-1

Several California court decisions over the past few decades have confirmed that the importer of water into an area retains the right to use return flows and the right to capture and use imported water that has percolated to the underground. This is in essence the concept of water banking. However, California law also distinguishes between the use of groundwater on overlying lands and the appropriation of groundwater for use on, or transfer to, nonoverlying lands. Such use is treated as an appropriation of groundwater and has a lower priority than overlying use of groundwater. The water transfer rules of the CVPIA and the provisions in CVP water service contracts appear to be consistent with these concepts.

Regarding return flows, CVP contracts typically provide that the United States retains the right to all seepage and return flows that leave the contractor's service area while recognizing the right of the contractor or those claiming under the contractor to make reasonable and beneficial use of such water. Reasonable and beneficial use of such water could include the transfer of such water but only if the water were otherwise transferable under State law—which, in most cases, is subject to the "no injury" rule (i.e., that the transfer of the water should not injure another legal user of water.)

It would appear that the potential for conflict between the federal and state law would arise not when the contractor or a water user of the contractor proposed to transfer a saved return flow, but rather when the return flow leaves the contractor's service area and a downstream user claimed a right to such water as abandoned or unappropriated against a claim of the United States that such water was still CVP water under the control of Reclamation.

With respect to groundwater, CVP contracts have typically provided, somewhat indirectly, that project water, once it has percolated to the underground, is no longer considered to be CVP water when it is pumped and used by overlying landowners. The provision in question specifically deals with the case where groundwater is pumped and used on lands that are not eligible for CVP water. By providing that such use is not deemed to be a furnishing of project water to an ineligible user, the contract establishes the clear implication that water applied under a CVP contract, once it has become percolating groundwater, is no longer project water. At that point, consequently, state law on groundwater applies rather than any rules of federal law or contract.

As noted above, the transfer of groundwater—if the place of use is not on overlying lands—is generally treated as an appropriation of groundwater. As a general rule, only water surplus to the needs of the overlying users can be appropriated (transferred) or used on non-overlying lands. In an area where overlying use exceeds the safe yield of the groundwater basin, no groundwater is available for appropriation or transfer, irrespective of the original source of the groundwater. Note that this is not inconsistent with the idea that the importer of water retains the right of use of such water, even after it has percolated to the underground, only that the importer of such water may not have the right to transfer such water to non-overlying lands. There are, of course, exceptions to these rules, particularly in certain southern California basins, where the rules of mutual prescription have been applied or where the groundwater basin has been adjudicated.

The application of these rules do not preclude the scenario posited in the comment wherein a CVP or SWP contractor takes measures on a district-wide basis to reduce the total amount of deep percolation resulting from application of project water and then transfers the saved contractual entitlement. However, in many cases, such a transfer would be subject to the "no injury" rule of Water Code Sections 1702, 1706, or 1725. This is a function of state law, not federal rules, as the comment suggests. It should also be noted that, in general, one of the original purposes of the CVP, particularly in the San Joaquin Valley, was to operate on a conjunctive use basis (i.e., to provide surface water in years of surplus so that local water users could conserve their groundwater for use in dry years). The comment suggests that, but does not make clear how, federal water transfer rules are not consistent with project purposes.

The comment also suggests that the development of a water transfer market would be encouraged or promoted by treating the pumping and usage of groundwater incidentally recharged by the application or delivery of project water to a CVP contract service area as a use of project water, and charging for such water at the project water rate. It is not clear how this could be consistent with state law. Neither the state nor the federal government has any jurisdiction (with the exception of groundwater basins adjudicated under state law) to regulate or manage the extraction of groundwater; as noted above, once the applied water has percolated to the underground, it loses any characteristic of project water. As the comment notes, there are cases where local agencies, pursuant to state law, manage their own groundwater basin, including the impositions of pump taxes or benefit assessments. Nothing in the CVPIA or the CVP water service contracts prohibits CVP contractors from implementing these same kinds of programs. In fact, one of the examples cited in the comment is a CVP contractor.

WT 3.4.1-2

CALFED did not create the definitions or rules for saved or conserved water or the concept of "real water." This section in the Water Transfer Program Plan attempts to objectively describe how the existing law is interpreted and applied by the agencies (primarily, the SWRCB, DWR, and Reclamation) with varying degrees of jurisdiction over water transfers. The CALFED Program does not have any legal or regulatory jurisdiction over transfers or over the application of the "no injury" rule of state law. The program plan recognizes and attempts to describe how the "no injury" rule is generally applied by the regulatory agencies. The program plan specifically recognizes the difference in opinion among various interests as to how the "no injury" rule should apply to some types of transfers and the differences in viewpoints about the transferability of saved or conserved water. The intent of the

program plan is to identify and describe these issues and to propose solutions or solution processes that will facilitate the further development of the already existing water transfer market, while protecting local water rights and interests. Solutions are presented in Section 4 in the Water Transfer Program Plan, not in Section 3.

The comment accurately states the problem of interpretation of Water Code provisions by noting that, in the Sacramento Valley, tailwater or return flows that are not recaptured for direct use by the diverter generally return to the system. This fact directly highlights the problem of transferability of saved or conserved water, since one of the tests of transferability is whether the water would be used downstream in the absence of the transfer (i.e., would return to the system). If so, the "no injury" rule is applicable and the transfer could not be approved. The comment states an interpretation of the "no injury" rule that is inconsistent with the interpretation made by the SWRCB. Not all conserved or saved water is transferable. Saved or conserved water may be transferable if it meets the transferability tests of other provisions of California water law, such as the "no injury" rule. The seniority of a water right is irrelevant to the determination of the applicability of the "no injury" rule.

3.4.3 Operations Criteria and Carriage Water Requirements

WT 3.4.3-1

CALFED agrees that the following statement (on page 3-11 in the June 1999 Water Transfer Program Plan) is not completely accurate and has deleted the sentence from the final document:

> "The conveyance of transferred water may reduce Delta outflows, thereby requiring additional releases from storage to maintain compliance with operating criteria."

3.4.4 Reservoir Refill Criteria

WT 3.4.4-1

The Water Transfer Program Plan accurately states that "Transferors of stored water contend that their actions do not cause harm to other legal users of water." The CALFED agencies believe that the issue descriptions adequately portray the issue. More emphasis should be placed on considering the solutions discussed in Section 4 in the program plan. The CALFED agencies are committed to standardizing the application of refill criteria through stakeholder interaction. This will occur early during Stage 1 implementation.

3.5.2 Priority of Transferred Water in New Facilities

WT 3.5.2-1

CALFED has not addressed this issue. Currently, the Preferred Program Alternative (see the Phase II Report) does not include a new conveyance facility. Therefore, discussions about how to pay for a portion of such a facility to be available for water transfers is premature. Also see response WT 4.6.3-1.

4. Program Framework

WT 4-1

The Water Transfer Program Plan is CALFED's strategic plan to improve the framework within which the water market in California functions. Section 4 in the Water Transfer Program Plan describes several actions and processes for resolving issues. These are necessarily programmatic in nature, since the current phase of the

CALFED Program is also programmatic. As stated in response WT 00-4, the existing California Water Code provisions and articles of the 1992 CVPIA contain the "rules" governing current market functions. CALFED agrees that they need to be improved but disagrees that there is no viable market in the meantime. Many stakeholders have commented that they do not want the Water Transfer Program to adversely affect their current ability to transfer water.

CALFED agrees with the immediate need to continue to move toward resolution of all the issues described in Section 3 in the Water Transfer Program Plan. The actions and processes in Section 4 in the program plan describe the work plan that CALFED is following. Early implementation of some of these actions is feasible and is currently underway. Otherwise, implementation is expected during the early years of CALFED's Stage 1. More detailed descriptions of many of the actions have been included in the Water Transfer Program Plan.

WT 4-2

As described for many of the actions identified in this section in the Water Transfer Program Plan, stakeholder involvement is critical to successful implementation of these actions. At this time, specific actions are described only at a programmatic level. This is in part because of the need for more stakeholder interaction to discuss specific components of each action. Plans for stakeholder involvement during Stage 1 are being developed and, in some instances, are moving forward. For example, CALFED is working with the Bay-Delta Modeling Forum to facilitate a public workshop in order to discuss appropriate modeling tools for estimating carriage water requirements. Consensus on a tool will be reached only after such stakeholder interaction. Other actions will require similar stakeholder involvement.

One of the reasons CALFED had limited stakeholder interaction during the few months prior to the release of the Water Transfer Program Plan was because of a need to facilitate inter-agency discussions on several key issues where CALFED agencies have jurisdiction. Clear disclosure of current interpretations by DWR and Reclamation on particular Water Code provisions is essential for engaging stakeholders in useful interactions. Stakeholder interaction will be increased for these types of issues during Stage 1 implementation.

WT 4-3

The concern is valid that CALFED agencies participating in the development of solutions for water transfer constraints have a conflict of interest, because they themselves participate in markets and have water rights to protect. However, these agencies also have legal authority and responsibility for water transfers under state and federal statute, and are required to be involved in the review and approval of water transfer proposals. CALFED hopes that actions described throughout this section in the Water Transfer Program Plan will help to eliminate these concerns. For instance, developing standard definitions for transferable water is an important objective but not very useful if those definitions are developed with absolutely no stakeholder interaction and debate. CALFED recognizes that the key to moving forward with a market is for all water rights interests to agree to standardized procedures for determining transferability. This task means that federal agencies buying water for streamflow would be subject to the same rules and definitions as local public entities. This task will not be easy and will require time and dedication by stakeholders to engage in objective discussions on such issues. As described in response WT 4-2, stakeholder interaction will be increased as we move into implementation stages. The actions described in the final Water Transfer Program Plan remain programmatic. Additional information is found in response WT 00-4.

WT 4-4

Consistent terminology is vital to overcoming concerns about water transfers and allowing legitimate issues to be addressed. Through the implementation of actions described throughout this section in the Water Transfer Program Plan, CALFED will strive to build standard, mutually agreeable language for water transaction-related terms. This will most likely manifest itself through the development of a web-based water transfer application system, where adherence to and understanding of terms are critical to successfully inform water transfer interests about requirements, procedures, and protocols.

WT 4-5

CALFED is not promoting a "free" water transfer market. The Water Transfer Program actions are intended to improve the structure of the current water market, including many regulatory protections and protocols. This section in the Water Transfer Program Plan fully describes the programmatic actions CALFED will implement during Stage 1 (after the signing of the Record of Decision [ROD] on a Final Programmatic EIS/EIR).

WT 4-6

The actions listed in this section in the Water Transfer Program Plan are intended to result in similar improvements to the current water market.

WT 4-7

CALFED agencies, especially DWR, Reclamation, and SWRCB, are all actively participating in developing CALFED's Water Transfer Program. These agencies are committed to resolving differences, improving coordination, and working with stakeholders to make necessary improvements in the existing water market framework.

4.1 Objectives Governing the Development of Solution Options

WT 4.1-1

CALFED agrees that criterion number 3 on page 4-2 in the June 1999 Water Transfer Program Plan should state that "Water rights of any legal user must not be impaired." This change has been incorporated.

WT 4.1-2

The objectives and criteria included in this section in the Water Transfer Program Plan already embody this principle.

4.4 Environmental, Socioeconomic, and Water Resources Protection Solutions

WT 4.4-1

As part of the effort to facilitate in-stream transfers under Water Code Section 1707, CALFED is developing improved tracking and monitoring protocols to ensure that water designated for a particular downstream purpose reaches its destination. California water law recognizes that multiple uses and benefits can be realized from the same water. The water appropriation system allows downstream legal users of water to divert and put to beneficial use any water that has been returned to a water system (abandoned) by an upstream water user. CALFED will

formalize when and how those transferring water to the streams can use this provision to protect their investments.

In addition, all water transfer proposals that involve local agency action or review by state or federal agencies need to comply with appropriate environmental impact assessment requirements. This legal requirement will not be affected by actions of the Water Transfer Program and, in many instances, should be enhanced.

WT 4.4-2

Actions included in this section in the Water Transfer Program Plan are intended to increase the level of protection for third-party interests and improve understanding of water transfer benefits and impacts. Actions such as potential additional analysis could seem counter-productive to proponents, but they are really intended to address the realities, fears, and perceptions of third-party and source area interests. CALFED is concerned that a lack of information and understanding of transfer impacts result in further barriers to viable water transfers. However, this same lack of information can allow irresponsible transfers to be approved, resulting in unnecessary impacts to local resources. It is CALFED's belief that by being more forthright with information, transfer proponents can alleviate many third-party concerns—by fully disclosing what may happen to local resources and how such impacts will be avoided or mitigated. A water transfer market cannot function efficiently without a free flow of information among transfer proponents and third-party interests. CALFED's actions move toward that long-term objective of a regulated and protective market that will provide local benefits, as well as benefits to the buying and selling entity and region.

WT 4.4-3

CALFED agrees that water transfers should not result in significant, unmitigated impacts on low-income farm workers. However, CALFED does not agree that a federally or state-mandated "tax" paid by proponents would facilitate a water market; it may instead create an obligation that would discourage desirable transfers. (CALFED, however, does not have any authority over local entities that are able to enact requirements, such as a tax.) CALFED intends that efforts of the clearinghouse will help reduce the potential for adverse impacts to local work forces by facilitating research and development of mitigation "tool boxes." Project-specific mitigation may or may not include fees to be paid. A universal tax is inappropriate.

WT 4.4-10

This response has been consolidated with response WT 4.4.1-10. Please refer to this response for an answer to your comment.

4.4.1 Water Transfers Information Clearinghouse

WT 4.4.1-1

As discussed in this section in the Water Transfer Program Plan, a clearinghouse would be created to perform several functions. Through the facilitation and development of impact assessment tools and mitigation strategies, the clearinghouse will be able to help third parties to ensure that their interests are considered in the evaluation of water transfer proposals. The clearinghouse will develop a "toolbox" of mitigation strategies that will be useful to local interests concerned about transfer impacts. The clearinghouse will also facilitate research regarding the cause/effect relationships between changes in water management as a result of transfers and attributes such as local groundwater resources, terrestrial habitats, and job base. The clearinghouse will also ensure that all information

regarding a proposed transfer is publicly disclosed, so that local, state, and federal entities are better enabled to make decisions with a full understanding of the proposed transfer.

WT 4.4.1-2

As referred to in this section in the Water Transfer Program Plan, the Comprehensive Monitoring, Assessment, and Research Program (CMARP) concurs with the need for development of baseline hydrologic surface water and groundwater information. Through the CMARP and the information clearinghouse, such information will be developed. This type of general information should provide transfer proponents as well as local interests with a broader understanding of basic configurations and relationships of their local water resources. Additionally, monitoring of specific water transfer projects will need to be included as part of each water transfer proposal. One way to ensure that this information is included is by developing mitigation and monitoring tools, as described in response WT 4.4.1-1, for use by project proponents and local and state agencies with jurisdiction over a specific water transfer.

WT 4.4.1-3

The term "if necessary" in this sentence refers to whether the proponent needs such a toolbox of mitigation strategies. The clearinghouse will include a toolbox to be used by proponents "if necessary."

WT 4.4.1-4

The clearinghouse described in the Water Transfer Program Plan will assist with disclosure of information through the use of a web site. As applications are submitted to DWR, SWRCB, and/or Reclamation, the agencies will forward the information to the clearinghouse for posting. (Currently, not all transfers are under the jurisdiction of the SWRCB and may not be adequately noticed.) It will continue to be the responsibility of local interests to monitor this information, to ensure that they know about proposed transfers that may affect them. The clearinghouse may also provide a public forum, or ensure that one is provided, for a public discussion of proposed transfers, as needed.

Legislation recently signed into law by Governor Davis (SB 970) adds provisions to the California Water Code that impose some additional noticing requirements on transfer applicants.

Additional information is found in responses WT 4.5-1 and WT 4.5.1-1.

WT 4.4.1-5

The clearinghouse will assist with developing a better understanding of the relationships between water sources, transfers, and various "externalities" (for example, third-party impacts). Improved understanding should help to ensure that water transfers occur when there is appropriate support for them and that necessary impacts are mitigated. The Water Transfer Program, however, is based on the current system of water rights in California; current law does not require that water rights holders be responsible for all impacts of a transfer. CALFED anticipates that, by development and disclosure of better information and research findings, impacts that may occur from a water transfer are better known and issues about responsibility can be more easily resolved.

WT 4.4.1-6

CALFED agrees that disclosure of environmental impact information associated with a proposed transfer—regardless of its intended use for agricultural, urban, or environmental purposes—is necessary. It is the

intent that the clearinghouse, upon receipt of a proposal, would post all relevant information, including all impact reports, on a web site for public review. This posting is simply for disclosure purposes and does not initiate any formal public review process. The reviewing and approving agencies (DWR, SWRCB, and Reclamation) would provide the appropriate public involvement forums in accordance with existing legal requirements. In addition, the web site will post all transfers, regardless of their purpose, when they are formally accepted for review by an oversight agency.

WT 4.4.1-7

Any models developed or facilitated by CALFED to improve our collective understanding of groundwater and surface water interactions would necessarily be directed toward specific basins or groups of basins. CALFED does not intend that one Central Valley model be developed.

WT 4.4.1-8

The intra-district water transfers referenced in this section in the Water Transfer Program Plan are those that happen when water users within a district transfer their surface water among each other. This type of transfer is heavily practiced in districts such as Westlands Water District, a CVP contractor. CALFED does not see long-term cumulative impact potential from such transfers. They require only the approval of the water district and involve only water rights or water contracts that the district already holds. In recent years, Westlands Water District alone has experienced several thousand water transactions among its growers.

WT 4.4.1-9

The referenced statement from the Water Transfer Program Plan is included in a section on optional functions of a clearinghouse. The clearinghouse is not intended to be a new regulatory entity. Its primary function will be public disclosure of proposed water transfers. However, the clearinghouse includes optional functions that could be administered by clearinghouse staff on a contractual basis. The disclosure of information would be free to the public—analysis or interpretation of any information may need to be contracted for on an individual basis.

WT 4.4.1-10

The two functions of the clearinghouse are to:

- Disclose information on proposed transfers through an electronic medium (web site or other) for broader public access to the details of the transfer.
- Promote or facilitate data analysis of historical water transfers, and add new transfers to a database as they are approved to increase the overall understanding of relationships between water transfers and real or perceived impacts.

The clearinghouse has no regulatory function. The clearinghouse does offer an opportunity for DWR, SWRCB, and Reclamation to coordinate functions, standardize policies and procedures, and further streamline review periods.

4.4.2 Analysis Disclosure Requirements

WT 4.4.2-1

Water supply development by management of groundwater is a sound concept in many areas of the state. Generally referred to as conjunctive use or groundwater banking, this process allows existing groundwater resources to be managed to allow carryover of existing supplies or to produce additional water supplies—either for use locally to meet growing needs or for temporary transfer. The potential for such projects varies throughout regions of the state. If a project is developed for transferring water to another user, either directly or in combination with a surface water supply, the Water Transfer Program recommends that approving agencies require the seller to satisfy certain additional analysis and disclosure objectives. These requirements, discussed in Section 4.4.2 in the Water Transfer Program Plan, should result in a transfer being developed and conditioned such that local groundwater users are not adversely affected.

The CALFED agencies consider it inappropriate to limit local entities who wish to develop conjunctive use projects for the local management of groundwater resources. Therefore, the program, including the conjunctive use actions and principles described as part of the storage component of the Preferred Program Alternative (see the Phase II Report), does not contain any actions to stop the transfer of groundwater out of a "basin" simply because of failure to increase storage in the statewide system. CALFED is advocating locally developed conjunctive use projects to include monitoring and mitigation mechanisms as key aspects of their projects in order to gain local acceptance and ensure that local impacts, if any, are mitigated to acceptable levels.

Refer to responses WT 4.4.1-1 and WT 4.4.1-2 for additional information on providing increased protection for groundwater interests and improving our understanding of groundwater systems.

WT 4.4.2-2

CALFED is recommending that agencies with jurisdiction over proposed water transfers begin to require additional impact assessments as part of an application to transfer. Local socioeconomic impacts, cumulative impacts, and groundwater impacts will be part of the information provided and publicly disclosed by the proponents. In addition, all proposed transfers will need to satisfy applicable state or federal environmental compliance requirements, regardless of the proposed use of the transferred water. The CALFED agencies think that all transfers should be subject to the same review criteria and analytic requirements. The proposed actions reflect that view.

WT 4.4.2-3

As described in this section in the Water Transfer Program Plan, CALFED has included an action recommending that approving agencies require additional impact assessments to be provided by the proponent at the time of applying for approval for a proposed water transfer. These requirements include socioeconomic impact analysis, cumulative impact analysis, and groundwater impact analysis. The level of analysis will vary with the type of water transfer (for example, a fallowing transfer needs to address socioeconomic impacts more than a reservoir reoperation transfer would) and the local socioeconomic and hydrologic conditions.

4.4.3 Solution Process for Environmental Protection Issues

WT4.4.3-1

CALFED agrees with the need to recognize the legal rights and benefits associated with multiple uses. The intention of this solution process is to develop protocols so that in-stream flow transfers are more likely to be implemented for multiple uses. California water law recognizes that multiple uses and benefits can be realized from the same water. The water appropriation system allows downstream legal users of water to divert and put to beneficial use any water that has been returned to a water system (abandoned) by an upstream water user. Initial efforts will focus on ensuring that in-stream flow transfers are clearly defined by purpose and destination, and by identifying who has the right to use the water at what point in the system. This will allow for more opportunities to benefit in-stream flows as well as diverted uses with the same transfer.

WT 4.4.3-2

CALFED will include a wide array of stakeholders in this process. Those with experience on similar issues will provide much needed insight and context.

4.4.4 Additional Water Rights Legislation

WT 4.4.4-1

In October 1999, Governor Davis signed legislation (SB 970) that includes additional water rights protection provisions. The author of this bill, Senator Jim Costa, intended these provisions to provide additional water rights protections so that those who offer their water for sale would not put their water rights at risk by temporary transfers to other users, including the environment. The CALFED agencies believe that this bill removes the need for additional water rights protections; CALFED therefore does not intend to pursue additional legislative action for this issue.

4.5 Technical, Operational, and Administrative Rules

WT 4.5-1

Many of the actions discussed in this section in the Water Transfer Program Plan are directed at clarifying and standardizing rules and procedures. Among these is a need for the SWRCB to clearly articulate the definition of a "basin" as used in many aspects of water transfers. The potential exists for rules to vary based on "in-basin" and "out-of-basin" uses, but only if there is a clear understanding of what a basin is. CALFED will facilitate this clarification as it implements the actions described in this section.

4.5.1 Solution Process to Resolve Transferable Water Definitions

WT 4.5.1-1

The concern about whether a proposed water transfer will adversely affect another legal user of water is hotly debated. The California Water Code contains several provisions directing agencies with jurisdiction to approve water transfers to approve a transfer only if other legal users of water are not adversely affected—known as the "no injury" rule. The question often debated is "Who is a legal user?" In some instances, return flows from an irrigation activity do not provide water to another legal water user; in even more instances, they do. In some instances, groundwater users have legal rights to water that has percolated into an aquifer; in other instances, they

do not. The Water Transfer Program, through implementation of the action described in this section in the Water Transfer Program Plan, will help to clarify the conditions that allow water to be transferrable. These conditions can depend on characteristics such as duration of the transfer, destination, underlying water rights, and how the water was made available to transfer (for example, by conservation or fallowing). This clarification can result in some transfers being viewed as an incentive to conserve, although this will not always be the case. Transfer rules reflect that a significant amount of the return flow generated by irrigation events generally returns to a surface water or groundwater source that is available to other legal users of water. However, opportunities to transfer conserved water without adversely affecting other legal water users do exist and should be facilitated by the implementation of the CALFED Program.

WT 4.5.1-2

As discussed in this section in the Water Transfer Program Plan, CALFED will continue to facilitate discussions to resolve transferable water issues. Stakeholder participation will be a key component of developing better definitions and interpretations of sections in the California Water Code where disagreement now exists. More facilitated stakeholder participation will occur in Stage 1, after the ROD is signed for the Final Programmatic EIS/EIR. It is CALFED's goal to ensure that all interests are fully represented during these discussions. The discussions will not impede the ability to continue to execute transfers under existing DWR, Reclamation, or SWRCB policies and procedures.

4.5.2 Clarification of Carriage Water Requirements

WT 4.5.2-1

CALFED had used the term "carriage water" in the most broad sense when describing actions to clarify additional flow requirements to allow cross-Delta water transfers. CALFED recognizes that several conditions governing the amount of "carriage" water need to ensure no impacts to other legal users of water. These conditions may be driven by salinity constraints, the export/inflow (E/I) ratio, biological requirements, or other Delta operational constraints.

The intent of this action is to clarify a standard method (or set of tools) that will be used to: (1) analyze what condition is most likely to be governing during a proposed cross-Delta transfer, and (2) approximate the quantity of water needed to meet requirements (if any). The purpose of this action is to provide transfer proponents with a tool, or at least knowledge of what tools will be used by approving agencies, for assessing carriage water requirements. This should allow the seller to appropriately include necessary limits, conditions, or other language in contracts with the buyer. Currently, little information is provided up-front to enable the proponent to reasonably assess this important portion of their water transaction.

4.5.3 Resolution of Reservoir Refill Criteria

WT 4.5.3-1

Reservoir refill criteria arise from the application of the California Water Code's "no injury" rule to stored water transfers as a unique situation applicable to the state and federal water projects. Refill criteria do not preclude the standard application of the "no injury" rule to other types of transfers.

WT 4.5.3-2

Standardization of reservoir refill criteria is necessary to resolve an issue between reservoir operators and other legal users of water regarding the application of the "no injury" rule to stored water transfers. The need to ensure that refill does not occur at a time when in-stream flow pulses are needed is a valid concern, that will be addressed through project-specific environmental impact assessments. CALFED does not intend to complicate resolution of this issue with additional environmental requirements, when other regulations already provide this assessment and necessary mitigation.

4.5.4 Streamlined Approval Process for All Transfers

WT 4.5.4-1

The actions discussed in this section in the Water Transfer Program Plan are intended to make application for and approval of water transfers more timely. CALFED is developing a web-based transfer application system that would provide all relevant information to applicants, to ensure that applications are complete when submitted and to fully inform applicants of all policies and criteria. This system will help to better inform proponents of what is required and ensure that reviewing agencies consistently apply their requirements (and that their requirements are fully understood by all parties).

WT 4.5.4-2

The guidebook is currently available through the SWRCB (**www.waterrights.ca.gov**). The guidebook provides a useful overview of current water transfers policies and procedures. CALFED is working with the agencies with jurisdictional authority to review and approve transfers in order to make other improvements to the review and approval processes. These activities will require more stakeholder involvement as CALFED proceeds with implementation during Stage 1.

4.5.5 Expedited Approval Process for Some Transfers

WT 4.5.5-1

The development of expedited approval processes cannot occur until other water transfers issues are resolved, especially the need to clarify when water is transferable. CALFED expects to involve stakeholders during Stage 1 implementation in looking for opportunities to expedite particular types of water transfers, possibly with the development of programmatic environmental compliance, similar to how Reclamation handles transfers within some of its delivery units.

4.6.1 Forecasting and Disclosure of Available Capacity in Existing Project Facilities

WT 4.6.1-1

The action described in this section in the Water Transfer Program Plan is intended to improve on existing forecast disclosure mechanisms.

4.6.2 Evaluating Policies for Transporting Water in Existing Project Facilities

WT 4.6.2-1

This section in the Water Transfer Program Plan describes a process intended to improve predictability and reliability, if possible, for water transfer proponents to gain access in project conveyance facilities beginning early in Stage 1. CALFED recognizes that conveyance restrictions are a serious impediment to cross-Delta water transfers and that Program actions such as the Environmental Water Account will also be competing for any available capacity. These restrictions are often the result of necessary operational protocols.

4.6.3 Establishing Priority for Transfers in a New Conveyance Facility

WT 4.6.3-1

This section of the Water Transfer Program Plan was intended to address how to allocate capacity in an isolated facility. Actions such as those proposed in the Preferred Program Alternative are considered, for purposes of the Water Transfer Program, as improvements to "existing facilities" even though they may require new construction. We apologize for any misunderstanding. Discussions about improving access to "existing facilities" are called out as a CALFED action (see Section 4.6.2 in the Water Transfer Program Plan for details on how CALFED intends to proceed).

Also, CALFED has not considered that a portion of any new storage facility capacity would be dedicated to water transfers. That decision was assumed to be left to the owner of the storage facility (the local public entity, private company, or state or federal agency).

5. Implementation, Governance, and Finance Issues

WT 5.3.1-1

Water transfer proposals will continue to be subject to numerous requirements that may result in their approval, conditional approval, or denial. The Water Transfer Program is designed to ensure that all parties have a better understanding of the potential impacts related to particular transfers and that those impacts are avoided or mitigated prior to approval. Third-party interests should not be burdened with costs associated with water transfers.

WT 5.3.1-2

In reference to the third bullet on page 5-5 in the June 1999 Water Transfer Program Plan, the sentence has been modified to read:

> "All agricultural and M&I water suppliers and users would benefit from environmental water transfers because, as environmental conditions improve, implications of regulatory conditions on water diversions should be reduced."

Attachment A

WT A-1

CALFED's consensus-based effort resulted in CALFED's planning for the establishment of an information clearinghouse and recommending requirements for additional impact analysis (as described in Section 4 in the Water Transfer Program Plan). There was no consensus on establishing another regulatory entity to review water transfers.

Attachment 1

Bay-Delta Advisory Council's Water Transfers Work Group

(These people were on the mailing list, were sent updates and meetings notes, and may or may not have attended a meeting—addresses and names may no longer be current.)

39032 Candy, Peter
1827 Hyde Street
San Francisco CA 94106

5720 Canfield, Chris
12621 E. 166th St.
Cerritos CA 94703

5734 Cappalla, Rocco
1003 East Cliff Drive
Santa Cruz CA 95062

5814 Cartwright, Rosalee
3968 Ord Ferry Road
Chico CA 92928

39033 Cohen, Stuart
1711 McGee Avenue
Berkeley CA 94703

39049 Davis, Kim
District Representative
State Capitol, Room 5087
Sacramento CA 95814

7107 Farrar, Andrew
1714 Morse Avenue
Sacramento CA 92825-2007

39039 Havens, Tom
1606 Hermosa Place
Colorado Springs CO 80906

8212 Heaton, Michael
Attorney at Law
926 J Street 505
Sacramento CA 95814

Alameda County Water District

6028 Cleland, Leasa
P O Box 5110
Fremont CA 94537

14562 Kozlen, Sanford
4500 Colby Way
Carmichael CA 95608

10550 Miller, B J
Consultant
P O Box 5995
Berkeley CA 94705-0995

10578 Miller, Mama
3520 Palomar Ave
West Sacramento CA 95691

39023 Newlin, Vickie
2279 Del Oro Avenue Ste. A
Oroville CA 95965

11715 Pyle, Stuart T
Consultant
3707 Panorama Dr
Bakersfield CA 93306-1162

12577 Shanks, Sally
P O Box 408
Walnut Grove CA 95690

13018 Steere, Lora
1207 Waterview Dr
Mill Valley CA 94941-3412

13158 Stroshane, Tim
639 San Carlos Avenue
Albany CA 94706

14114 Wilcox, Christopher
40570 S River Rd
Clarksburg CA 95612

14148 Williams, Derrick
4032 Brighton Ave
Oakland CA 94602

Assem Water, Parks & Wildlife Comm

10238 McChesney, Jo-Ellen
State Capitol Room 5136
Sacramento CA 95814

Assemblywoman Helen Thompson

7077 Fairclough, Elly
712 B Main Street
Woodland CA 95695

Attorney at Law

8705 Jackson, Michael B
P O Box 207
Quincy CA 95971

Bank of America
39034 Crowder, Vernon
6485 N Palm Avenue #103
Fair Oaks CA 93704

Bartkiewicz Kronick Shanahan
4856 Bartkiewicz, Paul M
Attorney at Law
1011 22nd Street Suite 100
Sacramento CA 95816-4994

Blue Diamond Almond Growers
5525 Brun, Daryl
P O Box 1768
Sacramento CA 95812

Bookman-Edmonston Engineering
5677 Caldwell, Kathy
Member/c/o Rollins Hudig Hall
225 W. Bradway, Suite 400
Glendale CA 91204-1331

California Landscape Contract Assn
12118 Rohlfes, Larry
2021 N Street Suite 300
Sacramento CA 95814-4222

California Rural Legal Assistance
8427 Hoerger, Bill
Chief Counsel
631 Howard Street Suite 300
San Francisco CA 94105-3907

California Rural Studies Institute
13748 Villarejo, Donald
Executive Director
P O Box 2143
Davis CA 95617-2143

39045 Rodriquez, Larry
P O Box 15408
Sacramento CA 95851-0408

Butte County Water Commission
39040 Hanford, Priscilla
1773 Honeysuckle lane
Paradise CA 95969

Cadiz, Inc.
12751 Sklavounos, Alysia
955 Crankbrook Court, Suite 239
Davis CA 95616

Calaveras County Water Dist
6812 Dunn, William G
Director District 2
P O Box 940
West Point CA 95255

Calif Research Bureau
11123 O'Connor, Dennis
900 N. Street, Ste 300
P O Box 942837
Sacramento CA 94537-0001

California Chamber of Commerce
10983 Nera, Valeri
Director Agriculture and Resources
1201 K St. 12th Floor
P O Box 1736
Sacramento CA 95812-1736

California Farm Bureau
14591 Warmerdam, Mary-Ann
1127 11th Street Suite 626
Sacramento CA 95814

California Farm Bureau Federation
6778 Du Bois, William I
Director-Natural Resources
1127 11th Street Suite 626 FB31
Sacramento CA 95814

Central Valley Project Water Assn
11409 Peltier, jason
Reg Mgr
1521 I St
Sacramento CA 95814

Central Valley Project Water Users Assn
13862 Wang, Greg
1521 I St
Sacramento CA 95814

California Sportfishing Protection Alliance
8694 Izmirian, Richard
Federation of Flyfishers - San Mateo County
2215 Eaton Avenue
San Carlos CA 94070

California Urban Water Agencies
5555 Buck, Byron M
Executive Director
455 Capitol Mall Suite 705
Sacramento CA 95814-4406

Carmichael Water Dist
9301 Kozlen, Sandy
Director - Div 1
P O Box 929
Carmichael CA 95609

CCDPDR
13569 Turner, Martha
417 24th St
Sacramento CA 95816-3018

City of Stockton
8884 Jones, Douglas
Municipal Utilities Dept
2500 Navy Drive
Stockton CA 95206-1191

City of West Sacramento
12332 Sanders, Mark
400 N Harbor Blvd
West Sacramento CA 95691

Clarksburg General Plan Committee
10496 Merwin, Jeff
39108 Z. Line Rd
Clarksburg CA 95612-5015

Community Alliance with Family Farmers
4465 Alvord, Adrienne
1810 Arch Street
Berkeley CA 94709-1310

11842 Redmond, Judith
P O Box 363
Davis CA 95617-0363

11843 Redmond, Judith
36355 Russell Boulevard
Davis CA 95616

Concur
11257 Owens, William
400 Capitol Mall, Suite 1100
Sacramento CA 95814

City of Fairfield
13822 Walker, Andrew K
Public Works Dept
1000 Webster Street
Fairfield CA 94533

City of Fresno Water Conservation Program
13466 Todd, Dave
1910 E University Ave
Fresno CA 93703

City of Sacramento
12164 Brenner, Liz
5770 Freeport Blvd Suite 100
Sacramento CA 95822-2911

City of San Jose
12164 Rosenblum, Eric
Program Manager
700 Los Esteros Rd
San Jose CA 95134

City of Santa Clara Water Department
39042 Lee, Cindy
1500 Warburton Avenue
Santa Clara CA 95050

City of Santa Monica
10841 Munves, Susan
Utilities Div
200 Santa Monica Pier, Ste C
Santa Monica CA 90401

Contra Costa Co FC & WCD
39047 Scott, Craig
P O Box H2O
Concord CA 94524

Contra Costa Water District
12357 Sarkis, Barbara
1331 Concord Ave/P O Box H2O
Concord CA 94524

Corps of Engineers
9156 Kindel, Fred
111 Shelley Court
Folsom CA 95630

Davids Engineering Company
10553 Miller, David
1772 Picasso Ave, Suite A
Davis CA 95616

Consulting Civil Engineer
39046 Rummelsburg, Arnold
6013 Friant Ave
Bakersfield CA 93309

Consulting Water Res Engrg
5078 Betchard, Will B
17050 Montebello Rd
Cupertino CA 95014

Dept of Water Resources
6270 Craddock, Edward A
Chief/Water Conservation Officer
Div of Planning and Local Assistance
1020 9th Street - 3rd Floor
IMS Code A-36

8412 Hoagland, Raymond
Chief-Economic Analysis Sect
Rm 252-9 - Res Bldg
IMS Code A-36

8779 Jercich, Scott
Chief-Water Acquisition
State Water Project Analysis Office
Room 1620 - Res Bldg
IMS Code A-36

DOI Office of Environmental Policy and Compliance
39048 Spitz, Ron
600 Harrison Street, Ste 515
San Francisco CA 94107-1376

Downey Brand Seymour & Roher
4861 Basye, George
Knights Lndg Ridge Drain Dist
555 Capitol Mall Suite 1050
Sacramento CA 95814

Ducks Unlimited
13521 Troedsson, Karin
Esq
3074 Gold Canal Dr
Rancho Cordova CA 95670-6116

Dutro Farms Inc
6830 Dutro, Mark
12963 Meridian Road
Chico CA 95673

DWR Office of SWP Planning
38788 Pacheco, John
1416 9th Street
Sacramento CA 95814

Dept of Fish & Game
10870 Murray, Nancee
1416 Ninth Street
IMS Code A-43

Dept of Food & Agriculture
11945 Reynolds, Robin
1220 N Street Room A317

Dept of Justice
12849 Scoonover, Mary
1300 I Street 30th Floor
IMS Code D-8

East Bay Municipal Utilities District
12336 Sandkulla, Nicole
P O Box 24055
Oakland CA 94702

EBMUD, MS-805
39030 Arthur, Rachael
P O Box 24055
Oakland CA 94623-1055

EDAW Inc
5168 Blau, David
753 Davis St
San Francisco CA 94111

12263 Ryan, Joan
753 David St
San Francisco CA 94111

El Dorado County Water Agency
6511 De Haas, Merv
Water Agency Manager
330 Fair Lane
Placerville CA 95667

EMCON
8236 Heinsch, barbara
1433 N Market Blvd Suite 1
Sacramento CA 95834

Environmental Defense Fund
7736 Graff, Thomas J
Senior Attorney
5655 College Ave Suite 304
Rockridge Market Hall
Oakland CA 94618-1583

Family Water Alliance
10151 Mathis, Marion
P O Box 365
Maxwell CA 95955

Federal Reserve Bank of San Francisco
7450 Furlong, Fred
Vice President
Banking, Financing and Regional Studies
San Francisco CA 94105

Foster Associates Inc
13791 Wade, William
120 Montgomery Street Suite 1776
San Francisco CA 94104

FRESNO COUNTY
28412 Valdez, Alex
Dir/Economic Opportunities Comm
295 Tuft St
Mendota CA 93640-2274

Friant Water Authority/Arvin Edison Water Supply Dist.
7396 Frick, Howard
11401 S. Vineland Road
Bakersfield CA 93307-9462

Friends of the River
4841 Barris, Lynn
2830 House Ave
Durham CA 95938

11886 Reifsnider, Betsy
915 20th Street
Sacramento CA 95814-2207

Glenn Colusa ID
13333 Tenney, van
P O Box 150
Willows CA 95988-0150

Glenn-Colusa Irrigation District
5344 Bransford, Donald
President
P O Box 809
Colusa CA 95932

Kern County Water Agency
7425 Fryer, Lloyd
P O Box 58
Bakersfield CA 93302

Kronick Moscovitz Tidemann & Girard
13445 Tidemann, Edward
400 Capitol Mall 27th Floor
Sacramento CA 95814-4117

L A County Water Works District
4593 Ariki, Mustafa
900 South Fremont Ave
Alhambra CA 91803

Griffith, Masuda & Godwin
10135 Masuda, Roger
DTAC
517 E Olive St/P O Box 510
Turlock CA 95381

Gunn Hill Farms
12543 Sevelius, Pia
4416 Ord Ferry Rd
Chico CA 95928

Harza Engineering
39043 Miller, David
425 Roland Way
Oakland CA 94621

Henn & Etzel Inc
7039 Etzel, Fred M
4 Embarcadero Center Suite 510
San Francisco CA 94111-4151

HYA - Dames & Moore
10702 Moore, James N
Senior Consultant
8801 Folsom Blvd Suite 200
Sacramento CA 95826

Institute for Human Ecology
39044 Pratt, Jeremy
15432 115th Ave, SW
Vashon Island WA 98070

KEA Environmental
4821 Barnett, Bruce
601 University Ave Suite 185
Sacramento CA 95825-6739

Maddaus Water Management
9942 Maddaus, William
Principal
9 Via Cerrada
Alamo CA 94507-1522

Madera Irrigation District
11240 Ottemoeller, Steve
Gen Mngr
12152 Road 28 1/4
Madera CA 93637-9199

Merced Irrigation Dist
12115 Rogers, Ross
General Manager
P O Box 2228
Merced CA 95344-0288

L A Dept of Water & Power
6994 Erb, Thomas
111 North Hope Street, Room 1468
P O Box 5111
Los Angeles CA 90012

League of Women Voters
5254 Borgonovo, Roberta
2480 Union Street
San Francisco CA 94123

12834 Smith, Polly
10 Barner Lane
Belvedere-Tiburon CA 94920

Lennihan Law Offices
11260 Ozaki, Rico K
455 Capitol Mall Suite 300
Sacramento CA 95814

M Cubed
10626 Mitchell, David
5358 Miles Ave
Oakland CA 94618

Municipal Water District of Orange County
5024 Berg, Joseph M
P O Box 90825
Fountain Valley CA 92728

Natural Heritage Institute
7445 Fullerton, David
Scientist
114 Sansome Street Suite 1200
San Francisco CA 94104

Natural Resource Conservation Service
14688 Kiger, Luana
430 G Street, #4614
Davis CA 95616

Natural Resource Defense Council
6086 Cohen, Ronnie
71 Stevenson Street Suite 1825
San Francisco CA 94105

Security Natural Resources Conservation Service
6063 Cocke, Mark
Planning Engineer, RCE
430 G Street #4164
Davis CA 95616-4164

Metcalf & Eddy Inc
13708 Venus, Thomas
25 Main St
Chico CA 95928

Metropolitan Water District of So California
7267 Foley, Jack
Moulton Niguel Water District
27500 La Paz Road
Laguna Niguel CA 92656

12820 Smith, Lynda
1121 L Street Suite 900
Sacramento CA 95814

13324 Teigen, Paul
P O Box 54153
Los Angeles CA 90054-0153

Modesto Irrigation Dist
8872 Johnston, William R
P O Box 4060
Modesto CA 95352-4060

Monte Vista Water District
7832 Grindstaff, Joseph
General Manager
P O Box 71
Montclair CA 91763-0071

38953 Guy, David
455 Capitol Mall, Suite 335
Sacramento CA 95814-4496

Northstar Engineering
10315 McEnespy, Mike
20 Declaration Dr
Chico CA 95926

Office of John S. Mills
10601 Mills, John
11591 Yankee Hill Rd
Columbia CA 95310

Outdoors West
9411 Laforce, Ronald
Editor
P O Box 157
Volcano CA 95689

Pacific Institute for Studies in Dev and Env
39038 Gomez, Santos
Senior Research Associate
1204 Preservation Park Way
Oakland CA 94612

Navigant Consulting, Inc
7809 Greydanus, Herbert W
Vice Pres & Gen Mgr
3100 Zinfandel Dr Suite 170
Rancho Cordova CA 95670

Northern California Water Agency
9106 Keppen, dan
455 Capitol Mall Suite 335
Sacramento CA 95814

Northern California Water Association
4984 Belza, Tib
P O Box 1335
Marysville CA 95901

Public Utilities Commission
9240 Knox, Kimberley M
San Francisco Water Dept
425 Mason Street, 4th Floor
San Francisco CA 94102

Regional Council of Rural Counties
39037 Farrington, Anthony
1020 12th Street, Suite 400
Sacramento CA 95814

10420 Meacher, Robert
Supervisor
520 Main Street Room 309
P O Box 10207
Quincy CA 95971

Resource Decisions
7135 Feldman, Marvin
934 Diamond St
San Francisco CA 94114

Resource Management Division
6841 Eacock, M.C.S.
Soil Scientist/Natural Resources Specialist
2666 North Grove Industrial Drive, Suite 106
Fresno CA 93727-1551

Resource Management International
11482 Peterson, Steve
3100 Zinfandel Dr Suite 600
Rancho Cordova CA 95670

13796 Wagenet, Don
Program Manager
3100 Zinfandel Dr Suite 600
P O Box 15516
Rancho Cordova CA 95670

Pacific Institute for Studies in Development
7653 Gleick, Peter
Director
654 13th Street
Preservation Park
Oakland CA 94612

Power
39036 Everts, Connor
323 E Matilja #110-179
Ojai CA 93023

PS Enterprises
12231 Ruiz, Rick
3350 Ocean Park Blvd #205
Santa Monica CA 90405

Sacramento County Farm Bureau
9658 Lewis, Denny
Executive Director
8970 Elk Grove Blvd
Elk Grove CA 95624

Sacramento County Sanitation District
12549 Seyfried, Bob
8521 Laguna Station Road
Elk Grove CA 95758

Sacramento Metro Water Auth
12427 Schnabel, Ed
General Manager
5620 Birdcage Street Suite 180
Citrus Heights CA 95610-7632

San Diego County Water Authority
8318 Hess, Gordon
Imported Water Mgr
3211 5th Ave
San Diego CA 92103-5718

8724 Jacoby, William
3211 5th Ave
San Diego CA 92103

12967 Stadler, Mark
Administrative Analyst
3211 5th Ave
San Diego Ca 92126

San Luis Delta Mondota Water Authority
13000 Stearns, Michael
47375 W Dakota Ave
Firebaugh CA 93622

Santa Clara Valley Water District
4514 Anderson, Terri
5750 Almaden Expressway
San Jose CA 95118

Riverside Press Enterprise
10291 McCue, Andy
3512 14th Street
Riverside CA 92501-3814

S Yuba Riv Citizens League
9785 Lonsdorf, Robert
Director
P O Box 841
Nevada City CA 95959

Santa Clara Valley Water District
8955 Kamei, Rosemary
Director
5750 Almaden Expressway
San Jose CA 95118-3614

9127 Kianpour, Karen
5750 Almaden Expressway
San Jose CA 95118-3614

Save San Francisco Bay Association
10947 Nelson, Barry
Senior Fellow
1600 Broadway #300
Oakland CA 95612

Save the Bay
10557 Miller, George
1600 Broadway, Ste 300
Oakland CA 94612

Senate Select Committee on CALFED
2842
State Capitol, Room 5061
IMS Code E-22

SFEP
4662 Auer, Jean
1325 Avondale Rd
Hillsborough CA 94010

South Delta Water Agency
8353 Hildebrand, Alex
San Joaquin River Flood Contrl Assn
23443 South Hays Rd
Manteca CA 95337

South Yuba River Citizens League
39041 Landorf, Robert
P O Box 841
Nevada City CA 95969

7168 Fielder, Jim
5750 Almaden Expressway
San Jose CA 95118-3614

State Water Contractors
6060 Coburn, John
Asst General Manager
455 Capitol Mall Suite 220
Sacramento CA 95814-4405

9925 vacant
General Manager
455 Capitol Mall Suite 220
Sacramento CA 95814-4405

State Water Resources Control Board
13140 Stretars, Mark
901 P Street
IMS Code G-8

Stockton East Water Dist
13020 Steffani, Ed
General Manager
P O Box 5157
Stockton CA 95205

13375 Thomas, Jeanette R
Water Quality Supv
P O Box 5157
Stockton CA 95205-5157

SWRCB
38969 Satkowski, Rich
901 P Street
Sacramento CA 95812

TEHAMA COUNTY
28498 Willard, Charles
Supervisor
P O Box 250
Red Bluff CA 96080-0250

Tehama-Colusa Canal Authority
5581 Bullock, Arthur
Manager
P O Box 1025
5513 Hwy 162
Willows CA 95988

The Bay Institute of San Francisco
5191 Bobker, Gary
Senior Policy Analysis
55 Shaver Street Suite 330
San Rafael CA 94901

Turlock Irrigation Dist
7426 Fryer, Wilton
Water Planning Dept Mgr
333 E Canal Dr
Turlock CA 95380

U.S. Bureau of Reclamation
8485 Holt, Buford
Northern Calif Area Office
16349 Shasta Dam Blvd
Shasta Lake CA 96019

10395 McNamara, Jim
2666 N Grove Industrial Dr Suite 106
Fresno CA 93727

11921 Renning, John
CVO 400
3310 El Camino Ave Suite 300
Sacramento CA 95821

12760 Slavin, Tracy
MP-402
2800 Cottage Way
Sacramento CA 95825

12938 Spezia, Julie
Mid-Pacific Region
2800 Cottage Way Room MP-402
Sacramento CA 95825

USBR
38970 Elder, Jean
3310 El Camino Avenue
Sacramento CA 95825

Southern California Water Committee
5389 Brewer, Kirk
Water Use Efficiency Manager
1920 W Corporate Way
Anaheim CA 92801-5373

The Trust for Public Land
10145 Mathews, Nelson
Western Region
116 New Montgomery Suite 300
San Francisco CA 94105

The Water Group
8831 Johnson, Lance W
2291 Alluvial
Clovis CA 93611

Tulare Lake Basin WSD
7740 Graham, Brent L
Manager
1109 Whitley Ave
Concoran CA 93212

U.S. Dept of the Interior
8721 Jacobsen, Dana
Office of the Solicitor
2800 Cottage Way, #E-1712
Sacramento CA 95825

U.S. Environmental Protection Agency
14407 Yoshikawa, Nancy
Water Mgmt Div Wtr-4
75 Hawthorne Street
San Francisco CA 94105

U.S. Fish & Wildlife Service
7188 Finn, Vicki
911 N E 11th Ave
Portland OR 97232

U.S. Forest Service
13557 Tupper, Julie
Forest Service Coordinator
650 Capitol Mall Room 7524
Sacramento CA 95814

University of California - Berkeley
11300 Panella, Thomas
Grad School of Public Policy & Energy & Res
2607 Hearst Avenue #7320
Berkeley CA 94720

14321 Woodward, George
Calif Watershed Policy Proj
1440 Henry Apt B
Berkeley CA 94709

University of California - Irvine
27530 Ingram, Helen
School of Social Ecology
202 Social Ecology 1
Irvine CA 92715

US DOI
39031 Asche, Lisa
600 Harrison St, Suite 515
San Francisco CA 94107-1376

Water Transfer Associates
14411 Yost, Jim
1260 Lake Boulevard Suite 240
Davis CA 95616

Water Resources Association of Yolo County
11525 Phipps, Harrison
Executive Coordinator
601 Villanova Drive
Davis CA 95616-1827

USFWS
38974 Canterbury, Grant
3310 El Camino Ave #130
Sacramento CA 95821

38973 Elbert, Ruth
3310 El Camino Ave #130
Sacramento CA 95821

38971 Willy, Alison
3310 El Camino Ave #130
Sacramento CA 95821

38972 Winckel, Joy
3310 El Camino Ave #130
Sacramento CA 95821

Valley Water Protection Association
6103 Cole, Linda
7399 Highway 99
Oroville CA 95965

Water Resources Management Inc
10515 Meyer, Jeffrey
1851 Heritage Ln Ste 130
Sacramento CA 85815-4922

Westlands Water District
5779 Carpenter, Marc
Supervisor of Water Resources
P O Box 6056
3130 N Fresno Street
Fresno CA 93703-6056

Yolo County Board of Supervisors
12162 Rosenberg, David
Supervisor, District 4
625 Court St, Rm 204
Woodland CA 95695

Yolo County Flood Control and Water Conservation District
10031 Marchand, Betsy
Special Projects Coordinator
34274 State Highway 16
Woodland CA 95695

Western Area Power Administration
10956 Nelson, Earl
114 Parkshore Drive
Folsom CA 95630

Western Canal Water District
6127 Colwell, Matt
General Manager
P O Box 190
Richvale CA 95974

13516 Trimble, Ted
P O Box 190
Richvale CA 95974

13517 Trimble, Ted
General Manager
P O Box 190
Richvale CA 95974

Western Shasta RCD
14706 Schroeder, Mary
3294 Bechelli Ln
Redding CA 96002

Western Water Co
9062 Kelly, Judy
102 Washington Ave
Pt. Richmond CA 94801

Water Use Efficiency Program Plan

Responses to Comments

WATER USE EFFICIENCY PROGRAM PLAN
RESPONSES TO COMMENTS

0. General Responses

WUE 00-1

The Water Use Efficiency Program is predicated on the philosophy of influencing more water users, agricultural and urban, to implement more cost-effective conservation measures. To reach this objective, the program contains significant incentive programs (including funding) coupled with assurance mechanisms. These elements are discussed in more detail in Section 2 in the Water Use Efficiency Program Plan.

Many stakeholders have stated, "If agricultural could save just 10% of its water use, there would be enough water to satisfy other needs." CALFED has attempted to end this debate by demonstrating that agriculture can significantly reduce its applications of water, but the resulting "new water" available to satisfy other needs is markedly smaller than the total reduction. A detailed explanation is presented in Section 4.5 in the Water Use Efficiency Program Plan. In short, a vast majority of the "inefficiencies" of agriculture manifest themselves in surface runoff and deep percolation that is reabsorbed into the local hydrologic system and is used for other beneficial users down gradient—from wetlands, habitats, and streams to other diverted agricultural and urban users. As such, the 10% savings may be achievable but may provide only a 2-3% increase in available water.

Even without the benefit of water savings, however, conservation measures can result in beneficial effects on water quality and ecosystem health. These alone are sufficient reasons to develop incentives for much greater levels of conservation throughout the state and throughout all water use sectors.

WUE 00-2

The CALFED Bay-Delta Program (CALFED Program) is not changing the existing legal authorities with jurisdiction to review and approve water transfers, regardless of whether the source is conservation, land fallowing, reservoir reoperation, or conjunctive use. These authorities already exist in several state, federal, and tribal entities.

WUE 00-3

Water use efficiency measures will result in a reduction of water currently flowing to irrecoverable sources in some regions of the state. CALFED recognizes that this is not universal and aptly separated conservation estimates into two categories: those that do provide water for reallocation and those that do not.

Furthermore, water use efficiency measures are not the only action that can be taken to make water available to transfer from one water rights holder or user to another. Reservoir reoperation, land fallowing, crop shifting, and conjunctive use are all actions that can generate water to transfer.

WUE 00-4

CALFED's conservation estimates, discussed in Sections 4, 5, and 6 in the Water Use Efficiency Program Plan, are a much more appropriate manner to estimate conservation potential than simply extrapolating an estimate provided by the California Irrigation Management Information System (CIMIS) program. The conservation estimates in the Water Use Efficiency Program Plan are not targets, objectives, or goals. CALFED is not mandating that these or any other levels of water savings be achieved. CALFED is, however, requiring that many actions be undertaken by water suppliers and water users that will result in the implementation of more conservation and more reuse projects. The actual savings that will result cannot be accurately estimated.

WUE 00-5

Unfortunately, the specific comments reference an old document that has since been updated. CALFED encourages you to review the Water Use Efficiency Program Plan and the Water Transfer Program Plan for more up-to-date information regarding your concerns. Many of your concerns are addressed in these more recent documents.

WUE 00-6

CALFED agrees with many of the principles embodied in the Blueprint for an Environmentally and Economically Sound CALFED Water Supply Reliability Program (November 8, 1998) ("Blueprint"). This is evidenced by the wide variety of water management tools included in the Preferred Program Alternative. CALFED has included an aggressive Water Use Efficiency Program directed at incentives and assurance mechanisms to result in more efficient use of existing water supplies. CALFED has also recommended several improvements to the existing water market structure in order to enable water transfers to play an integral role in statewide water management. Please refer to the appropriate program plan for more information about these two programs.

It should be understood that CALFED is requiring many actions to be undertaken by water suppliers and water users that will result in the implementation of more conservation and more reuse projects. However, the actual savings that will result cannot be accurately estimated. Thus, values presented by the "Blueprint," especially with limited documentation on their derivation, are not very useful to the Program at this time.

Furthermore, the CALFED agencies believe that the conservation estimates are reasonable, based on information garnered from many sources (as documented in the Water Use Efficiency Program Plan). For instance, the independent review panel (refer to the Summary Report by the Independent Review Panel on Agricultural Water Conservation Potential, December 14-16, 1998; report prepared January 29, 1999) identified many necessary refinements that could be made to CALFED's agricultural estimates but also stated that these programmatic-level estimates were "reasonable initial estimates of overall agricultural water conservation potential." Staff is currently in the process of reviewing and updating its technical work based on the panel's direction.

WUE 00-7

The numerical estimates of water use efficiency potential have been computed to avoid double-counting of benefits. In many cases, however, water can be put to multiple uses as it flows though streams, agricultural land, and groundwater. Site-specific benefits will be estimated on a case-by-case basis and provided to the public in project-specific environmental documentation.

WUE 00-8

CALFED agrees that the programmatic level of analysis does not provide an analysis of specific conservation projects and their potential benefits. However, the Programmatic Environmental Impact Statement/ Environmental Impact Report (EIS/EIR) does present analysis on the range of impacts that could result from implementing a range of efficiency improvements. More details regarding the types and magnitudes of benefits are the subject of the Water Management Strategy being developed as part of studies separate from the Programmatic EIS/EIR. The strategy will be used to assess varying levels of conservation and water transfers and to better understand the feasibility of different approaches. CALFED encourages any stakeholders interested in the development of the Water Management Strategy to become involved through public meetings and opportunities for public comment. This effort will continue into Stage 1 of the CALFED implementation phase and should result in a useful tool to assist decision makers in implementing various aspects of the Preferred Program Alternative.

Changes in the Water Use Efficiency Program

WUE P-1

CALFED appreciates this mistake being noticed and has corrected it with the appropriate value of "up to 1.5 MAF."

WUE P-2

The incentive-based approach will rely on local water suppliers and water managers to propose actions for achieving quantifiable objectives. However, the strategic plan will provide a list of potential actions to aid local water suppliers in planning and proposal preparation.

1.1 Public Policy Foundations

WUE 1.1-1

California public policy places a strong emphasis on efficient use of developed water supplies. The California Constitution (Article X, Section 2) prohibits "waste or unreasonable use" of water and excludes from water rights any water that is not reasonably required for beneficial use. The constitutional prohibitions of waste and unreasonable use are repeated in Sections 100 and 101 of the California Water Code. The state's process for appropriation of water rights also is based on furtherance of the constitutional policy of reasonable and beneficial use (Cal: Water Code Section 1050). CALFED does not have the authority to negotiate water contracts; however, the State Water Resources Control Board (SWRCB) can and does place water conservation conditions on water rights permits that it approves. The basis for the Water Use Efficiency Program element is not to address water rights but to resolve problems related to ecosystem health, water quality, water supply reliability, and levee system integrity.

1.2 Water Use Efficiency in the Bay-Delta System Today

WUE 1.2-1

This response has been consolidated with response IPF 5.0-1 (under Implementation Plan Responses to Comments). Please refer to that response for an answer to your comment.

1.3 Basis for a CALFED Water Use Efficiency Program

WUE 1.3-1

As described in this section in the Water Use Efficiency Program Plan, one of the primary benefits of conservation is helping to meet CALFED's goal of increased water supply reliability. Conservation measures can help to reduce current demand and allow the same quantity of water to be used for a broader set of needs. In some cases, this may result in changes in the quantity or timing of water exported from the Delta. For instance, if an agricultural user who relies on exported water conserved water and transferred it to an urban user who also relies on exports, the amount of export would not decrease, but the timing of diversion may change (agricultural vs. urban water use patterns). If, however, a water user implements conservation measures paid for by a non-export interest (which could include the environment), the quantity of Delta exports could decrease.

CALFED does recognize that, for the most part, conservation and other water management activities are unlikely to dramatically change existing Delta export quantities. Improved south-of-Delta storage and Delta conveyance will modify how and when those exports occur.

1.4 Summary of Potential Water Conservation and Recycling

WUE 1.4-1

Table 1-1 in the June 1999 Water Use Efficiency Program Plan shows 7.5 million acre-feet (MAF) of total water conservation and recycling potential. Of this amount, only 2.6 MAF is available to potentially be reallocated to meet current shortages or increased future demands. The existing storage and conveyance facilities are incapable of readily "transferring" the 2.6 MAF from their current uses to where the increased demands exist. Please refer to common response 2 for more information regarding why the Preferred Program Alternative includes storage.

WUE 1.4-2

CALFED is in the process of developing regional quantifiable objectives for agricultural water use efficiency. These objectives will take into account regional differences in water supply, drainage destination, topography, soils, and other pertinent factors.

WUE 1.4-3

The estimates presented in these tables are summaries of conservation estimates from Section 4, 5, and 6 in the Water Use Efficiency Program Plan. Please refer to these sections in the June 1999 Water Use Efficiency Program Plan for more information on assumptions, methodologies, and references.

WUE 1.4-4

Many comments state that CALFED has either underestimated or overestimated water conservation and water recycling potential. CALFED's estimates were developed for a few primary purposes:

- To provide information for programmatic-level impact assessments.
- To gain a better understanding of the order-of-magnitude role conservation and recycling can play in statewide water management.

- To aid CALFED in designing the appropriate types and levels of incentive programs and assurance mechanisms.

The conservation estimates in the Water Use Efficiency Program Plan are not targets, objectives, or goals. CALFED is not mandating that these or any other levels of water savings be achieved. CALFED is, however, requiring that many actions be undertaken by water suppliers and water users that will result in the implementation of more conservation and more reuse projects. The actual savings that will result cannot be accurately estimated.

The CALFED agencies believe that the conservation estimates are reasonable. The independent review panel (refer to the Summary Report by the Independent Review Panel on Agricultural Water Conservation Potential, December 14-16, 1998; report prepared January 29, 1999) identified many necessary refinements that could be made to CALFED's estimate, but also stated that these programmatic level estimates were "reasonable initial estimates of overall agricultural water conservation potential." Staff is currently in the process of reviewing and updating its technical work based on the panel's direction.

Please also refer to common response 2.

WUE 1.4-5

As indicated in the summary tables in this section and in Section 6 in the Water Use Efficiency Program Plan, water recycling is an important part of the program.

2. Water Use Efficiency Program Description

WUE 2-1

Consistent with CALFED's solution principle of posing no significant redirected impacts, the Water Use Efficiency Program element is based on a voluntary, incentive approach. It is believed that this approach will provide the largest gains in efficiency within the CALFED solution area.

WUE 2-2

Thank you.

2.1 Program Objectives

WUE 2.1-1

The Water Use Efficiency Program will strive to build on existing water conservation programs with agencies such as the Department of Water Resources (DWR), the U.S. Bureau of Reclamation (Reclamation), and the Natural Resource Conservation Service. When appropriate, CALFED water use efficiency objectives will take into account the water use efficiency improvements already instituted by water purveyors.

On page 1-4 in the June 1999 Water Use Efficiency Program Plan, the document states, "California irrigators and growers have implemented pioneering methods to manage water supplies and improve efficiency." Further, the Water Use Efficiency Program will rely on an incentive-based approach and will not mandate metering. The incentive-based approach will be based on quantifiable objectives that will simultaneously recognize regional conservation needs and past conservation efforts. The element also will incorporate the work of the Agricultural

Water Management Council (AWMC) (formerly Assembly Bill [AB] 3616). Please also refer to response WUE 2.3.1-4.

WUE 2.1-2

The Water Use Efficiency Program supports and is expected to encourage local water conservation actions, which may include the suggestions put forth in the comment letters. The CALFED agencies believe that local creativity and ingenuity will provide the best solutions. CALFED anticipates building on the water use efficiency achievements in both the agricultural and urban water use sectors. Please see common response 11 for more information about crop selection and agricultural practices. Also see common response 2 for a broad overview of the Water Use Efficiency Program.

WUE 2.1-3

Consistent with Water Use Efficiency Program policy to use an incentive-based approach and to incorporate the work of the AWMC, local entities will be expected to implement only water management practices that are locally cost effective. Practices that are not locally cost effective but provide a benefit to the Bay-Delta system are expected to be funded through CALFED grants. Consequently, water use efficiency actions are not expected to result in potentially significant adverse impacts. Any proposed actions that would result in potentially significant adverse impacts would not be pursued under this program.

Please see common response 21 and response WUE 2-1 for more information about CALFED's solution principles. Also see response WUE 4.7-1 for more information about cropping patterns and their relationship to the Water Use Efficiency Program.

WUE 2.1-4

The Water Use Efficiency Program has the stated objective of reducing irrecoverable flows (by reducing flows to salt sinks and the atmosphere) and of achieving multiple benefits (by reducing losses that currently return to the water system). Although these objectives likely will result in reduced demands, they are not focused on demand reduction but rather on supply reliability, water quality, and in-stream flow/timing.

WUE 2.1-5

CALFED considers efficient water use to occur when those water management actions are implemented that provide the greatest CALFED benefits. This definition provides the greatest flexibility in implementing appropriate efficiency programs while avoiding the type of adverse impacts described in this comment.

2.2 Program Approach

WUE 2.2-1

The estimates provided in the Water Use Efficiency Program Plan provide this type of information at the levels necessary for programmatic planning and evaluation. Refinements of these estimates and evaluation of associated costs will continue during Stage 1 implementation as part of several CALFED efforts. Local entities will be expected to implement only water management practices that are locally cost effective. Practices that are not locally cost effective but provide a benefit to the Bay-Delta system are expected to be funded through CALFED grants.

WUE 2.2-2

A comparison of Section 2.2.1, "Agricultural Water Use Efficiency Approach," and Section 2.2.2, "Urban Water Use Efficiency Approach," in the Water Use Efficiency Program Plan shows that the program approaches are different. Consequently, the funding and responsibility are expected to be different.

WUE 2.2-3

A comparison of Section 2.2.1, "Agricultural Water Use Efficiency Approach," and Section 2.2.2, "Urban Water Use Efficiency Approach," in the Water Use Efficiency Program Plan shows that the program approaches are different. Consequently, the role of the respective conservation councils is expected to be different.

WUE 2.2-4

CALFED is currently developing quantifiable objectives and selection criteria for its water use efficiency incentives that will give priority to water management projects that promise the greatest benefits to the Bay-Delta system. These objectives and criteria will be completed during the first year of Stage 1.

WUE 2.2-5

CALFED intends this language to refer to the Water Use Efficiency Program actions, including funding programs, technical assistance, and assurance mechanisms. Combined, these actions will result in much greater levels of implementation of water use efficiency and recycling measures. As part of an overall Water Management Strategy, this aggressive implementation will be coupled with surface and groundwater storage to help improve water supply reliability.

2.2.1 Agricultural Water Use Efficiency Approach

WUE 2.2.1-1

As stated on page 2-5 in the June 1999 Water Use Efficiency Program Plan, CALFED is currently creating an agricultural water use efficiency strategic plan. This plan will articulate a prioritized, strategic, aggressive program to achieve efficient water management for all purposes throughout the many different agricultural regions of the state. The plan will focus in detail on specified regions, basins, and districts on a prioritized basis. Also see common response 2.

WUE 2.2.1-2

On page 1-4 in the June 1999 Water Use Efficiency Program Plan, the document states, "California irrigators and growers have implemented pioneering methods to manage water supplies and improve efficiency." Further, the Water Use Efficiency Program will rely on an incentive-based approach and will not mandate metering. The incentive-based approach will be based on quantifiable objectives that will simultaneously recognize regional conservation needs and past conservation efforts. The element also will incorporate the work of the AWMC (formerly AB 3616). Please also refer to response WUE 2.3.1-4. Although CALFED intends to draft legislation requiring appropriate measurement of water use, CALFED does not intend to mandate incentive pricing.

WUE 2.2.1-3

A high level of water use efficiency is an expected requirement for permits for surface storage. Widespread demonstration of efficient use by water users will be a prerequisite to CALFED implementation of new storage projects that provide water supply to those users.

WUE 2.2.1-4

CALFED will provide technical assistance and financial incentives in the form of loans for actions or activities that have been identified as cost effective for local water suppliers in water management plans approved by the AWMC.

WUE 2.2.1-5

CALFED is developing, in consultation with the AWMC, a program of technical and financial incentives for the implementation of water use efficiency measures in the agricultural sector. A component of the strategic plan will be the development of a request for proposal that will utilize local input. The strategic plan is expected to be completed during the first year of Stage 1.

WUE 2.2.1-6

During Phase III, (implementation), CALFED will implement many types of incentives to foster water use efficiency implementation. Specific incentive mechanisms, such as tax credits, will be investigated at that time.

2.2.2 Urban Water Use Efficiency Approach

WUE 2.2.2-1

The Bay Area Regional Water Recycling Project (BARWRP) Recycling Master Plan has found recycling to have some advantages over other traditional water supply projects in areas of timing and environmental benefits.

A primary component of the Water Use Efficiency Program is providing incentives, such as grants and low-interest loans, to help water suppliers and water users implement cost-effective conservation measures. CALFED does not limit these incentives to any particular method of conservation. Therefore, greywater irrigation, if a cost-effective approach for a particular interested party, would be supported by the Program.

WUE 2.2.2-2

Several times in the Water Use Efficiency Program Plan, CALFED states that conservation estimates are not intended to be targets or goals to be achieved by the Water Use Efficiency Program. Rather, they are estimates of what may occur as a result of the incentives and assurance mechanisms that CALFED is pursuing. The estimates provide information to guide programmatic impact analysis and to understand the order-of-magnitude role of conservation in statewide water management.

Please also refer to response WUE 5.4-1 for more information regarding "full implementation of best management practices (BMPs)."

WUE 2.2.2-3

The Water Use Efficiency Program and the proposed urban certification process will exempt water suppliers from implementing water conservation activities that are not cost effective. However, the cost of conservation planning and certification compliance are considered to be the responsibility of water agencies under the California Water Code prohibitions against waste and unreasonable use. The proposed consequences of the certification process would limit an agency's access to new CALFED water and is not expected to affect existing water rights.

WUE 2.2.2-4

CALFED staff is actively working with stakeholders to clarify its Certification process. Staff expects to make significant progress in outlining the Certification process prior to the Record of Decision (ROD) and to complete the approach during Stage 1. However, any Certification proposal that advances the CALFED process will require legislative approval.

WUE 2.2.2-5

The CALFED Program will extend the progress already made by (1) providing financial and technical support for urban water use efficiency programs, and (2) instituting a process to certify water supplier compliance with the Urban Memorandum of Understanding (MOU), thus assuring full implementation of cost-effective BMPs.

WUE 2.2.2-6

Any certification proposal advanced as part of the CALFED process will require legislative approval. At present, the California Urban Water Conservation Council (CUWCC) is a non-profit organization created by the Urban MOU to provide support and assistance in implementing cost-effective urban BMPs. The council is governed by two voting groups: Group 1 consists of water agencies, and Group 2 is comprised of environmental and public advocacy organizations. Under certification, the CUWCC's status will need to be formalized by the Legislature, and a separate enforcement entity (such as the SWRCB) will need to be designated.

WUE 2.2.2-7

The document contains separate sections for urban efficiency and recycling.

WUE 2.2.2-8

Many benefits are expected to result from the Water Use Efficiency Program.

WUE 2.2.2-9

This detail of the certification process is not completely defined in this Programmatic EIS/EIR but will be resolved during Stage 1 refinement.

2.2.3 Managed Wetlands Water Approach

WUE 2.2.3-1

CALFED intends to use incentive-based quantifiable conservation objectives for environmental resources that apply water, including wildlife refuges and other managed wetlands.

2.2.4 Water Recycling Approach

WUE 2.2.4-1

The following sentence has been added to the end of paragraph 3 in Section 2.2.4 in the Water Use Efficiency Program Plan:

> "Where appropriate, attention will be focused on overcoming technical and public perception barriers to water recycling."

WUE 2.2.4-2

The approach to water recycling will include water recycling feasibility planning as part of the urban conservation certification effort (see Section 2.2.2, "Urban Water Use Efficiency Approach"). Presently, all urban water agencies that are required to prepare Urban Water Management Plans under California Water Code Section 10610 et seq. also must prepare a water recycling feasibility plan as part of the process (California Water Code Section 10631). CALFED will help urban water suppliers comply with these regulations by assisting local and regional agencies with preparation of water recycling feasibility plans (that meet the requirements of the Urban Water Management Planning Act).

WUE 2.2.4-3

CALFED has made this correction in the Water Use Efficiency Program Plan.

WUE 2.2.4-4

CALFED has made this correction in the Water Use Efficiency Program Plan.

WUE 2.2.4-5

CALFED staff will be working cooperatively with many entities to help refine its water recycling approach. Staff will include discussions with the AWMC.

WUE 2.2.4-6

CALFED's solution time frame is 30 years or more. The intent is to try to resolve issues and implement planning and design of projects as soon as possible. However, the CALFED agencies are fully aware that implementing recycling projects can take many years.

2.3.1 Stage 1 Actions

WUE 2.3.1-1

In October 1999, Governor Davis signed legislation (Senate Bill 970) that includes additional water rights protection provisions. The author of this bill, Senator Jim Costa, intended these provisions to provide additional water rights protections so that those who offer their water for sale using conservation measures would not put their water rights at risk by temporary transfers to other users, including the environment. The CALFED agencies believe that this bill removes the need for additional water rights protections. CALFED has removed reference to such investigations.

For additional response regarding protecting area-of-origin water rights, please refer to common response 13.

WUE 2.3.1-3

The following sentence has been inserted (at the end of action item 10 on page 2-10 in the June 1999 Water Use Efficiency Program Plan):

> "Support for implementing refuge water management will also include funding for directed research (Years 1-3)."

WUE 2.3.1-4

A CALFED Stage 1 action to develop legislation for water measurement requires appropriate measurement for all water users in California. CALFED staff will take into account costs, benefits, and geographic extent of the solution area when defining appropriate measurement. Likewise, staff will consider appropriate geographic definition in developing its urban certification program and definition of appropriate measurement.

WUE 2.3.1-5

CALFED will not propose legislation that will undermine the agricultural and urban MOUs. The Water Use Efficiency Program will define appropriate measurement during Years 1-3 in Stage 1. The process for defining appropriate measurement is expected to include a team of technical irrigation experts. The findings of this technical team will be published and incorporated into any decision regarding potential water measurement legislation.

WUE 2.3.1-6

CALFED does not intend to create added bureaucracy or redundancy to the CUWCC or AWMC. Rather, CALFED is obligated to include broad stakeholder representation in review and implementation of the Water Use Efficiency Program. Where possible, CALFED will rely on both the CUWCC and the AWMC.

WUE 2.3.1-7

The intent of this proposed Stage 1 action is to protect water rights of entities who choose to conserve and transfer water. This action is not expected to weaken any existing water rights.

WUE 2.3.1-8

The estimate on page 2-12 in the June 1999 Water Use Efficiency Program Plan is a preliminary estimate of water recycling costs. The estimate provided on page 159 in the June 1999 Implementation Plan is for all water use efficiency activities.

WUE 2.3.1-9

Stage 1 action item 9 in the June 1999 Water Use Efficiency Program Plan indicates CALFED's intention to assist with resolving legal and institutional constraints to water recycling. CALFED fully intends to work with stakeholders during Stage 1 to identify opportunities for such resolution.

WUE 2.3.1-10

This type of information will be the subject of actions directed by CALFED early in Stage 1. CALFED will look to stakeholders for their constructive input into these issues as they are developed.

WUE 2.3.1-11

The Water Use Efficiency Program element will include increased technical assistance. The purpose of technical assistance is to remove barriers to conservation adoption. CALFED staff will pursue the issue of public perception during Stage 1.

2.3.2 Assurances

WUE 2.3.2-1

Assurances are an important aspect of the agricultural water use efficiency element. The agricultural water use efficiency steering committee is currently engaged in discussions concerning whether and how regulatory assurances will increase the effectiveness of implementation. This issue is expected to be clarified prior to the ROD.

WUE 2.3.2-2

While program linkages are a necessary component of the overall Program, linkages between Water Use Efficiency and construction of new storage will be implemented such that they will not unnecessarily link efforts to meet the needs of one area with the progress or lack of progress in another area. See common response 4 for additional information.

WUE 2.3.2-3

CALFED staff will consider agency and stakeholder viewpoints in crafting appropriate additional and as yet undetermined consequences for noncompliance with agricultural water use efficiency measures. This issue is expected to be clarified prior to the ROD and resolved during Stage 1.

Any Certification proposal advanced as part of the CALFED process will require legislative approval. At present, the California Urban Water Conservation Council (CUWCC) is a non-profit organization created by the Urban MOU to provide support and assistance in implementing cost-effective urban BMPs. The council is governed by two voting groups: Group 1 consists of water agencies, and Group 2 is comprised of environmental and public advocacy organizations. Under certification, the CUWCC's status will need to be formalized by the Legislature, and a separate enforcement entity (such as the SWRCB) will need to be designated.

The Water Use Efficiency Program and the proposed urban certification process will exempt water suppliers from implementing water conservation activities that are not cost effective. However, the cost of conservation planning and certification compliance are considered to be the responsibility of water agencies under the California Water Code prohibitions against waste and unreasonable use. The proposed consequences of the certification process would limit an agency's access to new CALFED water and is not expected to affect existing water rights.

On page 1-4 in the June 1999 Water Use Efficiency Program Plan, the document states, "California irrigators and growers have implemented pioneering methods to manage water supplies and improve efficiency." Further, the Water Use Efficiency Program will rely on an incentive-based approach and will not mandate metering. The

incentive-based approach will be based on quantifiable objectives that will simultaneously recognize regional conservation needs and past conservation efforts. The element also will incorporate the work of the AWMC (formerly AB 3616). Please also refer to response WUE 2.3.1-4.

WUE 2.3.2-4

CALFED staff will consider agency and stakeholder viewpoints in crafting appropriate additional and as yet undetermined consequences for noncompliance with agricultural water use efficiency measures.

WUE 2.3.2-5

We concur. The reference to "water seller" has been deleted from paragraph 1 on page 2-14 in the June 1999 Water Use Efficiency Program Plan.

2.3.3 Data Gathering, Monitoring, and Focused Research

WUE 2.3.3-1

CIMIS is a useful tool for understanding the water needs of crops, including landscape vegetation. CALFED agrees that urban communities can promote the benefits of this tool to their users through a variety of methods. Given the programmatic nature of the Water Use Efficiency Program, the details of implementing such promotions are not developed. However, this is an excellent example of what can be promoted as part of the actions described in this section in the Water Use Efficiency Program Plan.

WUE 2.3.3-2

CALFED agrees with these comments and in the final Water Use Efficiency Program Plan has included an action focused on increased data gathering and focused research. This is an excellent example of a need that can be facilitated by this action during Stage 1 implementation.

WUE 2.3.3-3

CALFED will monitor and quantify the benefits of water use efficiency actions throughout the CALFED solution area.

2.3.4 Program Linkages

WUE 2.3.4-1

The following paragraph has been added to the end of the bulleted list in Section 2.3.4 in the Water Use Efficiency Program Plan:

- **Adaptive Management** - The water use efficiency element will be reevaluated periodically and if necessary adjusted to reflect changes in our understanding of water efficiency and related Program elements such as water quality, ecosystem restoration, and water use supply reliability. This will be consistent with CALFED's adaptive management approach. This allows the CALFED Program to begin investing in water use efficiency actions while estimates of future conservation potentials are being refined.

Please see common response 2 for more information about why the Preferred Program Alternative includes Storage and Conveyance elements.

3.1 Agricultural Zones

WUE 3.1-1

CALFED defines its solution area as those areas that are directly or indirectly connected to the Bay-Delta. The existing Imperial Irrigation District/The Metropolitan Water District of Southern California (MWD) water transfer program is an example of how changes in water use in the lower Colorado River region can help meet demand in southern California (thereby reducing Bay-Delta demand).

3.2 Urban Zones

WUE 3.2-1

The word "goal" in the following sentence in paragraph 1 on page 3-5 in the June 1999 Water Use Efficiency Program Plan has been changed to "potential" in the final plan:

> "Because of the variation in conservation and reuse potential, urban areas were separated into the same regional zones used for agricultural."

4. Agricultural Water Use Management and Efficiency Improvements

WUE 4-1

Paragraph 4 on page 4-1 in the June 1999 Water Use Efficiency Program Plan has been replaced with the following paragraph:

> The Panel agreed that the values contained here are acceptable preliminary estimates of conservation potential. They also made several valuable recommendations for refining these estimates and strengthening the methodology. These recommendations included presenting estimates of evaporation reduction potential. The Panel's recommendations will be included in a refinement of these estimates, which will be conducted during the first year of Stage 1.

4.2 General Statewide Assumptions

WUE 4.2-1

Changes in crop mix, fallowing, and permanent land retirement are intentionally not included in the Water Use Efficiency Program. These are not viewed as "conservation measures" as CALFED uses the term in the Water Use Efficiency Program. These measures could occur, however, as a result of actions taken by individual water rights holders through participation in separate water markets. The Water Use Efficiency Program has the potential to increase the usable water supplies only where it can reduce irrecoverable flows. In areas where irrecoverable flows are not available, the program has the potential to improve water quality and in-stream flow and timings. Tools such as the Water Management Strategy, currently underway, incorporate various scenarios of conservation savings, storage quantities, and fallowing such that more informed decisions on specific actions can be made. This effort will continue to be refined during Stage 1.

Please see common response 13 for more information about CALFED and area-of-origin water rights.

WUE 4.2-2

CALFED has modified sentence 6 on page 4-6, first complete paragraph, in the June 1999 Water Use Efficiency Program Plan to read:

> "For a grower, the decision to spend capital is generally made when the capital will be returned over a relatively short period of time."

WUE 4.2-3

CALFED has modified sentence 2, second complete paragraph, in the June 1999 Water Use Efficiency Program Plan to read:

> "For example, some growers use field workers not trained in irrigation management to irrigate rather than a specially trained irrigator."

WUE 4.2-4

CALFED has deleted the indicated sentences from the Final Water Use Efficiency Program Plan.

4.5 Hydrologic Interconnections

WUE 4.5-1

Please refer to response WT 3.4.1-2 (in the Water Transfer Program Plan Responses to Comments) for a discussion on transferability of conserved water.

CALFED is consistent in its discussion about water conservation and water transfers. The conservation estimates provided by CALFED are separated into two primary categories: recovered losses with potential for rerouting flows, and potential for recovering currently irrecoverable losses. Each category is defined in the Water Use Efficiency Program Plan.

This section in the Water Use Efficiency Program Plan describes hydrologic interconnections to provide readers a better understanding of why CALFED distinguishes between these categories.

4.7 Estimating Agricultural Water Conservation Potential

WUE 4.7-1

CALFED agrees that there are continual changes to cropping patterns and to the actual quantity of irrigated agricultural land. The conservation estimates in the Water Use Efficiency Program Plan are based on 1995 "normalized" cropping patterns and subsequent water use. Normalized patterns reflect what would be grown given normal hydrologic conditions—knowing that cropping patterns shift annually partly because of water supplies.

Furthermore, CALFED's estimates of potential water savings are based on analyzing potential changes in water management practices, not cropping patterns. Water savings that result from changes in cropping patterns are

legitimate water savings and would likely, if not needed by the user making the change, be made available through a water transfer to help satisfy another demand. One of the assumptions in Section 4.2 in the Water Use Efficiency Program Plan states, "Although other changes in farm management also would reduce consumptive use of water, only conservation of applied water is discussed [in this document]."

The role of other water management actions will be considered as part of the Water Management Strategy, currently underway. This effort will continue to be refined during Stage 1.

WUE 4.7-2

The methodology used by CALFED to determine agricultural conservation savings is very simple. CALFED used: (1) data to determine existing water use rates and, (2) assumptions assigned to the water use to various fates—evapotranspiration (ET), surface runoff, conveyance losses, and deep percolation. Savings were estimated by assuming that surface runoff and deep percolation could be reduced by various levels under no action and with-CALFED conditions. CALFED made absolutely no assumptions that took into account or limited the irrigation technologies that could be implemented to achieve these savings. Rather, CALFED calculated a savings based on improved delivery—from any kind of irrigation system or management improvement. The no action increment of savings represents that savings that will be achieved as a result of existing trends, even absent a CALFED solution.

CALFED's estimates were further supported by findings of the independent review panel (refer to the Summary Report by the Independent Review Panel on Agricultural Water Conservation Potential, December 14-16, 1998; report prepared January 29, 1999). Although this panel identified potential refinements, the panel generally concurred that the conservation estimates were "a reasonable initial estimate of overall agricultural water conservation potential."

WUE 4.7-3

CALFED supports continued agriculture sustainability, including adequate and efficient soil leaching to avoid salinization. This is reflected in our variable assumption for a leaching fraction to account for water that is unavailable to conserve. In other words, this water may result in deep percolation that is seemingly inefficient, but maintaining this water is critical to manage the salinity in the crop root zone. Current Program development efforts for water use efficiency assume that adequate funding will be available to assist with implementation measures.

WUE 4.7-4

During initial development of the agricultural water conservation estimates, it became obvious to CALFED that discussing conservation savings in terms of efficiency improvements was misleading and not helpful to the overall objective. Many stakeholders believed that CALFED should base estimates on on-farm irrigation efficiency improvements. However, this type of on-farm data with statewide coverage does not exist. Only regional information regarding ET, applied water quantities, and regional depletion (a combination of ET and other losses such as conveyance evaporation, losses to salt sinks, or non-crop vegetation) was available. It was obvious to CALFED that the only water savings potential is something less than the difference between what is applied regionally and the ET for that same region—which is what CALFED attempted to estimate. CALFED has removed the reference to efficiency improvements from the estimating methodology to reduce the confusion for readers.

CALFED is the first to acknowledge that numerous individual farm fields are probably as efficient as economically feasible. At the same time, many fields can be much more efficient. Furthermore, as the economics of farming continue to evolve, what is economically infeasible now may be appropriate to implement in the future thus resulting in further conservation savings that were once assumed unavailable.

The particular data used to calculate potential savings in the Tulare Lake Basin (see Attachment A to the Water Use Efficiency Program Plan) actually represent a reduction in application of 15-20%. Another way to state this is that about half of the current "losses" can be conserved. Actual on-farm irrigation efficiency will vary since there are often opportunities for water that runs off one field or farm to be reapplied by a downstream user. This is partly why CALFED chose not to calculate or display estimates in terms of efficiency improvements.

Finally, although the Tulare Lake Basin is considered a "closed" system, several thousand acres of evaporation ponds are intended primarily to evaporate surface and sub-surface runoff. Although a significant amount of water that reaches these ponds is necessary for leaching, it is doubtful that there is no "waste."

4.7.1 Input Data Necessary to Develop Estimates

WUE 4.7.1-1

CALFED's conservation estimates used normalized 1995 data from DWR regarding existing agricultural water use. The CALFED agencies consider this to be the appropriate baseline from which to calculate conservation potential. Under this methodology, there is really no limit on the total number of acres irrigated in any given region. The limit is on the amount of water available to be applied. Conservation measures that allow for savings to be reallocated to other agricultural uses may well allow for increased irrigated acreage. At the same time, CALFED does recognize the long-term trend for less irrigated agricultural land, due in part to urbanization but also due to limitations in water supplies, mismanagement of lands, and other factors.

As for existing conservation efforts, they are recognized by CALFED by default through the use of the DWR 1995 data. These data account for historical improvements in efficiency.

Finally, in Section 1.2 in the Water Use Efficiency Program Plan, CALFED recognizes conservation efforts in the following statement:

> California's strong public policy emphasis on efficiency and conservation ethic is reflected in the many outstanding water use efficiency and conservation efforts throughout the state. California irrigation districts and growers have implemented pioneering methods to manage water supplies and improve efficiency.

4.8.4 AG4 - Eastside San Joaquin River

WUE 4.8.4-1

The value of 200,000 acre-feet of annual overdraft "primarily in San Joaquin and Madera Counties" was obtained from DWR. Please provide CALFED with the necessary information to increase the value in order to reflect additional overdraft east of Tulare Irrigation District, if a revision is needed. It should be noted, however, that this information was provided to give the reader a general overview of the farming and hydrologic conditions for each CALFED region. The value is not used for any additional purpose.

4.9 Summary of Estimated Agricultural Conservation Potential

WUE 4.9-1

The CALFED agencies believe that the estimate of agricultural water conservation is realistic. The values supported by an independent review panel (refer to the Summary Report by the Independent Review Panel on Agricultural Water Conservation Potential, December 14-16, 1998; report prepared January 29, 1999). More information about the derivation of these values is included in Section 4.7 in the Water Use Efficiency Program Plan.

5.1 Summary of Findings

WUE 5.1-1

CALFED agrees with this comment and has removed the referenced figure. The figure was a remnant of previous cost estimates but is not relevant to the current cost discussion presented in Section 5.8.

5.4 Estimating Urban Water Conservation Potential

WUE 5.4-1

CALFED's estimate of urban water conservation is not based on full implementation of BMPs under the No Action Alternative. As described in the subsections following Section 5.4 in the Water Use Efficiency Program Plan, water savings for each water use sector (residential indoor; urban landscape; commercial, industrial, and institutional; and water distribution system loss and leakage) are developed independent of an assumption of "full implementation of the BMPs in the Urban MOU." For instance, residential indoor conservation estimates were made by (1) assuming a baseline 2020 per capita indoor water use rate, (2) comparing that estimate to the rate that is assumed to occur under a no action condition, and (3) comparing that estimate to a rate assumed under conditions resulting from the CALFED Program. These assumptions are fully documented in the Water Use Efficiency Program Plan.

Furthermore, implementation of the BMPs included in the Urban MOU are based on a cost-effectiveness test. CALFED assumes that this same cost-effectiveness test will result in more measures implemented because of assumptions for the No Action Alternative that likely will change current cost-effectiveness calculations (see Attachment A to the Programmatic EIS/EIR for a description of No Action Alternative features). As such, more Urban MOU BMPs are likely to be implemented by more water suppliers by 2020 without a CALFED Program than are currently anticipated by urban water suppliers today. CALFED's baseline and No Action Alternative assumptions in the Water Use Efficiency Program Plan account for this likelihood in an effort to determine programmatic-level impacts and to understand the order-of-magnitude role of conservation in meeting CALFED's objectives.

Finally, "full implementation" of BMPs, as defined in the CALFED Water Use Efficiency Program Plan, is the amount of savings determined by DWR in Bulletin 160-98, California Water Plan Update, November 1998. In that document, DWR calculates savings for "quantifiable BMPs" only—those BMPs for which DWR could make an assumed conservation estimate—and assumes a saturation level (for example, the percentage of total households implementing a quantifiable BMP like ultra-low-flow toilets). Their calculations do not represent total saturation of BMPs, nor do they account for savings from nonquantifiable BMPs (for example, BMP No. 3, system water audits, leak detection, and repair). The CALFED agencies believe that it is inappropriate to assume that the full implementation savings estimated by DWR represents what can be saved if BMPs were implemented by the

majority of retail water agencies and the majority of urban water users. Therefore, CALFED believes that savings are achievable in addition to DWR's value and without a CALFED Program. The Water Use Efficiency Program actions can then result in greater water savings due to (1) even greater levels of implementation of the current list of BMPs through financial support for conservation actions that are not locally cost effective, and (2) additional conservation measures that likely will be more commonplace in the next 30 years (for example, recirculating hot water systems and low-water-use appliances) as technology improves and public acceptance increases.

This detail of the certification process is not completely defined in this Programmatic EIS/EIR but will be resolved during Stage 1.

WUE 5.4-2

As presented in the Water Use Efficiency Program Plan, CALFED estimates conservation potential for four water use sectors: (1) residential indoor; (2) urban landscape; (3) commercial, industrial, and institutional; and (4) water distribution system loss and leakage. Potential savings for each sector are calculated by establishing a baseline condition (for example, residential indoor water use rates in 2020 given existing actions), assuming a no action condition (for example, residential indoor water use rates in 2020 given implementation of BMPs by more suppliers and users, see response WUE 5.4-1), and assuming a with-project condition that results from CALFED's actions (for example, residential indoor water use rates in 2020 that result from CALFED incentives and assurance mechanisms). This process results in estimates of savings under a no action condition (the difference between baseline and no action assumptions) and estimated savings under with-project conditions. There is no double counting.

CALFED agrees that the current list of BMPs in the Urban MOU is extensive and incorporates most, if not all, types of conservation measures. The key, however, is in the assumption of how many BMPs are implemented under given conditions. Actions undertaken by water suppliers and users under the CALFED with-project condition are the same as those under the no action condition and under the baseline condition. The implementation levels that result in greater savings at each increment differ.

Finally, CALFED's conservation estimates were developed to help design the Water Use Efficiency Program. Understanding the potential levels of conservation with and without CALFED actions aids in understanding types and levels of incentives and assurance mechanisms necessary to achieve greater levels of water use efficiency in the urban sector.

WUE 5.4-3

CALFED agrees with this point and has ensured that the Final Water Use Efficiency Program Plan contains appropriate statements regarding the limitations of assumptions and water savings estimates. It should be noted, however, that the Water Use Efficiency Program itself is not predicated on the actual conservation estimates. Rather, these values helped CALFED to design the appropriate types and levels of incentives and assurance mechanisms.

To improve these types of shortcomings for the benefit of future planning exercises, the Water Use Efficiency Program includes an action aimed at data gathering, monitoring, and focused research. This action will help bring needed resources to an important part of future conservation planning and implementation. Please refer to Section 2.3.3 in the Water Use Efficiency Program Plan for more information on this CALFED action.

WUE 5.4-4

Full implementation of BMPs, as used in this section in the Water Use Efficiency Program Plan, is the amount of savings determined by DWR in Bulletin 160-98, California Water Plan Update, November 1998. The amount is based on a limited level of implementation of quantifiable BMPs included in the Urban MOU. Not all of the BMPs are quantifiable. As such, CALFED's no action condition and its with-project condition assume greater levels of implementation (that is, more users/water suppliers are implementing measures) than assumed in DWR's estimate.

CALFED agrees that the current list of BMPs in the Urban MOU is extensive and incorporates most, if not all, types of conservation measures. The key, however, is in the assumption of how extensive the implementation of BMPs is under given conditions. Actions undertaken by water suppliers and users under the CALFED with-project condition are the same as those under the no action condition and under the baseline condition. It is not the action that changes but the increased levels of implementation that result in savings at each increment. CALFED's estimates assume that more users and water suppliers implement more of the BMPs, at greater levels than assumed by DWR and included as the baseline.

Finally, implementation of the BMPs included in the Urban MOU are based on a cost-effectiveness test. CALFED assumes that this same cost-effectiveness test will result in more measures implemented because of no action assumptions that will likely change current cost-effectiveness calculations (see Attachment A to the Programmatic EIS/EIR for a description of No Action Alternative features). As such, more Urban MOU BMPs are likely to be implemented by more water suppliers by 2020 without a CALFED Program than are currently anticipated by urban water suppliers today.

WUE 5.4-5

CALFED has included a list of the factors assumed under the No Action Alternative in Attachment A to the Programmatic EIS/EIR. Included in this list are several factors, such as the Central Valley Project Improvement Act (CVPIA), that will continue to change the existing water management environment. Consequently, the cost-effectiveness test applied by water suppliers and others contemplating conservation will continue to evolve even without the influence of CALFED actions. In addition, existing trends and actions being undertaken by water suppliers and water users will continue to result in water conservation savings that do not exist today but are indicated in many local water suppliers planning studies.

WUE 5.4-6

Implementation of the BMPs included in the Urban MOU are based on a cost-effectiveness test. CALFED assumes that this same cost-effectiveness test will result in more measures implemented because of no action and with CALFED assumptions that likely will change current cost-effectiveness calculations (see Attachment A to the Programmatic EIS/EIR for a description of No Action Alternative features). The Water Use Efficiency Program includes incentive programs with funding. The program also includes assurance mechanisms to ensure that more water suppliers are actively evaluating the cost effectiveness of conservation measures. Consequently, more Urban MOU BMPs are likely to be implemented by more water suppliers by 2020 without a CALFED Program than are currently anticipated by urban water suppliers today.

CALFED does recognize the limitations to how much conservation can occur and that our estimates are theoretical (but with practicality factored in). However, the Water Use Efficiency Program is not mandating that particular conservation quantities be reached. CALFED is committed to ensuring that conservation is planned and appropriately implemented, but the end results cannot be accurately predicted.

WUE 5.4-7

CALFED's conservation estimates do not differentiate between who implements measures or how they are implemented—actively or passively. The estimates are not intended to provide this type of information because CALFED is not mandating the implementation of particular conservation measures. The Water Use Efficiency Program includes incentive programs and assurances that were developed, in part, by understanding the potential water conservation savings feasible under no action and with-CALFED conditions.

WUE 5.4-8

CALFED fully supports continued participation and encourages new data or methodologies to be brought forward in CALFED's Water Management Strategy, currently underway. This effort will continue to be refined during Stage 1 and will be fundamental to more refined conservation estimates at that time.

WUE 5.4-9

The conservation estimates used by the CALFED agencies in the Water Use Efficiency Program Plan are intended to help understand the order-of-magnitude role of conservation in improving statewide water management. The values are not absolutes, nor do they necessarily characterize the conditions of each unique community. The calculations of water savings are based on regional assumptions and may or may not fully reflect a particular local condition. For instance, global assumptions for landscape water use for the Bay Region may not reflect use for all areas within this defined region. However, the estimates are intended to illustrate the potential for additional water savings in the urban sector. Achieving additional water savings will require implementing the types of actions described in Section 2 in the Water Use Efficiency Program Plan. While some entities already have achieved high levels of efficiency and can do no more, others may have many untapped opportunities—especially in conjunction with the CALFED-supported technical and financial incentives.

5.4.1 Residential Indoor Conservation

WUE 5.4.1-1

The 1998 update of this study, available at the WaterWiser web site (**http://www.waterwiser.org/wtruse98/indoor.html**), revised these numbers upward, indicating that current averages are higher than those previously estimated. CALFED has assumed values representing typical conditions throughout the state to estimate an order-of-magnitude conservation savings potential. CALFED recognizes that some communities in the state already have a low indoor water use but other areas, even within the same region (for example, southern California), have much higher use rates. CALFED assumes that all communities can average 55 gallons per capita per day (gpcd) by 2020, knowing that some communities will exceed this average and reach this rate sooner than 2020 and other users will lag behind. For the Programmatic EIS/EIR, CALFED assumes that this value is appropriate for the purpose for which it was used.

A CALFED Stage 1 action to develop legislation for water measurement requires appropriate measurement for all water users in California. CALFED staff will take into account costs, benefits, and geographic extent of the solution area when defining appropriate measurement. Likewise, staff will consider appropriate geographic definition in developing its urban certification program and definition of appropriate measurement.

In some metropolitan areas, water meters can be an effective method of encouraging urban water conservation. CALFED encourages and expects to support local water conservation actions. Local creativity and ingenuity will provide the best water conservation solutions.

WUE 5.4.1-2

As indicated in the comment, CALFED's indoor residential water use estimates are based on reducing per capita use by 5 gallons per day as users move from a future baseline of 65 to 60 gpcd under the no action condition. The CALFED actions would result in an additional 5-gallon per capita savings (to 55 gpcd). The discussion in Section 5.4.4 in the Water Use Efficiency Program Plan regarding the *existing* condition of 75 gpcd is informative but irrelevant to the calculated savings. Therefore, the no action estimates (a move from 65 to 60 gpcd) generally do not include savings that have already occurred.

Furthermore, the American Water Works Association Research Foundation (AWWARF) study referenced in the comment was revised in 1998 to indicate that the average per capita indoor use rate was 74 gpcd. The previous report indicated 64.6 gpcd. Therefore, existing water use rates may not be as accurate as some water suppliers consider them to be.

Finally, all the numbers aside, the Water Use Efficiency Program involves a set of actions with incentive programs and assurance mechanisms. It is not a program to mandate a predetermined level of conservation savings. The estimates developed by CALFED helped to shape the water use efficiency actions and helped CALFED to understand the order-of-magnitude role of conservation in statewide water management.

WUE 5.4.1-3

CALFED assumed a feasible per capita use rate of 55 gpcd based on information in the 1998 AWWARF's Residential End Use Study. Some stakeholders feel that it is appropriate to use data from studies such as the AWWARF study to support claims of why existing per capita rates are lower than those discussed by CALFED but do not support the same research information as a source for projected future per capita rates. This information served the needs of CALFED in developing the Water Use Efficiency Program and in understanding the potential role of conservation in statewide water management.

WUE 5.4.1-4

A primary component of the Water Use Efficiency Program is to provide incentives, such as grants and low-interest loans, to help water suppliers and water users implement cost-effective conservation measures. CALFED does not limit these incentives to any particular method of conservation. Therefore, hot water recirculations systems, if a cost-effective approach for a particular interested party, would be supported by the program.

5.4.2 Urban Landscape Conservation

WUE 5.4.2-1

The Water Use Efficiency Program agrees that xeriscape is a useful water conservation tool. Through the incentive programs being developed by CALFED, this tool, along with numerous other water conservation tools, will be promoted throughout the state. These actions will occur during Stage 1 implementation (after the Final Programmatic EIS/EIR is certified).

WUE 5.4.2-2

As noted by the commentor, CALFED acknowledges that no empirical data support the baseline assumption of 1.2 reference ET for landscape water use. CALFED encourages any data to be provided to CALFED that could be used to further support this judgment or to modify the assumption. Given the lack of existing data, the

CALFED estimate of landscape conservation potential is within an appropriate range and assumes that improved baseline data would likely only reduce the current projected savings. Because the 1.2 ET value should be lower, resulting in less water applied, less potential to save would result.

WUE 5.4.2-3

CALFED agrees that not all runoff from landscape irrigation flows to storm sewers and is "recovered" in the downstream water system. On page 5-15 in the June 1999 Water Use Efficiency Program Plan, we note that this is part of the conservation potential as landscape water use slides from 1.2 ET down to and including 0.8 ET. Furthermore, the calculations in Attachment B to the Water Use Efficiency Program Plan document how this savings is calculated.

If there are more appropriate values to use for each region, CALFED would appreciate the data being brought to our attention.

Finally, the conservation estimates are not targets or goals. They were intended to help CALFED design the Water Use Efficiency Program, including identifying the types and levels of incentive programs and appropriate assurance mechanisms. Adjusting for the relatively small volume of additional savings that would result from changing our calculations factors would not result in CALFED changing the design of the Water Use Efficiency Program.

WUE 5.4.2-4

CALFED welcomes any data available from other sources to refine the estimates of conservation potential. Although the methodology employed by the Program is useful, results depend on the inputs. Useful empirical data are lacking; therefore, CALFED used data that were available and made assumptions.

It should be noted, however, that the conservation values are not targets or goals of CALFED. The estimates helped CALFED to design the Water Use Efficiency Program and aided in understanding of the order-of-magnitude role of conservation in statewide water management.

5.4.3 Interior Commercial, Industrial, and Institutional Conservation

WUE 5.4.3-1

In this section in the Water Use Efficiency Program Plan, CALFED does discuss conservation potential in the commercial, industrial, and institutional (CII) water use sector. These values are part of the overall conservation estimate used by CALFED to perform programmatic-level impact analysis and to understand the order-of-magnitude contribution of water conservation as one of several water management tools.

WUE 5.4.3-2

The savings estimated by CALFED for the CII sector represent a programmatic-level assessment to assist with impact analysis and to understand the order-of-magnitude role of conservation in future statewide water management. Data and assumptions used by CALFED were provided and supported by CALFED agencies. The estimates are intended to represent average savings for CII water users throughout the state. Any particular facility or possible sector of industry may likely have much higher water savings.

CALFED agrees that some industrial sites can modify their processes, install more efficient equipment, recycle, use reclaimed water, and otherwise reduce a large percentage of their water consumption.

More than 700 CII water audit surveys have been completed in California in the last 5 years. The numbers reflected in the surveys indicate cost-effective water conservation in the range cited by CALFED. Should parameters change that dramatically affect the cost-effectiveness calculations, significantly more conservation potential may occur. In addition, emphasis on environmental standards adopted by industry (ISO 14000) may encourage more conservation measures to be implemented.

If reductions of 50-90% are feasible, CALFED will incorporate the resultant savings into their programmatic estimates. Such information can be useful during Stage 1 implementation as CALFED continues to design specific components of the Preferred Program Alternative. Tools such as the Water Management Strategy that is currently underway incorporate various scenarios of conservation savings, storage quantities, and fallowing so that more informed decisions can be made on specific actions. This effort will continue to be refined during Stage 1.

Furthermore, CALFED disagrees that reduction of 22% of a particular CII user's water supply is not verifiable and is difficult to justify. In other water use sectors, such as agriculture, savings of only a few percent can easily be verified and are often justified by the user.

The Water Use Efficiency Program is directed at incentive programs and assurance mechanisms designed to ensure that all water use sectors are implementing all cost-effective water conservation measures. The program is not advocating the installation of conservation when it cannot be economically justified. If CII conservation savings are feasible at levels greater than those assumed by CALFED in the programmatic analysis, CALFED's actions (incentives and assurances) will provide the support to implement them.

Also see responses WUE 2.3.1-10; WUE 5.4.3-3; WUE 5.4.3-4; WUE 5.8-1; and WUE 6-3.

WUE 5.4.3-3

Full implementation of BMPs, as defined in the Water Use Efficiency Program Plan, is the amount of savings determined by DWR in Bulletin 160-98, California Water Plan Update, November 1998. The amount is based on a limited level of implementation of quantifiable BMPs included in the Urban MOU. Not all of the BMPs are quantifiable. Consequently, CALFED's no action condition and with-project condition assume greater levels of implementation (that is, more users/water suppliers are implementing measures) than are assumed in DWR's estimate.

CALFED agrees that the current list of BMPs in the Urban MOU is extensive and incorporates most, if not all, types of conservation measures. The key, however, is in the assumption of how extensive the implementation of BMPs is under given conditions. Actions undertaken by water suppliers and users under the CALFED with-project condition are the same as those under the no action condition and under the baseline condition. The implementation levels that result in greater savings at each increment differ. CALFED's estimates assume that more users and water suppliers implement more of the BMPs, at greater levels than assumed by DWR and included as the baseline.

Furthermore, CALFED agrees that limited empirical data are available beyond the U.S. Environmental Protection Agency (EPA) study to support or dispute the assumed savings potential. However, CALFED's estimates were developed to aid in programmatic-level impact assessment and in understanding the order-of-magnitude role of conservation in statewide water management. The estimates were also essential in designing the types and levels of incentive programs and assurance mechanisms.

WUE 5.4.3-4

CALFED agrees that to achieve higher levels of conservation in the CII sector, many of its water users must adopt water management changes. The Water Use Efficiency Program includes incentive programs (including funding) and assurance mechanisms that are intended to result in greater scrutiny of existing water use methods by these users and/or their suppliers. These and other CALFED actions will change the factors assessed in a cost-effectiveness test, likely resulting in greater adoption of conservation measures than the level assumed given current economic and water supply conditions.

WUE 5.4.3-5

Development of local water use efficiency ordinances was provided as an example of an implementation measure. The specific implementation of these and other measures are not within the scope of this programmatic document.

5.6 Regional Conservation Estimates

WUE 5.6-1

The highlighted sentence on page 5-25 in paragraph 1 in Section 5.6 in the June 1999 Water Use Efficiency Program Plan has been changed as follows:

> "These estimates provide our best estimate of the potential for urban demand but are not goals and targets, and are not intended to be used for planning purposes."

5.7 Summary of Estimated Urban Water Conservation Potential

WUE 5.7-1

The underlying premise of CALFED's water conservation estimates is that existing BMPs and other water conservation measures will be implemented at greater levels and by more water suppliers and users than the level estimated by DWR in their quantification of full implementation of BMPs as a result of no action factors, such as the CVPIA and other items that may affect the future economics of implementing water conservation measures.

The sentence in paragraph 2 on page 5-48 in Section 5.7 in the June 1999 Water Use Efficiency Program Plan has been modified to clarify this point.

5.8 Estimated Cost of Efficiency Improvements

WUE 5.8-1

CALFED agrees with this point and has added the following text at the end of Section 5.8 in the Final Water Use Efficiency Program Plan:

> Furthermore, it should be noted that unit costs are only half of the equation when evaluating the merits of a conservation program. Benefits achieved from the measure are the other half. Information on both costs and benefits is essential for appropriate judgments to be made regarding the appropriateness of any particular water conservation program.

WUE 5.8-2

CALFED agrees that information is lacking to provide such an analysis. However, the unit cost information in the document was provided solely for informational purposes. CALFED's conservation estimates do not represent targets or goals that the program intends to mandate but were necessary to properly design incentive programs and assurance mechanisms. CALFED does not mandate implementing conservation and further assumes that only cost-effective conservation measures will be implemented (noting that future cost-effectiveness calculations may differ from those today, as cost factors evolve). The Water Use Efficiency Program Plan does not indicate or suggest who is responsible for the cost of water conservation measures. Therefore, it is inappropriate to assume that all of a particular unit cost is to be borne only by water suppliers. At a minimum, CALFED's incentive programs will provide funding sources that will help whoever implements conservation measures to achieve their goals.

6. Water Recycling

WUE 6-1

CALFED agrees with this comment and, although approaching from the other side, attempts to address this issue by reducing the amount of wastewater flow generated as a result of conservation efforts. Please see Section 6.5.1 in the Water Use Efficiency Program Plan.

WUE 6-2

CALFED has reviewed the Executive Summary in the Programmatic EIS/EIR and improved such references where possible. Absent any reference in the Executive Summary, CALFED nevertheless views water recycling as one of several integral tools designed to improve statewide water management. To this end, CALFED will develop the incentive programs necessary to help achieve greater levels of water recycling, as discussed in Section 2 in the Water Use Efficiency Program Plan.

WUE 6-3

CALFED will be refining incentive programs, including identifying types and levels of funding, during Stage 1a of the Program implementation. CALFED will rely on interested stakeholders to help with this process.

6.1 New Water Supply vs. Total Water Recycling

WUE 6.1-1

CALFED agrees that determining such information would be valuable to the extent that it can be determined. During Stage 1 implementation, CALFED proposes to support and participate in such types of studies as part of efforts necessary to determine the appropriate cost-sharing and resource allocations. CALFED would support WateReuse Association's participation in such studies.

6.2 Understanding Water Recycling Opportunities

WUE 6.2-1

In the following last sentence in paragraph 4 on page 6-5 in the June 1999 Water Use Efficiency Program Plan, the word "ensure" has been replaced with "foster":

"To foster a high degree of public confidence in water recycling, CALFED could provide funding to support current public education programs, and research and development efforts."

The audience and approach to CALFED outreach activities will be adjusted through an adaptive process, but the specific activities of this approach are not within the scope of this programmatic document.

WUE 6.2-2

The Water Use Efficiency and Water Quality Programs are linked in the objectives of increasing water supply reliability and high-quality water supplies. CALFED agrees that improving the water quality of both Delta water and recycled water can help to achieve those objectives. To that end, CALFED will **[[continue to?]]** work within the framework described in the Programmatic EIS/EIR and program plans to help local agencies meet the regulatory requirements for water quality.

6.3 Determining Water Recycling Potential

WUE 6.3-1

CALFED has reconciled this discrepancy by revising the reference in paragraph 1 in Section 6.3 to reflect 485 TAF.

6.3.1 Regional Water Recycling Studies

WUE 6.3.1-1

CALFED has added a conditional statement to the existing text.

6.4.1 Supply and Demand Constraints on Potential No Action Levels

WUE 6.4.1-1

CALFED regrets to hear this information. Agencies should not need to react in such a manner. CALFED is committed to helping improve the public acceptability of these and other types of recycling projects. Without broader public acceptance, additional water recycling potential is much more difficult to achieve.

CALFED has modified the reference to San Diego's project to reflect this information.

WUE 6.4.1-2

CALFED agrees and has changed the wording to reflect that improper timing is among several critical limits, not the most critical limit.

WUE 6.4.1-3

CALFED appreciates this information and has made the necessary changes.

6.4.3 Assumed Water Recycling Potential under No Action Alternative Conditions

WUE 6.4.3-1

While CALFED agencies applaud MWD's efforts to support local recycling programs, the fact remains that CALFED is not a completed action; therefore, actions taken by agencies are part of the no action scenario. Please see Attachment A in the Programmatic EIS/EIR for more detailed discussion of the No Action Alternative.

WUE 6.4.3-2

CALFED agrees that limited empirical data support or dispute the assumed recycling levels. However, CALFED's estimates were developed to aid in programmatic-level impact assessment and to understand the order-of-magnitude role of conservation in statewide water management. The estimates were also essential to help design the types and levels of incentive programs and assurance mechanisms.

To improve these types of shortcomings for the benefit of future planning exercises, the CALFED Water Use Efficiency Program includes an action aimed at data gathering, monitoring, and focused research. This action will help bring needed resources to an important part of future recycling planning and implementation. Please refer to Section 2.3.3 in the Water Use Efficiency Program Plan for more information on this CALFED action.

Furthermore, CALFED did find one reference that may be somewhat useful. A 1996 paper, *A Retrospective Assessment of Water Reclamation Projects* (by Richard A. Mills and Takashi Asano in Water and Science Technology. Vol. 33, No. 10-11, pages 59-70, printed in Great Britain) states: "Based on reports on many of these projects, it is found that two-thirds of the projects are delivering 75% or less of the expected amounts of water."

The "projects" referenced are 38 that SWRCB funded since 1980; 25 are now operating. When the paper was written, data for at least 1 or more years of operation were available on 16 of the 25 projects. Comparisons of planned versus actual deliveries are based on records of actual deliveries and use by water users. As a group, the projects were delivering only 63% of the water expected. Two-thirds of the projects were delivering 75% or less than the planned deliveries. This information generally supports our assumption of achieving only 50% of the anticipated levels of water recycling obtained in the CALFED referenced surveys.

6.6 Summary of Statewide Water Recycling Potential

WUE 6.6-1

Please see response WUE 1.4-4. The ranges shown in Table 6-3 in the Water Use Efficiency Program Plan may seem optimistic in light of existing conditions and drivers influencing levels of water recycling. However, factors such as impending changes in wasteload allocation based on total maximum daily load and expected increases in drought shortages due to increased population and economic growth may encourage more than the 65% of 2020 flows shown in Table 6-3 in the Water Use Efficiency Program Plan. These ranges will be refined as Stage 1 implementation of the CALFED solution progresses and the effects of changes in policies and regulations become clear. Furthermore, as indicated on page 6-15 in the June 1999 Water Use Efficiency Program Plan, CALFED's estimated recycling ranges from 30% of 2020 wastewater flow to 65%.

WUE 6.6-2

CALFED appreciates your viewpoints. For the programmatic purposes of this document, the analysis undertaken by CALFED represents an aggressive yet achievable level of water recycling that can and should occur. The focus now should be placed on developing the appropriate tools to accomplish much greater levels of water recycling, as discussed in Section 2 in the Water Use Efficiency Program Plan. The CALFED agencies are committed to working with stakeholders in order to identify and obtain the funding necessary to move recycling to much greater levels in California.

WUE 6.6-3

CALFED acknowledges the uncertainty in developing water recycling estimates because of limited information about the effects of source water quality on the feasibility of projects and because of numerous other impediments. With this in mind, CALFED has developed a broad range of water recycling potential, as presented in Section 6.5.1 in the Water Use Efficiency Program Plan. Furthermore, CALFED's estimates were developed for a few primary purposes:

- To provide information for programmatic-level impact assessments,
- To gain a better understanding of the order-of-magnitude role of conservation and recycling in statewide water management, and
- To aid CALFED in designing the appropriate types and levels of incentive programs and assurance mechanisms.

The estimates are not targets, objectives, or goals. CALFED is not mandating that these or any other levels of water recycling be achieved. CALFED is, however, requiring that many actions (see Section 2 in the Water Use Efficiency Program Plan) be undertaken by water suppliers that will result in the implementation of more reuse projects. The actual savings that will result cannot be more accurately estimated without extensive studies that are beyond the scope of this Programmatic EIS/EIR.

WUE 6.6-4

As shown in Table 6-1 in the Water Use Efficiency Program Plan, CALFED does acknowledge the multitude of uses of recycled water. The estimates developed by CALFED to indicate the potential for future water recycling levels are independent of the uses of that recycled water—whether for agricultural water supply or to augment stream flows. However, CALFED has not included any analysis regarding potential water quality or ecosystem restoration benefits beyond simple water supply. Please see response WUE 6.6-3 for more information on the purpose and limitations of the CALFED analysis.

Watershed Program Plan

Responses to Comments

WATERSHED PROGRAM PLAN
RESPONSES TO COMMENTS

Glossary

WSH-Glossary-1

Thank you for the comment. The suggested change has been incorporated into the Watershed Program's definition of the term "watershed restoration."

1.2.1 Primary Objectives

WSH 1.2.1

The goal of the Watershed Program Plan is to provide technical and financial assistance for watershed activities that help meet the mission and goals of the CALFED Bay-Delta Program (CALFED Program). Potential watershed activities may cover a broad array of possibilities, including protection of oak woodlands (see Section 3.3, "Desired Outcomes," and Section 3.3.5, "Improved Watershed Stewardship" in the Watershed Program Plan). Implementation of the Watershed Program Plan will include consideration of all watershed management projects that are consistent with the Watershed Program principles (Section 3.2 in the Watershed Program Plan), are in concert with local needs and desires, and support the objectives of CALFED.

1.4 Geographic Scope

WSH 1.4-1

The Watershed Program Plan designates no geographic boundaries for support of solutions to the problems described by CALFED for the Bay-Delta system. Any project that supports attainment of the objectives of CALFED (see Section 1.2.1, "Primary Objectives," in the Watershed Program Plan) will be eligible for support from the Watershed Program, regardless of geographic location.

WSH-1.4-2

The CALFED Program was created to address a specific set of resource problems (ecosystem quality, water quality, water supply reliability, and Delta levee stability) manifest in or closely linked to the Suisun Bay/Suisun Marsh and Delta area. This area is commonly described as the CALFED problem area. The CALFED Program was not created to address all resource concerns within the larger estuary. In contrast to the problem area, the solution scope of the CALFED Program is quite broad, potentially including any action that could help to solve identified problems. The Watershed Program is not a regulatory or mandatory program and will not require anyone to develop a plan that benefits the estuary. The Watershed Program is designed to support community-based watershed activities that contribute to the goals and objectives of CALFED, and to address concerns within the problem area—regardless of the physical location of those watershed activities.

WSH 1.4-3

The Watershed Program Plan states, "Actions that would result in beneficial impacts on the resources of the Bay-Delta and that support the goals and objectives of CALFED will be considered, regardless of the physical location of action implementation." The program will not discriminate between urban and non-urban watersheds but will focus on the ability of proposed projects to further the goals and objectives of CALFED (see Section 1.2.1 in the Watershed Program Plan) in a manner consistent with the CALFED Program principles of participation.

WSH 1.4-4

CALFED's solution area is defined in part to include the entire watershed of the Sacramento River. The Sacramento River watershed is made up of numerous tributaries, including Cache Creek. Cache Creek is fed directly by Clear Lake. A small portion of the watershed of Clear Lake falls within Mendocino County. Therefore, that area of Mendocino County has been included as part of the solution area for the CALFED Program.

WSH 1.4-5

The Watershed Program Plan notes, "The Watershed Program will support activities that provide benefits to the areas within the problem scope." Watershed activities anywhere that help to achieve the goals of CALFED and follow the Watershed Program principles will be considered for support from the Watershed Program.

1.5 Watershed Program Goals and Objectives

WSH 1.5-1

The Watershed Program objectives do not preclude support for water consumption reduction programs that help achieve CALFED objectives (see Section 1.2.1 in the Watershed Program Plan), and specifically recognize the validity of water conservation as a desired outcome of program implementation (see Section 3.3.5.1 in the Watershed Program Plan).

WSH 1.5-2

CALFED does recognize that Delta pumping is a stressor to many Delta-dependent aquatic species. The Watershed Program is designed in part to support activities within the watersheds of the Bay-Delta that help to meet the objectives of CALFED (see Section 1.2.1 in the Watershed Program Plan), including activities that "improve ecological functions in the Bay-Delta." The Watershed Program will consider supporting community-based actions within the watersheds of the Bay-Delta, as well as watersheds receiving water from the Bay-Delta, that are designed to reduce Delta pumping as a stressor.

WSH-1.5-3

One goal of the Watershed Program is to provide technical and financial assistance for watershed activities that help to meet the mission and objectives of CALFED. The program is particularly interested in providing this assistance to local, community-based programs and activities, using a watershed-based approach (see Section 3.2, "Watershed Program Principles," in the Watershed Program Plan). The Watershed Program will consider providing assistance to the community-based efforts on Putah Creek and Cache Creek, as well as to numerous other watershed programs—to the degree that these efforts are consistent with the Watershed Program principles,

and to the degree that activities carried out through these programs contribute to the overall mission and objectives of the CALFED Program.

WSH 1.5-4

The statement quoted from page 3.1 in the June 1999 Watershed Program Plan is not intended to describe a planned program accomplishment. The planned "accomplishments" of the Watershed Program are described within the plan as the Watershed Program goal, primary objectives, and desired outcomes. The Watershed Program goal (Section 1.5 in the Watershed Program Plan) is "to provide assistance—both technical and financial—for watershed activities that help achieve the mission and objectives of CALFED, and to help coordinate and integrate existing and future local watershed programs." The primary objectives for the Watershed Program are described in Section 1.5.1 in the Watershed Program Plan. The desired outcomes of the Watershed Program are described in Sections 3.3.1 through 3.3.5 in the Watershed Program Plan.

1.5.1 Primary Objectives

WSH 1.5.1-1

The objectives of the Watershed Program are to support the objectives of CALFED, as outlined in Section 1.2.1 in the Watershed Program Plan—including "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."

WSH 1.5.1-2

A primary objective of the Watershed Program is the integration of Watershed Program activities with other CALFED common programs. Projects proposed that emphasize water quality improvements, for instance, would be closely aligned with the priority areas of the Water Quality Program, to achieve the objectives of both the Water Quality Program and the Watershed Program. (Also see Section 2.5 in the Watershed Program Plan.)

WSH 1.5.1-3

The Watershed Program Plan was developed as a programmatic, rather than a project-specific document. The program plan has therefore identified a broad set of program goals and objectives, along with a description of potential desired outcomes, to describe the intended benefits that the program will generate. These broad goals and objectives and desired outcomes will be used to guide the development and implementation of local, community-based watershed programs. Prior to receiving substantial support for program implementation from the Watershed Program, these community-based programs will need to develop specific measurable objectives and define the actions (including restoration actions) to be undertaken to meet these specific objectives.

The implementation plan for the Watershed Program is still being refined as a part of the Watershed Program Plan. When completed, the implementation plan will contain a clear description of the processes to be used in establishing annual program priorities and in making decisions on the selection of actions to be supported by the Watershed Program. The decision-making process will include clear criteria that will help to ensure that Watershed Program assistance will be focused on those activities with the greatest potential for addressing the ecosystem quality, water quality, water supply reliability, and levee stability objectives of the CALFED Program. The program is currently working closely with the Bay Delta Advisory Council's (BDAC's) Watershed Work Group and the Interagency Watershed Agency Team to develop these important processes.

WSH 1.5.1-4

As described in the Watershed Program Plan, the Watershed Program was established as an aid to achieving the overarching goal of CALFED by working with the community at a watershed level. The goals of the Watershed Program are to (1) provide assistance (both financial and technical) for watershed activities that help achieve CALFED's mission, and (2) help coordinate and integrate existing and future local watershed programs. Whereas other CALFED common programs have identified specific projects to be implemented in distinct geographic regions, the Watershed Program took a different approach and compiled a list of desired outcomes (see "Desired Outcomes" on page 3-3 in the June 1999 Watershed Program Plan). The Watershed Program is designed to help support projects that are initiated by the community, technically appropriate, and politically in concert with local needs and desires.

WSH 1.5.1-5

Establishing total maximum daily loads (TMDLs) is the responsibility of the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards, and the U.S. Environmental Protection Agency. It is not the responsibility of the Watershed Program to establish TMDLs. The Watershed Program will coordinate and collaborate with these agencies in an effort to maximize the overall benefits of our various program efforts. It is possible that the Watershed Program could provide technical or financial assistance to community-based programs working to address water quality concerns within their watersheds, including those water quality issues related to discharges from agricultural lands. The availability of program assistance would depend on how well the actions undertaken by these local efforts (to comply with regulations) in turn help to meet CALFED's water quality, ecosystem quality, water supply reliability, or levee stability objectives and their adherence to the principles described in Section 3.2, "Watershed Program Principles," in the Watershed Program Plan.

WSH 1.5.1-6

Land use planning, including zoning and many other land use decisions, falls within the jurisdiction of city and county governments. It would not be appropriate for CALFED to make policy recommendations to limit the geographical expansion of California cities. Regarding the Watershed Program, activities supported by the program will comply with land use plans in place within the watersheds where these activities occur (see responses WSH 2.2-5 and WSH 2.2-6).

WSH 1.5.1-7

Rather than try to accomplish this type of analysis at a programmatic level, the Watershed Program has chosen instead to establish a program of technical and financial assistance that will support community-based watershed management. It is anticipated that one of the early actions undertaken by the program will be to support community-based efforts to develop comprehensive watershed assessments. These specific watershed-scale assessments will identify and quantify the threats that may be present within those individual watersheds. These assessments then will lead to development of locally appropriate strategies to address the threats that have been identified.

2.1.2 Watershed Stewardship

WSH-2.1.2-1

The Watershed Program has been designed to provide technical and financial assistance to community-based watershed programs that contribute to one or more of the four broad objectives of the CALFED Program. This

technical and financial assistance will be available to programs and activities in both urban and rural watersheds within the broad solution area described in the Watershed Program Plan (Section 1.4, "Geographic Scope"). Support from the Watershed Program in the form of technical or financial assistance will be based on a local program's willingness to adopt the Watershed Program's principles (Section 3.2 in the Watershed Program Plan) and the degree that activities (including urban forestry projects) carried out by a local watershed program measurably contribute to the broad goals and objectives of the CALFED Program.

WSH- 2.1.2-2

The Watershed Program has not suggested nor endorsed practices such as the accumulation of large woody debris in rivers or creeks. The Watershed Program would consider support for projects that accumulate woody debris only if the projects were designed appropriately to ensure no adverse impacts to bridges, levees, and other structures.

WSH- 2.1.2-3

The Watershed Program agrees that a better connection needs to be made between urban communities and the more rural "headwater" communities. As part of the coordination and assistance element, the Watershed Program will facilitate means and opportunities to improve coordination and collaboration among all stakeholders seeking to better manage watershed resources.

WSH 2.1.2-4

The Watershed Program recognizes the benefits of addressing watershed issues from upstream to downstream. Furthermore, specific watershed projects are most successful when initiated by the community, technically appropriate, and politically in concert with local needs and desires. Implementation of the Watershed Program will include consideration of all watershed management projects that are consistent with the Watershed Program principles (Section 3.2 in the Watershed Program Plan) and support the objectives of CALFED.

WSH 2.1.2-5

A wide range of possible actions can be taken to address the issues in the Bay-Delta; therefore, CALFED's solution scope is quite broad, potentially including any action that could help to solve identified problems. The Watershed Program is designed to provide technical and financial assistance for watershed activities—regardless of the physical location of action implementation—that help to meet the mission and goals of CALFED. Implementation of the Watershed Program will include consideration of all watershed management projects that are consistent with the Watershed Program principles (Section 3.2 in the Watershed Program Plan), are in concert with local needs and desires, and support the objectives of CALFED.

WSH 2.1.2-6

The Watershed Program Plan states that the Program will support "...on-the-ground activities such as restoration projects and stream corridor rehabilitation, forest improvement projects, and water quality enhancement. The program also will support activities that provide guidance or establish a framework for implementation of those types of projects." No determination will be made on specific selection criteria for supported projects until the Watershed Program is funded to implement the program plan. Principles of participation, from which the criteria for project selection will be derived, are described in Section 3.2, "Watershed Program Principles," in the Watershed Program Plan.

2.1.3 Watershed Restoration Projects

WSH 2.1.3-1

The Watershed and Ecosystem Restoration Programs will support actions that protect habitats used by beaver.

WSH 2.1.3-2

The Watershed Program was designed to promote a watershed approach in order to address a variety of issues, including water retention. Implementation of the Watershed Program will include consideration of all watershed management projects that are consistent with the Watershed Program principles (Section 3.2 in the Watershed Program Plan), are in concert with local needs and desires, and support the objectives of CALFED.

2.2 Element A - Coordination and Assistance

WSH 2.2-1

CALFED concurs with the comment regarding the importance of involving local governments and landusers in any restoration or pollution control effort. CALFED has developed the Watershed Program in part to promote the involvement of the entire range of stakeholder interests in the development and implementation of the CALFED Program. Therefore, CALFED will continue to refine the Watershed Program with full stakeholder involvement.

WSH 2.2-2

CALFED has no plans to duplicate federal or state watershed programs or authorities already in place. The Watershed Program will work closely with the appropriate federal and state agencies, including the SWRCB, to promote better coordination and cooperation among these programs.

WSH 2.2-3

The Watershed Program goal (Section 1.5 in the Watershed Program Plan) is "to provide assistance—both technical and financial—for watershed activities that help achieve the mission and objectives of CALFED, and to help coordinate and integrate existing and future local watershed programs." The Watershed Program has no intention of competing for sources of funding currently available to watershed programs.

WSH 2.2-4

The Watershed Program recognizes the importance of improved coordination at all levels of watershed management activities. In Section 2.2.A3, the program plan specifically mentions the need to facilitate and coordinate funding with local watershed management efforts. In Section 2.4.C1, the intent to provide support for both improving and maintaining the capacity of local watershed programs is noted, including support for coordinators.

WSH 2.2-5

The Watershed Program acknowledges the importance of land ownership and management processes, from private ownerships, to city and county parks, to national forests. The Program intends to assist all landowners in improving their stewardship of the lands over which they have management authority.

WSH 2.2-6

The Watershed Program does not promote adherence to local ordinance as optional. It is intended that projects support local land use regulation in a positive way. The Watershed Program principles (Section 3.2 in the Watershed Program Plan) note that the Program will support activities "that are consistent with related resource activities and applicable regulations."

WSH 2.2-7

The Watershed Program will illustrate the benefits (including economic) of watershed management that accrue from watershed plans and projects designed to meet the goals of CALFED (see Section 2.6 in the Watershed Program Plan). The Watershed Program has also stated its intent to sponsor projects that adhere to legal requirements, including permitting and issues such as water rights, and has committed to assisting project proponents with such actions (see Section 3.6.1 in the Watershed Program Plan).

WSH 2.2-8

The Watershed Program has no intention to differentiate among projects by size. Projects will be solicited that help to meet CALFED objectives, using the Program's principles of participation.

WSH 2.2-9

The Watershed Program intends to emphasize community-led watershed planning and management. Local governments are key elements in such a strategy. Program principles include the involvement of local leadership; and the program plan specifically identifies local planning, ordinance, and other regulation (see Section 2.2 in the Watershed Program Plan) as a necessary element of projects that the program will support. Section 2.1.2 notes that watershed management activities must be socially and politically in concert with local needs and desires. Section 2.1.3 in the Watershed Program Plan states that the "Watershed Program will support local and regional activities that improve the ability of the watershed to function as a contributor to the health of the entire Bay-Delta system."

WSH 2.2-10

CALFED agrees that locally led efforts are the most effective means to better watershed management. The Watershed Program does not intend to develop any new agencies or authorities. Element A in the Watershed Program Plan (Section 2.2) is "to facilitate and improve coordination and assistance among government agencies, other organizations, and local watershed groups." Section 2.1 in the Watershed Program Plan notes that "The Watershed Program will facilitate the development of locally appropriate, community-based strategies to maintain and improve watershed conditions to achieve CALFED objectives."

WSH 2.2-11

Through the use of demonstration streams, the Ecosystem Restoration Program intends to demonstrate its policy of regional or local implementation on a watershed scale. CALFED's proposal is to take our publically developed objectives to regional community organizations for the development of regional implementation plans. The three demonstration streams proposed are in Tehama, Shasta, and Tuolumne Counties. Each stream has a strong community-based organization with broad landowner and water user participation. Each community is looking forward to the availability of CALFED technical support and financial resources.

WSH 2.2-12

Project refinement, scientific design, monitoring, and evaluation for adaptive management for these demonstrations will be done under the auspices of the Ecosystem Restoration Program. Broad scope integration with the elements of the overall CALFED Program will be done by CALFED through its Policy Group as advised by the BDAC. Regional coordination and implementation will be carried out by the local conservancies or organizations and facilitated by the Watershed Program. The scientific evaluation is under way. The results of focused tributary analysis will be discussed with the conservancies, modified as appropriate, and submitted to the Ecosystem Restoration Program Science Board for peer review.

2.4 Element C - Education and Outreach

WSH 2.4-1

Funding assistance means the provision of financial assistance from the Watershed Program to local watershed management efforts. The assistance may be provided through competitive solicitation, directed action, or direct contracting with specific groups. The Watershed Program itself is not expected to be financially independent from CALFED; the local programs that it supports with administrative help in early years are expected to be financially self-sustaining after initial support.

WSH 2.4-2

"Bioregion" is one of the several regions outlined by the California Biodiversity Council that describes extra-watershed areas with significant biological interactions. While watersheds in themselves are considered unitary, each is part of some larger region with which the watershed shares major common elements such as sub-species of plants and animals, climate, geology, or hydrologic connection.

WSH 2.4-3

The term "regional leadership institute" refers to an organizational component of the Adopt-a-Watershed Program. The Adopt-a-Watershed Program is developing these regional institutes to better train and support community teams of educators who are working to introduce the Adopt-A-Watershed educational process into their community K-12 schools. Within the Watershed Program Plan, CALFED used the Adopt-A-Watershed Program as an example of a K-12 educational program based on the local watershed. This program is one of many useful educational programs that could be used by communities to further their local watershed management efforts.

2.5 Element D - Integration with Other CALFED Programs

WSH-2.5-1

The Watershed Program describes its commitment to "encourage and promote a community-based watershed approach in implementing all of the CALFED programs" (Section 2.5, "Element D - Integration with Other Common Programs").

WSH-2.5-2

The Watershed Program understands the need to promote an entire watershed approach to achieving the objectives of CALFED and has designed the Watershed Program as an approach or process that can be used by

CALFED as a whole to help address the numerous goals and objectives of the common programs. (See Element D on page 2-13 in the June 1999 Watershed Program Plan).

WSH 2.5-3

On page 2-14, the June 1999 Watershed Program Plan notes that the program will work with the other CALFED programs to describe the types of activities of each program, and will identify the relationships among those activities to watershed management and the Watershed Program. The Watershed Program will generate recommendations to improve the coordination and collaboration of funding cycles, solicitation package releases, summary report delivery, and other areas of opportunity for improved collaborative efforts.

2.6 Element E - Watershed Processes and Relationships

WSH 2.6.1

The health of the Bay-Delta ecosystem very much depends on the health of the entire watershed that feeds the Bay and Delta. During implementation, the Program plans to better define the relationship between major watershed processes and the attainment of CALFED's objectives in order to illustrate that important connection.

WSH 2.6-2

Groundwater characteristics are the result of several basic watershed functions. The quality, accessibility, and availability of groundwater are of significant importance in watershed dynamics. The Watershed Program will support projects that quantify and clarify the relationship between good watershed management and sustainable quality groundwater supplies. (See also Section 3.3.5.1 in the Watershed Program Plan.)

3. Implementation Strategy

WSH 3.0-1

In the Watershed Program implementation strategy, the points raised are addressed in Section 3.2, "Watershed Program Principles," and in Section 3.3.2, "Development of Monitoring Protocols and Application of Adaptive Management Processes." The Watershed Program intends to work closely with any relevant existing program—from local groups to federal agencies—to improve the knowledge of the Bay-Delta watershed and the effectiveness of its management.

WSH 3.0-2

The Watershed Program agrees with the comment regarding the potential for increased water yield through watershed restoration and will support appropriate community-based activities designed to bring about this restoration. The program also agrees with the comment regarding the lack of information or analysis to fully calculate the magnitude of potential increases. To help address this lack of information, the Watershed Program Plan contains the watershed processes and relationships element. This element is intended to support actions that help to resolve many of these fundamental questions related to watershed function, and to better "describe the basic biological and physical functions and processes of a watershed" (page 2-15 in Section 2.6.E1 in the June 1999 Watershed Program Plan, as well quantifying a wide range of other accrued and potential benefits associated with comprehensive watershed management.

WSH 3.0-3

The Stage 1 actions described in Chapter 3 in the Watershed Program Plan are programmatic and are derived directly from the Watershed Program elements detailed in Chapter 2 in the program plan. Each of the Stage 1 actions described in Chapter 3 in the Watershed Program Plan includes a reference to the year(s) in Stage 1 when CALFED plans to carry out that action.

3.2 Watershed Program Principles

WSH 3.2-1

The Watershed Program principles in Section 3.2 in the Watershed Program Plan were inspired by the Sierra Nevada Alliance work. The program principles will guide all aspects of implementation of the Watershed Program.

WSH 3.2-2

The concept of providing significant funding for approximately 2 years (page 134 in the June 1999 Implementation Plan), with declining support beyond that, applies only to the internal management and administrative costs associated with the creation and development of an organized Watershed Program. This concept is based on the assumption that by generating local capacity, other sources of funding can be obtained—thereby decreasing reliance on a single source of support (CALFED). This concept of limited-term funding does not apply to possible Watershed Program support for the implementation of projects or other ongoing watershed management activities. The Watershed Program plans to make funding for these implementation activities available on a continuing basis through an established competitive process. The Watershed Program itself is not expected to be self-sustaining after initial support but rather the local programs it assists with startup administrative and internal management processes.

WSH 3.2-3

The Watershed Program encourages the inclusion of all parties in locally led watershed management, as outlined in its Watershed Program principles (see Section 3.2 in the Watershed Program Plan). To that end, the program will conduct and/or support activities to reach as many local interests as possible, including agricultural groups, in pursuing the objectives of CALFED (see Section 2.4 in the Watershed Program Plan).

3.3 Desired Outcomes

WSH 3.3-4

The Watershed Program principles state that "CALFED supports watershed activities that contribute to ongoing local watershed management."

3.3.1 Improved Coordination and Assistance

WSH 3.3-5

"Socially and politically in concert with local needs and desires" means that any project supported by the Watershed Program will not conflict with local needs and desires as described through local political processes, such as county boards of supervisors and city councils.

WSH 3.3-6

Activities outlined in the Watershed Program Plan are intended only as informative illustrations, not as suggested projects. Projects are expected to be developed and proposed by local communities based on the coincidence of their needs with the objectives of CALFED. Because no projects have been proposed to the Watershed Program, no analysis is available.

WSH 3.3-7

The Watershed Program is designed in part to provide technical and financial assistance to community-based watershed programs that will carry out activities designed to meet one or more of the CALFED Program's primary objectives—ecosystem quality, water quality, water supply reliability, and levee stability. The proposed finance strategy for the Watershed Program would include funding from both public revenues and from specified beneficiaries. Therefore, we disagree with the assumption that all water quality and quantity benefits accrued through the program should be used exclusively for environmental purposes.

WSH 3.3-8

The Watershed Program Plan repeatedly states that the program intends to support locally led watershed activities that help to achieve CALFED goals. The program does not intend to manage watersheds directly nor to dictate programs to anyone. The desired outcomes are intended to demonstrate the potential for collaboration among different parties seeking to improve the greater Bay-Delta watershed. The various projects and activities supported by the Watershed Program will be developed and implemented by others under the Watershed Program principles outlined in Section 3.2 in the program plan. Anticipated decisions outlined in the program plan are for the program only and are not intended for any other entity. The criteria to describe a "watershed group" are relevant only to the program's implementation and are not intended for any broader use. Nowhere does the program plan state that it will establish a list of entities and individuals eligible for executing on-the-ground watershed management.

3.3.2 Development of Monitoring Protocols and Application of Adaptive Management Processes

WSH-3.3.2-1

We agree with the comment. One of the Program's Stage 1 actions described in the Watershed Program Plan is to "improve the use and usefulness of existing watershed resource information centers." If implemented, this action would support the expansion of an active network of watershed data and development of information to assist local watershed programs in conducting effective watershed management, conservation, and restoration activities. These information centers use GIS technology as a primary means to store, analyze, and display data.

3.3.3 Improved and Expanded Watershed Education And Outreach

WSH 3.3.3-1

The Watershed Program is committed to community-led implementation that assists with attaining the objectives of CALFED. The program itself is structured around the idea of support of locally generated and locally appropriate mechanisms and programs to help meet those objectives (see Section 3.3.3 in the Watershed Program Plan).

WSH 3.3.3-2

Watershed science and watershed awareness are relatively new. Not all residents and visitors of the Bay-Delta watershed are aware of how a watershed functions or of how their daily activities affect the watershed. Those who are fully aware of watershed functions may not have access to all data and information available relative to their watershed. In making more information about specific watersheds more available, decision makers can be better informed, thus resulting in improved watershed health. Education programs have been shown to result in more impact than any other approach, for instance, in curtailing the dumping of noxious substances into storm drains. All aspects of watershed education likely to improve conditions in the Bay-Delta watershed will be included, regardless of their geographic or occupational placement.

3.3.5 Improved Watershed Stewardship

WSH 3.3.5-1

The CALFED Program designed the Watershed Program element with the intent to enhance natural resource conservation, restoration, and management of watersheds within the broad solution area of the Program. The Watershed Program plans to provide technical and financial assistance to local programs and activities that contribute to one or more of the four broad purposes of the CALFED Program—ecosystem quality, water quality, water supply reliability, and Delta levee integrity. Further, CALFED recognizes the potential for water yield increases, both surface water and groundwater, through forest and rangeland vegetation management. Water yield increases from the watersheds of the greater Bay-Delta watershed will, in turn, enhance the reliability of water supplies from the Bay-Delta system. Therefore, the Watershed Program has clearly stated its intent to support "planning and implementation of fire and fuel load management programs that maintain, enhance, or restore sustainable ecosystem processes, while protecting human safety" (Section 3.3.5.1, "Fire Management," in the Watershed Program Plan). However, CALFED does not currently endorse a specific set of practices or techniques to manage vegetation in order to reduce fuel loads or improve water yield. Specific actions to reduce fuel loads or otherwise alter vegetation at the community level would need to be analyzed in a site-specific environmental document prepared by the project proponent, following state and/or federal guidelines for public involvement. Funding by CALFED for a specific project will be contingent on the completion and approval of the appropriate environmental documentation. Kattelmann (Chapter 30 in Volume II) and Marvin (Chapter 4 in Volume III) in the *Sierra Nevada Ecosystem Project: Final Report to Congress* (1996 Davis: University of California, Centers for Water and Wildland Resources) provide a comprehensive review of water yield issues and discuss the wide range of results in water yield studies. Their reviews show that while prudent vegetative management can lead to changes in the timing of flows and improvement in water quality, readily measurable increases in water yields are difficult to assess. This review points out the need to carefully monitor and evaluate the results of actions funded or supported by CALFED in order to better understand the relationship between forest and rangeland vegetation management and watershed yield. See response WT 00-3 (in the Water Transfer Program Plan Responses to Comments) for additional information regarding this topic.

WSH 3.3.5-2

The Watershed Program will provide technical and financial assistance to local watershed programs and activities that contribute to one or more of the four broad purposes of the CALFED Program—ecosystem quality, water quality, water supply reliability, and Delta levee integrity. The Watershed Program states its intent to provide support and assistance "to watershed communities who desire to maintain existing high water quality, as well as providing support to those communities working to improve water quality conditions.... Water quality issues addressed in supported programs will be those which have importance to local communities and that address state and national concerns as well" (Section 3.3.5.1, "Water Quality Enhancement," in the Watershed Program Plan).

WSH 3.3.5-3

The Watershed Program is currently working with stakeholders and state and federal agencies to establish an initial set of program priorities to be used when the program begins implementation. When this process is complete, the Watershed Program will have a set of priorities described as desired outcomes that it hopes to achieve during implementation. The program would then consider support for those community-based watershed projects that appear most likely to achieve these prioritized desired outcomes, regardless of the project's position in the watershed.

WSH 3.3.5-4

One of the specified desired outcomes of the Watershed Program is "improved watershed stewardship," which includes habitat restoration at many scales. Also see Section 2.1.3 in the program plan, "Watershed Restoration Projects."

WSH 3.3.5-5

The Watershed Program recognizes that balance must be achieved in water and other resource use by humans and their environment. Support for improved watershed stewardship (see Section 3.3.5 in the Watershed Program Plan) that includes water management is a critical desired outcome of program implementation.

WSH 3.3.5-6

The Watershed Program recognizes the importance of effective watershed stewardship in both the watersheds that produce water for use elsewhere and in watersheds that are net recipients of that water. The Program will support stewardship and conservation activities that help attain CALFED objectives, regardless of where those actions occur.

WSH 3.3.5-7

The Watershed Program understands that well managed watersheds produce high-quality water for all beneficial uses (see also Section 2.1.3 in the Watershed Program Plan).

WSH 3.3.5-8

The Watershed Program is acutely aware of the impacts of wildfire in the Bay-Delta watershed. One of the major desired outcomes of program implementation is to achieve improved watershed stewardship (Section 3.3.5 in the Watershed Program Plan), which includes fire prevention as well as fire impact mitigation programs. Also mentioned is the need for improved groundwater management and protection as a critical issue to Californians.

WSH 3.3.5-9

This comment is essentially correct. Numerous factors, singly and in combination, affect the health and productivity of the Bay-Delta watershed. The Watershed Program feels that it is best to identify and describe these factors on a watershed-specific basis. As part of Stage 1 implementation, the Watershed Program plans to make financial and technical assistance available to community-based programs to develop watershed-specific assessments. These assessments will identify specifically those factors currently affecting the health and productivity of the particular watershed.

WSH 3.3.5-10

In addition to input from the Watershed Advisory Group, individual meetings and public statements from statewide groups representing planners and commissioners have lamented the lack of training available for planners in watershed science. Such training would be made available on a request basis for those counties and cities who expected benefit from it.

WSH 3.3.5-11

The Watershed Program recognizes the importance of reliable, clean water in the Bay-Delta watershed. Illustrative details in Section 3.3.5, "Improved Watershed Stewardship," in the program plan note the importance of an adequate water supply, both surface water and groundwater. Projects and programs supported by the Watershed Program will be locally led and locally supported, thereby addressing the significant issue of local water supply on a project-by-project basis.

WSH 3.3.5-12

The Watershed Program agrees that watershed management and water management are inter-related. Consequently, watershed management is considered a tool in CALFED's overall Water Management Strategy (see pages 59 and 65 in the June 1999 Phase II Report). The quality of watershed management greatly affects water supply quality and quantity, both on local water and on water exported to other watersheds. Water management options in turn can significantly affect the ability to effectively manage local watersheds. Whereas the scale of water management in California transcends watershed boundaries, local watershed management develops the character of the water supply to be managed.

The Watershed Program itself is not intended to become financially self sufficient. Administrative and managerial costs supplied by the program to local efforts is not intended to be the sole source of funding for those efforts in perpetuity. The local costs of administrative and management functions should be paid by sources other than CALFED as local capacity grows. It is intended that the Watershed Program help the local efforts become self-sufficient for such costs, in order to make more funds available from the program to support projects and programs for those groups.

The Program is developing priority criteria for project selection. The criteria will include the prioritization of funding to correct problems and/or to protect future benefits. The Watershed Program Plan describes a set of program "principles of participation." These principles will be used to guide the development of the priority criteria.

WSH 3.3.5-13

The CALFED Program is an integrated set of Program elements designed to solve major resource problems associated with the Bay-Delta. The Program is designed with the assumption that all Program elements need to be fully implemented in order to meet the primary objectives of CALFED. One of the key elements of the Watershed Program Plan is to "illustrate the benefits (including economic) that accrue from watershed plans and projects designed to achieve the goals of CALFED" (page 2-16 in the June 1999 Watershed Program Plan). The Watershed Program plans to carry out this key element during implementation of Stage 1 of the Program. Given the long lead time needed to develop large-scale water management projects, the Watershed Program should have ample time to assess, determine, and illustrate the benefits of watershed management in helping to achieve the primary objectives of CALFED. This information will be available to planners, decision makers, and the public as future CALFED Program decisions are made, including decisions about large-scale water management projects.

WSH 3.3.5-14

In Section 3.3.2.1 in the Watershed Program Plan, CALFED describes the importance of assessing watershed conditions. CALFED plans to support the collection, analysis, and compilation of information to establish baseline conditions for a watershed. Biodiversity can be established through these initial assessments. CALFED plans to assess biodiversity at scales larger than the project watershed through implementation of the watershed element of the CMARP (Comprehensive Monitoring, Assessment, and Research Program). The criteria and protocols CALFED will use to measure biodiversity will be developed by the CMARP early during Stage 1a, with assistance from the Watershed Program.

3.4 Governance

WSH 3.4-1

No structure for Watershed Program implementation oversight has been established (see Section 4.4.4 in the Implementation Plan). The Watershed Program is committed to support and participation in community-led watershed management of the Bay-Delta watershed.

WSH 3.4-2

No decision has been made concerning long-term governance of the CALFED Program or specific responsibility for implementing the watershed component of the program. The current proposal suggests that a new CALFED entity, made up of state and federal agency, tribal, and stakeholder representatives will have oversight responsibility for implementation of the CALFED Program, including the watershed component. Specific responsibilities for Program implementation, including the Watershed Program, would be assigned by this entity. Scheduling of key milestones will not occur until the Watershed Program begins implementation. The Watershed Program has identified a set of Stage 1 actions that describe in a programmatic way the prioritized activities that will be implemented during the first 7 years of the program.

WSH 3.4-3

The Watershed Program receives focused stakeholder advice and guidance from the BDAC and its Watershed Work Group. Since its inception, the Watershed Work Group has been a forum for all watershed interests to discuss issues of particular concern and to advise the Watershed Program on how to address these issues. Recently, the Watershed Work Group has made a significant effort to engage watershed stakeholders from both the urban and environmental justice communities in order to focus greater attention on the specific watershed issues of these communities. The Watershed Program intends to continue working with BDAC's Watershed Work Group as the primary forum for stakeholder input on the development and implementation of the Watershed Program.

3.5 Finance

WSH 3.5-1

The Watershed Program itself is not expected to be self-sustaining after initial support but rather the local programs it assists with startup. Successful local groups will become less dependent on CALFED as a sole source of administrative and internal management financial support over time. CALFED support for programs and projects will still be available to those groups. Such support will be contingent on the local program's ability to help meet the overall CALFED objectives, which are referenced in the program plan in order to ensure that the objectives are not diluted through interpretation.

WSH 3.5-2

The Watershed Program consistently uses any and all information available from a variety of sources (including the referenced report) in the construction and implementation of the program.

WSH 3.5-3

The Watershed Program will work to ensure that costs of watershed management that result in quantifiable benefits outside the watershed are distributed equitably.

WSH 3.5-4

The current cost estimate to implement the Stage 1 actions of the Watershed Program will be refined during Stage 1, as specific community-based watershed programs, projects, and activities, and the benefits of these activities are identified. Recognize that the current cost estimate for Stage 1 actions of the Watershed Program does not include the cost of implementing the watershed element of the CMARP. This element of the CMARP is being designed to meet many of the Watershed Program's monitoring needs. The estimated costs to implement the CMARP, including the watershed element, are identified in the Phase II Report.

WSH 3.5-5

At this time, the Watershed Program does not anticipate having funds to begin implementing the program during fiscal year 2000. The Watershed Program is developing a specific set of initial program priorities, as well as an appropriate decision-making process, that will help to ensure that projects funded by the Watershed Program will have strong public support, high public visibility, and a high chance of success in meeting program objectives and achieving an appropriate set of desired outcomes.

WSH 3.5-6

Page 145 in the June 1999 Phase II Report contains estimates of the Stage 1 costs for each component of the CALFED Program. The estimated Stage 1 cost for the Watershed Program is $210 million. This is a broad programmatic estimate of costs but does represent the correct order of magnitude of investment that will be needed to carry the program forward successfully. During implementation of the Watershed Program, cost estimates will be refined as more specific information on projects and activities becomes available.

3.6 Stage 1 Actions

WSH 3.6-1

The Watershed Program supports watershed plan development. While encouraging development of additional plans, the program also desires to provide support for the implementation of existing plans. For the first 7 years, the program will provide assistance to implement existing plans while also providing assistance to develop plans for watersheds without a plan in place.

WSH 3.6-2

The distribution and priorities of funding for the Watershed Program have not been set. They will be developed as the Program has been developed—through extensive participation of a wide range of stakeholders—when funds become available.

4.2 Monitoring

WSH 4.2.1

The Watershed Program states that "monitoring is a fundamental component of CALFED and is directly related to the adaptive management cycle."