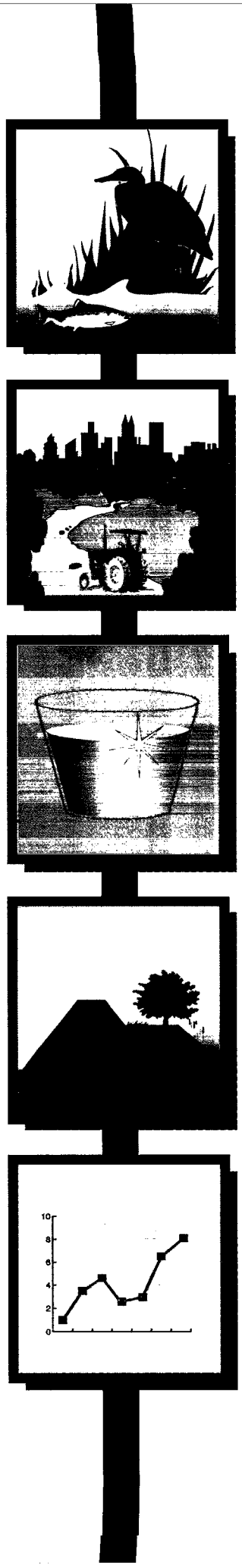

CALFED
BAY-DELTA
PROGRAM

Response to Comments
Vol II: Technical Appendices

Final Programmatic EIS/EIR Technical Appendix
July 2000

C-027953

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CALFED Bay-Delta Program July 2000 Final Programmatic EIS/EIR

Response to Comments Document

Response to Comments
Volume II

How to Use the Response to Comments Document

This Response to Comments (RTC) Document contains responses to comments received on the June 25, 1999 Draft CALFED Bay-Delta Program Programmatic Environmental Impact Statement/Environmental Impact Report (Draft). Approximately 1,500 written comment letters were received from individuals and organizations. CALFED also received approximately 2,400 form letters or pre-printed postcards. A total of 760 individuals presented oral testimony at one or more of the 16 hearings held throughout the state during August and September 1999. All together, just over 10,000 individual comments are addressed in this document.

The RTC includes three volumes. Volume I contains responses to comments that are specific to the Impact Analysis Document. Volume I also contains Common Responses, which were developed for similar comments received in great numbers. Volume II contains responses to comments that are specific to various program plans and reports (for example, the Water Quality Program Plan or the Phase II Report). Volume III contains copies of all letters and testimony received that were not answered entirely by Common Responses.

Four alphabetized lists are located in the front of Volume III. The first two lists contain the names of individuals and organizations that submitted comments or provided hearing testimony on the Draft. The third and fourth lists also contain names of individuals and organizations that submitted comments or provided hearing testimony on the Draft; however, these comments and testimony are answered entirely by one or more Common Responses, and the comment letters are not reduced. Following the four lists in Volume III, comment letters are reproduced in alphabetical order. The letters are followed by the hearing testimony, which is reproduced in chronological order.

To locate your comment and its response, look for your name or organization name on the first two lists in Volume III. If you do not find your name or the name of your organization on the first two lists, then refer to the third and fourth lists. Next to the names on the third and fourth lists are the common response numbers that answer your comment letter. Please locate the appropriate common response in Volume I of the RTC and do not proceed to Steps two and tree.

1 Find your name on one of the lists in Volume III.

Each commentor on the first two lists in Volume III has been assigned a number, located to the right of the entry. **Look to the right of your name or organization name to find the number assigned to your letter or testimony.** Use this number to locate the copy of your letter or testimony in Volume III. For example, if the number next to your name is "1000," look for letter 1000 in Volume III. Testimony numbers are indicated by a "T" in the middle of a number. For example, "03T43" indicates the 43rd speaker from the third hearing.

2 Look to the right of your name and find the number assigned to your letter or testimony. Use that number to locate the copy of your letter or testimony in Volume III.

After you have found your comment letter or testimony in Volume III, locate the response code that corresponds to the comment. Response codes are found in the right-hand margin of the reprinted letters and testimony transcripts. The codes are located approximately in the vertical center of individually partitioned comments. The abbreviated letters in the response codes indicate the volume and section where the response to a comment is located. **Use the response code to locate the response to your comment in Volume I or II.** Examples of how to use the response codes are provided below; also see the graphic that follows.

3 Find the response code assigned to your comment, located in the right-hand margin next to the specific comment in Volume III.

- Response code "WQ 2.3-4" can be found in Section 2.3 in the "Water Quality Program Plan Responses to Comments" section of Volume II. More specifically, it is the fourth response in Section 2.3.
- Response code "IA 4.3-2" can be found in Section 4.3 in the Impact Analysis Document component of Volume I. More specifically, it is the second response in Section 4.3.
- Response code "CR 1" can be found in the "Common Responses" section of Volume I, under the heading "Common Response 1."

Because some comments have been consolidated, **the response code may direct you to one response that subsequently directs you to another response.** For example, when you reach response WQ 2.3-4, the response may read: "This response has been consolidated with response WQ 2.6-8. Please refer to this response for the answer to your comment." For a complete response to your comment, please read all responses included on your letter or testimony, as well as all responses referred to in the text of the responses provided.

4 Read all included and referenced responses to your comments in Volumes I and II.

The abbreviated letter codes shown below are used in the response codes and the page numbers for Volumes I and II.

Volume I

Contains responses to comments about the Impact Analysis Document and the Common Responses (general topics)

CR	Common Response
IA	Impact Analysis Document

Volume II

Contains responses to comments on the various program plans and reports

CM	Comprehensive Monitoring, Assessment, and Research Program (CMARP)
ERP	Ecosystem Restoration Program Plan
IP	Implementation Plan
IPF	Financing Plan (Chapter 5 in the Implementation Plan)
LS	Levee System Integrity Program Plan
MS	Multi-Species Conservation Strategy (MSCS)
PH2	Phase II Report
WQ	Water Quality Program Plan
WT	Water Transfer Program Plan
WUE	Water Use Efficiency Program Plan
WSH	Watershed Program Plan

Volume III

Contains lists of commentors and copies of all letters and testimony received

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Comment Letters
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LIST OF ACRONYMS

A

AB	Assembly Bill
Accord	Principles for Agreement on Bay-Delta Standards between the State of California and the Federal Government (Bay-Delta Accord)
AFB	Air Force Base
AFRP	Anadromous Fish Restoration Program
ALS	Action levels
ARWRI	American River Water Resource Investigation
ASIP	action-specific implementation plan
ATSF	Atchison, Topeka and Santa Fe
AWMC	Agricultural Water Management Council
AWWARF	American Water Works Association Research Foundation

B

BARWRP	Bay Area Regional Water Recycling Project
BATs	best available technologies
Bay-Delta	San Francisco Bay/Sacramento-San Joaquin Delta estuary
BCDC	San Francisco Bay Conservation and Development Commission
BDAC	Bay-Delta Advisory Council
Blueprint	Blueprint for an Environmentally and Economically Sound CALFED Water Supply Reliability Program
BMPs	best management practices
BOD	biochemical oxygen demand

C

CAA	Clean Air Act
CalEPA	California Environmental Protection Agency
CALFED Ops Group	California-Federal Operations Group
CalTrans	California Department of Transportation
CART	CALFED Agency Review Team
CCC	Contra Costa Canal
CCCTs	combined cycle combustion turbines
CCFB	Clifton Court Forebay
CCMP	Comprehensive Conservation and Management Plan
CCWD	Contra Costa Water District
CDF	California Department of Forestry and Fire Protection
CDFA	California Department of Food and Agriculture
CERT	Certification
CEQA	California Environmental Quality Act
CFCP	California Farmland Conservancy Program
cfs	cubic feet per second
CIMIS	California Irrigation Management Information System
CMARP	Comprehensive Monitoring and Research Program
CO	carbon monoxide
Corps	U.S. Army Corps of Engineers
CREP	Conservation Reserve Enhancement Program
CRP	Conservation Reserve Program
CTs	combustion turbines
CUWA	California Urban Water Agency
CUWCC	California Urban Water Conservation Council
CVGSM	Central Valley Groundwater and Surface Water Model
CVP	Central Valley Project

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CVPIA	Central Valley Project Improvement Act
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
CZARA	Coastal Zone Act Reauthorization Amendments
CZMA	Coastal Zone Management Act

D

D-	Water Right Decision
D/DBP	Disinfectant/Disinfection By-Products
DBCP	dibromochloropropane
DBPs	disinfection by-products
DCC	Delta Cross Channel
DEFT	Diversion Effects on Fisheries Team
DFG	California Department of Fish and Game
DHS	California Department of Health Services
DMC	Delta-Mendota Canal
DO	dissolved oxygen
DOC	dissolved organic carbon
DOC	Department of Conservation
DPC	Delta Protection Commission
Dupont	El Dupont De Nemours & Co.
DWR	California Department of Water Resources
DWRSIM	DWR system operational model

E

EBMUD	East Bay Municipal Utility District
EC	electrical conductivity
ECCID	East Contra Costa Irrigation District
EDB	ethylene dibromide
EDD	California Economic Development Department
EEWMA	Economic Evaluation of Water Management Alternatives
E/I ratio	export/import ratio
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
EPA	U.S. Environmental Protection Agency
ERAF	Education Reinvestment Augmentation Fund of 1992
ERP	Ecosystem Restoration Program
ERPP	Ecosystem Restoration Program Plan
ESA	Endangered Species Act
ESWTR	Enhanced Surface Water Treatment Rule
EWA	Environmental Water Account
EWMP	efficient water management practices

F

FACA	Federal Advisory Council Act
FCAA	Federal Clean Air Act
FEMA	Federal Emergency Management Act
FIP	Federal Implementation Plan
FMP	fishery management plan
FPPA	Farmland Protection Policy Act of 1981
fps	feet per second
FWCA	Fish and Wildlife Coordination Act

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G

GIS	geographic information system
gpcd	gallons per capita per day
GWh	gigawatt hours

H

HCP	habitat conservation plan

I

I-5	Interstate-5
I-80	Interstate-80
ICP	Interagency Coordinated Program
IIC	Imperial Irrigation District
Interior	U.S. Department of the Interior
IOCs	inorganic chemicals
ISDP	Interim South Delta Program
ISO	California Independent System Operator

J

JPD	joint point of diversion

K

KCWA	Kern County Water Agency

L

LCPSIM	Least-Cost Planning Simulation Model
Ldn	day-night sound level
LEDPA	least environmentally damaging practicable alternative
LESA	Land Evaluation and Site Assessment
Levee Program	Levee System Integrity Program
LIG	Levee Implementation Group
LTMS	Long-Term Management Strategy

M

M&I	municipal and industrial
MAD	mosquito abatement district
MAF	million acre-feet
MCLGs	maximum contaminant level goals
MCLs	maximum contaminant levels
mg/L	milligrams per liter
MH	Maas-Hoffman
MOU	Memorandum of Understanding
MSCS	Multi-Species Conservation Strategy
msl	mean sea level
MTBE	methyl tert-butyl ether
MW	megawatts
MWD	The Metropolitan Water District of Southern California
MWh	megawatt hour
MWQI	Municipal Water Quality Investigation

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μg/L	micrograms per liter
μmhos/cm	micromhos per centimeter

N

NBA	North Bay Aqueduct
NAWQA	National Water Quality Assessment
NCCAB	North Central Coast Air Basin
NCCP	Natural Community Conservation Plan
NCFCWCD	Napa County Flood Control and Water Conservation District
NCP	navigation control point
NCWA	Northern California Water Association
NDDB	National Diversity Database
NEPA	National Environmental Policy Act
NHI	Natural Heritage Institute
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NMOG	non-methane organic gas
NOD	Notice of Determination
NOI/NOP	Notice of Intent/Notice of Preparation
NO_x	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NPS Program	Nonpoint Source Program
NRA	National Recreation Area
NRCS	U.S. Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSDWR	National Secondary Drinking Water Regulations
NWR	National Wildlife Refuge

O

O_3	ozone
OC	organochlorine
Ops	Operations Coordination

P

PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PEIS	Programmatic Environmental Impact Statement
PFMC	Pacific Fishery Management Council
PG&E	Pacific Gas and Electric Company
PL	Public Law
PM_{10}	particulate matter smaller than 10 microns in diameter
$PM_{2.5}$	particulate matter smaller than 2.5 microns in diameter
ppb	parts per billion
ppm	parts per million
ppt	parts per thousand
Program	CALFED Bay-Delta Program
Programmatic EIS/EIR	Programmatic Environmental Impact Statement/Environmental Impact Report
PTM	Particle Tracking Module

Q

QWEST	Measure of net flow in the lower San Joaquin River and other smaller Delta channels

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R

RBDD	Red Bluff Diversion Dam
Reclamation	U.S. Bureau of Reclamation
RMP	Regional Monitoring Plan
RO	reverse osmosis
ROD	Record of Decision
RWQCB	Regional Water Quality Control Board

S

SB	Senate Bill
SBA	South Bay Aqueduct
SCFCWCD	Solano County Flood Control and Water Conservation District
SCVWD	Santa Clara Valley Water District
SDWA	Safe Drinking Water Act
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SMPA	Suisun Marsh Preservation Agreement
SNA	Significant Natural Area
SO_2	sulfur dioxide
SOC	synthetic organic chemical
SR 99	State Route 99
SRA	State Recreation Area
SRFCP	Sacramento River Flood Control Project
Strategic Plan	Strategic Plan for the Ecosystem Restoration Program
SDCWA	San Diego County Water Authority
SJVDIP	San Joaquin Valley Drainage Implementation Program
SWP	State Water Project
SWRCB	State Water Resources Control Board
SWTR	Surface Water Treatment Rule

T

TAF	thousand acre-feet
TCE	trichloroethylene
TDS	total dissolved solids
THM	trihalomethane
TIE	toxicity identification evaluation
TMDL	total maximum daily load
TOC	total organic carbon
TSS	total suspended solids
TTHMs	total trihalomethanes

U

USFS	U.S. Forest Service
USGS	U.S. Geological Survey
USFWS	U.S. Fish and Wildlife Service
USTs	underground storage tanks

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V

UV	ultra-violet
VAMP	Vernalis Adaptive Management Plan
VMS	Visual Management System
VOCs	volatile organic chemicals

W

Western	Western Area Power Administration
WMA	Wildlife Management Area
WQCP	Water Quality Control Plan
WQPP	Water Quality Program Plan
WSCC	Western Systems Coordinating Council

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Comprehensive Monitoring, Assessment, and Research Program

Responses to Comments

COMPREHENSIVE MONITORING, ASSESSMENT, AND RESEARCH PROGRAM RESPONSES TO COMMENTS

0. General Responses

CM-B-1

An institutional structure to implement the Comprehensive Monitoring, Assessment, and Research Program (CMARP) is proposed in the CMARP. An important element of the structure is development of a science review board that will play a role in guiding the decision-making body with regard to its use of science in adaptive management and decision making. The CALFED Bay-Delta Program (CALFED Program) maintains that it is critically important that this board remain independent and objective during their assessment of the use of science in the CALFED Program.

CM-B-2

Discussions on a long-term institutional structure for the CMARP and funding needs and sources are found in Chapters 6 and 7 in the CMARP. Chapter 6 discusses the attributes, functions, and elements of a CMARP institutional structure but does not specify or recommend a particular structure. Chapter 7 discusses estimating program costs and financing the CMARP. As for the institutional structure, Chapter 7 does not provide specific recommendations. The CMARP report authors did not feel they could make specific recommendations on these issues until after a CALFED structure had been decided on, which is now taking place through the governance process. The necessary CMARP elements identified in the document are a part of the governance discussions. It is expected that the governance process will result in decisions that will allow CMARP staff to develop specific recommendations regarding CMARP institutional and funding issues.

CM-B-3

The CMARP does not necessarily represent an additional layer of obligations on stakeholders beyond current programs. The CMARP strategy includes an identification and review of current monitoring and research programs within the Bay-Delta to determine which are currently useful for CALFED's needs, and how some may be revised to meet anticipated needs. In some cases, program revision may be accomplished without additional costs, simply by replacing some variables for others. In other cases, additional costs may be incurred.

Chapters 6 and 7 in the CMARP document discuss the necessary attributes, functions, and elements of an institutional structure that enable a CMARP not only to execute the science correctly, but also to ensure that the right science is being done. Specific recommendations regarding an institutional structure and funding depend on the CALFED Program formalizing its institutional structure through the governance process.

CM-B-4

The monitoring and research recommendations in the CMARP document addressing water use efficiency (Section 4.8 in the document) were developed by agency staff and agricultural and urban water use stakeholders

to identify, on a broad scale, water use efficiency monitoring and research needs, and to provide examples on how a CMARP could meet these kinds of information needs for the CALFED Program. Inclusion of these recommendations are not meant to imply that they in fact constitute a program of monitoring and research for the Water Use Efficiency Program. The actual objectives and information needs of the Water Use Efficiency Program are being developed by the program itself. The CMARP's role is to meet those stated needs by developing a program of monitoring and research for the program.

CM-B-5

CALFED recognizes the role of uncertainty in evaluating the results of CALFED management actions. Recognizing that absolute certainty can never be achieved at any cost, CALFED will strive through the CMARP to reduce the information gaps to reasonable levels. This can be done to some extent by implementing adaptive management principles and by tightening the linkages between research, monitoring, assessment, and reporting.

CM-B-6

If CALFED's science program determines that South Bay watershed stormwater data and other efforts are needed, CALFED will fund those efforts. At this time, however, it does not appear that those information needs are necessary for the CALFED Program.

CM-B-7

CALFED does support and will continue to support all ongoing efforts that provide information necessary to achieving CALFED objectives. Financial support will be considered for additional efforts that may be requested by CALFED to meet specific information needs.

CM-B-8

Thank you.

CM-B-9

Complying with federal and state Endangered Species Act (ESA) requirements should not be confused with adaptive management actions or the principles of adaptive management. Adaptive management seeks to directly address uncertainties by identifying them and taking specific actions from which we expect to learn, thus reducing the level of uncertainty. However, because an uncertainty is being directly addressed, inherent risk to associated resources is involved, depending on the type of action selected. On the other hand, ESA provisions already presume some benefit from a mandated action. This implies a minimal uncertainty in the action being taken and a minimal risk to the targeted resource. Complying with ESA requirements are not adaptive management actions, at least in the scientific sense where the concept of "adaptive environmental management" originated. In fact, complying with ESA provisions will make the practice of adaptive management challenging, if not very difficult.

CM-B-10

The CALFED Program's overall emphasis and direction should not be alluded from the CMARP report or any single CALFED technical report. The CMARP report emphasizes environmental considerations (including water quality) because that is where the greatest information needs and critical uncertainties exist that can be addressed by a program of research, monitoring, and assessment.

CM-B-11

CALFED intends to support those research and monitoring activities that provide information useful to the CALFED Program. It should be recognized, however, that the CALFED Program has specific information needs that agencies/institutions are not addressing. These needs will need to be met through a program of research and monitoring; therefore, the advent of the CMARP.

The CMARP does not necessarily represent an additional layer of obligations on stakeholders beyond current programs. CMARP's strategy includes an identification and review of current monitoring and research programs within the Bay-Delta to determine which are currently useful for CALFED's needs, and how some may be revised to meet anticipated needs. In some cases, program revision may be accomplished without additional costs, simply by replacing some variables for others. In other cases, additional costs may be incurred. The idea of collaboration is not to create a new bureaucracy but rather to take advantage of the work already being done. It is true that the adaptive management program proposed by the CMARP requires a significant investment in monitoring and research. The information needed by CALFED is critical to the program, and can be obtained only by investments in research and monitoring. This is what adaptive management entails. The costs will be substantial; therefore, it is important to take advantage of and collaborate with existing work.

CM-B-12

Science plays a critical role in the CALFED Program. Given the scope of the ecosystem restoration, water quality, levee system integrity, water management, watershed, and other programs, it is obvious that CALFED is in large part, a science program. The information obtained through the science process is only as good as the questions being asked; the science process follows to address the questions. The science that resides within the different CALFED programs needs to be addressed in a coherent, integrative, and consistent fashion. The chief scientist would fill this need. The process for appointing a chief scientist still needs to be addressed by the CALFED Program.

CM-B-13

More work is needed to better define the CMARP's role in the CALFED Program and to integrate the CMARP with the Ecosystem Restoration Program and other CALFED programs. On several fronts, however, some of that work is proceeding. For example, the Ecosystem Restoration Program and the CMARP are jointly working on developing "white papers" to identify what we know and do not know about major ecological processes, habitats, species, and stressors that are the focus of the Ecosystem Restoration Program. These papers will provide guidance on the kinds of restoration actions to take within geographical areas, research to be conducted to address uncertainties, and monitoring to assess baseline conditions and changes to the conditions as a result of restoration actions.

The CMARP activities described in the Stage 1 document are not close matches to the Ecosystem Restoration Program activities. They have been carefully considered by agency staff and stakeholders involved in the CMARP effort, however, and will provide much of the important information and tools needed by the Ecosystem Restoration Program and other CALFED programs to conduct their activities. As mentioned above, we agree that additional work is needed to better tie the support and mainstream activities of the CMARP to those of the Ecosystem Restoration Program, Multi-Species Conservation Strategy, and other CALFED programs; and to better describe how CMARP science will generally mesh with the other CALFED programs.

CM-B-14

When applied correctly, adaptive environmental management is much more than trial and error. It is a scientific process that results in learning from a set of actions that can then be applied to a similar set of actions. Before engaging in an adaptive management experiment (and they are experiments), hypotheses are developed, the process by which the hypotheses will be addressed are established, and a program of monitoring and or research is established to test the hypotheses. In this respect, the practice of adaptive management can be used to achieve stated goals if decision-makers make their decisions based on what they have learned from the experiment.

CM-B-15

The CALFED Program is taking specified steps to identify what types of adaptive management experiments can be conducted at the start of Stage 1 and where the experiments should be conducted. A "white paper" process that identifies what we know and do not know about major ecological processes, habitats, species, and stressors is underway. These papers will provide guidance on the kinds of restoration actions and adaptive management experiments to take within geographical areas. Public workshops will be held to review and discuss the white paper results. We understand that developing and implementing adaptive management actions are not simple, nor are they cheap. To be truly successful, adaptive management requires a commitment from decision makers to make use of the information learned from the experiments when making subsequent decisions.

CM-B-16

About $19 million dollars is spent annually on biological, water quality, and hydrologic monitoring programs within the Bay-Delta watershed. Of this amount, about $6.5 million is spent annually on biological, water quality, and hydrologic monitoring activities in the northern portion of the Sacramento River (above Sacramento) and its tributaries.

Part C. Water Quality

CM-4.3-1

The frequency and magnitudes of previous pesticide detections are included as parameters in the design of a pesticide sampling program.

CM-4.3-2

This section recognizes and considers pesticides as a significant environmental contaminant.

Information Gathering and Organization

CM-5.4-3

CALFED agrees that activities related to database management and development will be coordinated with appropriate entities, including entities like the California Department of Pesticide Regulation, that have developed their own databases for monitoring and research specific tasks.

Ecosystem Restoration Program Plan

Responses to Comments

ECOSYSTEM RESTORATION PROGRAM PLAN
RESPONSES TO COMMENTS

General Responses

ERP 0-1

We will minimize the need to convert farmland. The economic impacts of land conversion are addressed at the programmatic level in the main body of the Programmatic Environmental Impact Statement/Environmental Impact Report (EIS/EIR). Project-specific analysis will be conducted in project-level environmental documents.

ERP 0-2

The CALFED Bay-Delta Program (CALFED Program) is committed to the basic concept that beneficiaries should share in the costs of environmental restoration. Through the use of cross-cut budgeting, funds from fishing licences, commercial permits, and taxes on boat fuels can be directed toward implementation of Ecosystem Restoration Program (ERP) projects.

ERP 0-3

The ERP has funded, and will continue to support, innovative strategies to restore the Bay-Delta ecosystem. The ERP will also fund research and monitoring to discover and evaluate new strategies.

ERP 0-4

Where public and private programs outside CALFED advance the goals or targets of the ERP, the programs will be counted and attributed toward ecosystem restoration. It is not possible for us to rely on a willing-seller program and be able to detail locations, acreage, and land use in a programmatic document. These specifics will be provided in project-specific documentation in later stages of the Program. Where we find it possible to replicate natural processes, we will need to include all affected land or limit the degree to which we pursue that particular process.

ERP 0-5

The CALFED Program is composed of many elements. Together, they are intended to provide benefits for all of California. The ERP is the element that calls for habitat restoration and species recovery.

ERP 0-6

This response has been consolidated with response ERP 0-5. Please refer to that response for the answer to your comment.

ERP 0-7

We appreciate the effort of the NCWA to develop an inventory of existing habitat protection in the Sacramento Valley. This report will aid in our commitment to coordinate restoration programs in the Central Valley.

ERP 0-8

We agree and will employ urban restoration where appropriate.

ERP 0-9

Where appropriate, CALFED or CALFED managing agencies will provide for in-lieu taxes.

ERP 0-10

We anticipate that funds to implement the Ecosystem Restoration Program Plan (ERPP) will be derived from both public and user sources. The exact allocation of responsibility has not been accomplished.

ERP 0-11

This comment is a true but incomplete description of the support for ecosystem restoration. Proposition 204, the major source of funds for implementation of the ERPP, was passed overwhelmingly by a vote of the people of California.

ERP 0-13

We recognize this concern. Our Multi-Species Conservation Strategy (MSCS) includes a model "Good Neighbor Policy."

ERP 0-14

We agree.

ERP 0-15

We agree, but not all public land is suitable. Some site-specific or species-specific habitat will need to be accomplished on private land acquired from willing sellers.

ERP 0-16

This issue is analyzed in the Programmatic EIS/EIR and will be dealt with on a case-by-case basis in project-specific environmental documents.

ERP 0-17

Those water quality issues related specifically to the restoration of ecosystem health will be funded as an element of the ERP.

ERP 0-18

If the California Urban Water Agency's assumption is correct, it could cause CALFED to select a different conveyance alternative or to relocate its areas of habitat restoration.

ERP 0-19

The Preferred Program Alternative maintains a Delta common pool.

ERP 0-20

Proposition 204 requires an annual report by the Secretary for Resources. CALFED will assist the Secretary in preparing that report. We do not agree that Proposition 204 contains an implicit requirement for impact analysis of the ERPP. However, we accept responsibility for a programmatic analysis and subsequent project analysis under the California Environmental Quality Act (CEQA).

ERP 0-21

The ERPP describes CALFED's program to restore ecological health to the Bay-Delta ecosystem. The ERPP is a program plan and not an impact analysis document. Please also see response IA-7.14-1.2.

ERP 0-22

We do acknowledge that public "ecosystem dollars" do provide private benefits in terms of reduced regulatory constraints. We expect water users to contribute more "ecosystem dollars" in the future.

ERP 0-23

The State Water Resources Control Board (SWRCB) regulates the amount of Delta export. Neither CALFED nor its agencies can arbitrarily increase exports. The ERPP assumes no increase in exports without evidence of at-risk species recovery.

ERP 0-24

We agree.

ERP 0-25

Any funding for the CALFED programs derived from users will be based on the concept that beneficiaries will be identified and assessed.

ERP 0-26

We concur.

ERP 0-27

The MSCS is intended to provide the assurances suggested.

ERP 0-28

CALFED has commissioned a team of independent scientists to further evaluate the function of the entrapment zone and the changes in its location and volume that would best improve estuary production. Although the Preferred Program Alternative might cause some slight eastward shift under drought conditions, the ERP will increase the area of the zone by increasing tidal wetlands in Suisun Bay.

ERP 0-29

We concur.

ERP 0-30

We started the proposed study in 1998.

ERP 0-31

The MSCS (Chapter 7) discusses the types of assurances that will be considered by the fish and wildlife agencies at the time of the Record of Decision (ROD) and notice of determination.

ERP 0-32

The ERPP will increase flows into the Delta, and the EWA will manage and reduce the effects of diversions.

ERP 0-33

The Water Quality Program will be investigating limited land retirement as a partial solution to agricultural drainage problems in the San Joaquin Valley. Who will pay for the retirement will be determined by an analysis of who benefits.

ERP 0-34

In April 1999, 226 proposals were received, including 42 under the watershed topic area. From the June 1999 funding recommendations, two projects in the watershed category were approved for funding. Subsequently, based on direction from the Policy Group, additional watershed projects from the 1999 solicitation have been identified. Watershed projects have also been recommended for FY 2000 funding. Should both of those recommendations be approved, 12 additional proposals from the watershed category will receive funding through FY 2000.

ERP 0-35

Since 1997, the CALFED Program has selected ecosystem restoration projects through a widely publicized proposal solicitation process. The opportunity to apply for ecosystem restoration funding has been publicized through direct mail notifications, advertising in the State Contracts Register, and posting on the Program's web

site. The project selection process includes two levels for public review and input at the publicly noticed meetings of the Ecosystem Roundtable and the Bay-Delta Advisory Council (BDAC).

> The CALFED Program has awarded ecosystem restoration grants to projects that meet several minimum requirements. Ecosystem restoration projects selected for ecosystem restoration grant funds are required to comply with all applicable laws and regulations, including the National Environmental Policy Act (NEPA) and CEQA and local permit requirements. All funded proposals are consistent with the ERP and the Strategic Plan for Ecosystem Restoration (Strategic Plan) objectives and they specify which ERP objectives and targets the proposal will meet. All funded proposals are consistent with each alternative considered in the Programmatic EIS/EIR and thus have not prejudiced the ultimate decision on the long-term CALFED Program. Further, funded proposals involving land acquisition have involved only willing sellers.

CALFED disagrees with the commentor that all of the projects listed in Attachment C to the comment letter involve significant adverse environmental impacts. Many of the projects do not include conversion of agricultural land to nonagricultural use, but rather provide that the farming activities would continue on those properties involved in a manner that is compatible with wildlife needs. As of May 1999, only 7% of the project and 13% of the total acreage affected by the ERP have resulted in land use conversions. Of the more than 20,000 acres of agricultural lands affected by the ERP, 68% have been maintained to some degree in agricultural use—either farmed or grazed.

In addition, the commentor appears to use the term "cumulative impacts" to mean the long-term Program-wide impacts, including impacts from ERP projects, on agricultural land uses. These Program-wide impacts on agricultural land uses are assessed in the Programmatic EIS/EIR for the 30-year or more term of the Program. Please see Chapter 4 and Section 7.1 in the Programmatic EIS/EIR. In addition, cumulative impacts of the CALFED Program and other related projects anticipated to result in similar environmental impacts on the same resources are considered in Chapter 3 in the Programmatic EIS/EIR and in Attachment A to the Programmatic EIS/EIR. Further, the programmatic impacts associated with the array of Category III projects are discussed in the Programmatic EIS/EIR, in that each of the projects is within the scope of the ERP. Please see response IP 4.3-1.

ERP 0-36

Ecosystem restoration projects involving acquisition and/or restoration of agricultural lands have been approved contingent on completion of the level of environmental review required by law. Where ecosystem restoration projects result in significant impacts to agriculture, appropriate mitigation would occur through project-specific environmental review. All funded proposals are consistent with each of the alternatives considered in the Programmatic EIS/EIR and, thus, they will not prejudice the ultimate decision on the long-term CALFED process.

Mitigation strategies for adverse impacts on agriculture are identified in the Programmatic EIS/EIR in Sections 7.1, 7.2, and 7.3. When projects implementing the Program are proposed at the site-specific, second-tier level, mitigation measures will be required that are consistent with the mitigation strategies and that are tailored to the specific project and its location. Please see Chapter 9 and response IP 4.0-2 for a description of the Mitigation Monitoring Plan. However, it is likely that even with mitigation measures, the Program will result in significant unavoidable impacts on agriculture. This impact is discussed in Sections 7.1, 7.2, and 7.3.

Please also see responses to comments ERP 0-35 and IP-4.3-1 (in the Implementation Plan Responses to Comments).

ERP 0-37

Please see responses IP 4.3-1; ERP 0-35; and ERP 0-36 regarding environmental documentation for ecosystem restoration projects. All land acquisitions under the CALFED Program to date have occurred solely as part of early implementation of non-flow-related ecosystem restoration activities. The CALFED Program has funded these acquisitions with ecosystem restoration grant funds, as specified in the 1994 Bay-Delta Accord and in California Proposition 204. Public disclosure of ecosystem restoration land acquisition projects has occurred in several ways: through publicity about the ERP projects by CALFED and by grant recipients; through disclosure occurring at publicly noticed Ecosystem Roundtable and BDAC meetings; and through the mandatory condition of funding that all projects include a plan for public outreach and local involvement, including notification of adjacent property owners.

ERP 0-38

Proposals for the 1999 solicitation were reviewed first by a panel of scientists with watershed expertise and also by an Integration Panel whose role was to develop a package of recommended projects across topic areas. Technical reviewers rely on information in the proposal, current project status, and best professional judgement in reviewing project proposals. For FY 2000, in an additional decision round for the 1999 proposals, Cottonwood Creek has been recommended for funding. The Interim Science Panel supported continued work in this watershed.

ERP 0-39

Comment noted. Each project is required to develop environmental documents and obtain necessary permits as a part of each proposal.

ERP 0-40

We concur. The ERPP and the Water Quality Program are designed to reverse the decline.

ERP 0-41

Unfortunately, appropriations to state agency budgets have not matched the need of those agencies to reimburse counties. CALFED will budget for local taxes as part of the original project cost to avoid this problem.

ERP 0-42

Studies are underway to determine whether the reestablishment of habitat in the Delta will degrade drinking water quality. If the studies indicate a negative effect, appropriate mitigation will be implemented.

ERP 0-43

The ERP geographic scope does not include areas outside the Central Valley that are served by the State Water Project (SWP) or Central Valley Project (CVP).

ERP 0-44

Recovery plans are being prepared, and their recommendations are incorporated into the ERPP.

ERP 0-45

We share this objective; however, the authority to assign responsibility for Delta outflow is vested with the SWRCB.

ERP 0-46

Implementation of the ERPP is estimated to cost from $1.5 to $2 billion over 30 years.

ERP 0-47

The ERPP does not affect water project operations. The EWA will be integrated into future considerations for water project operations.

ERP 0-48

The goal of the ERP is to rehabilitate the Delta foodweb in order to utilize organic carbon in the Delta food chain. If specific situations are identified where there is a conflict between the ERP and drinking water quality, a decision will be made by CALFED policy makers concerning the appropriate mitigation.

ERP 0-49

Any new or additional diversion will be subject to the requirements of the SWRCB and CEQA.

ERP 0-50

The ERPP and the MSCS provide the goals for recovery and sustainability.

ERP 0-51

The Suisun Marsh Preservation Act is law. The ERP provides specific actions to improve the ecological health of the marsh.

ERP 0-52

The standards for the entrapment zone or X2 are set by the SWRCB. Only the Board can change them.

ERP 0-53

All alternatives include the ERPP.

ERP 0-54

The presence of Lake Oroville cuts off the Upper Feather River from the Delta.

ERP 0-55

A fundamental conceptual model in the ERPP is the reestablishment of habitat in the Bay-Delta ecosystem. While there are differences of opinion among experts as to where, how, or how much habitat should be established, there is no disagreement as to the dependency of species on habitat.

ERP 0-56

We have responded to the comments of Save the Bay separately.

ERP 0-57

We will consult with the California Department of Transportation (CalTrans) to avoid impacts.

ERP 0-58

Time value or seasonal value is a basic assumption of the ERP. In our environmental water program, we will be testing this assumption.

ERP 0-59

The ecosystem component of the Water Quality Program identifies problems associated with degraded environmental water quality and proposes the means for restoration.

In Phase III of the CALFED Program, environmental water quality will be managed as an element of the ERP.

ERP 0-60

We concur. The evaluation is underway. We anticipate the use of dredged material in the Delta and elsewhere.

ERP 0-61

Assurances that the ERP will be implemented are tied to the MSCS and the ESA permits needed to implement elements of the CALFED Program.

ERP 0-62

We concur. That coordination and integration will occur in Phase III of the CALFED Program.

ERP 0-63

The ERP was developed as a plan to restore ecological health. It was not predicated on any particular level of funding.

ERP 0-64

We concur. The MSCS discusses this issue.

ERP 0-65

CALFED considers clear dredge material from San Francisco Bay to be a significant potential source of material for ecosystem restoration and levee repair in the Delta. We have funded studies by the Regional Water Quality Control Board to determine the suitability of using this material in the Delta. If found suitable, we will further analyze the costs.

ERP 0-66

CALFED has continued to refine its assurances package. The final assurances will most likely be included in the ROD.

ERP 0-67

Funding for the ERP will be through state general obligation bonds (Proposition 204), federal appropriations (the Bay-Delta Act), user fees, and existing agency budgets.

ERP 0-68

We have been consulting with that program for several years.

ERP 0-69

Your position is correct. The SWRCB establishes water rights and water quality standards. CALFED incorporated SWRCB water rights and water quality standards into the assumptions used in modeling the water system, as described in Section 5.1 and Attachment A in the Programmatic EIS/EIR.

ERP 0-70

Agricultural water use efficiency is discussed in the Water Use Efficiency Program Plan, and toxic runoff is discussed in the Water Quality Program Plan.

ERP 0-71

As a matter of policy, CALFED will not retire agricultural land to conserve water. We may retire land as a partial solution to toxic drainage problems.

ERP 0-72

The ERP is designed to restore ecosystem health. The reduction of conflict could result in continued export of water.

ERP 0-73

The ERPP sets out a vision and programmatic prescription for the restoration or rehabilitation of ecosystem health of the Bay-Delta ecosystem. Any program or project that advances the goals or objectives of the ERP will be credited or counted as achieving part of all of a particular objective. This does not, however, include projects or programs that mitigate new impacts to the ecosystem. The ERP tries to establish a new higher baseline of ecosystem health. Mitigation is an effort to maintain the existing baseline.

ERP 0-74

Where goals, objectives, and targets overlap, the ERP has incorporated the plans of other major restoration programs working within the ERP geographic area. In many cases, other programs are more focused geographically or focused on a particular species or habitat. The ERP is intended to focus on the ecological health of the Bay-Delta.

ERP 0-75

The ERP identifies the need to restore 29,000 to 29,500 acres of seasonally managed wetlands. We do not consider these to be "engineered civil works" but rather natural habitat which once, prior to their conversion to irrigated agriculture, amounted to millions of acres. Because we are working at the programmatic level and not the site-specific project level, we do not know the details of specific management of the proposed wetlands.

ERP 0-76

The goals and targets of the Senate Bill (SB) 1086 program have been incorporated into the ERP. Where the Central Valley Project Improvement Act (CVPIA) has been authorized to address specific issues that relate to the ERP objectives, the CVPIA has been incorporated into the ERP. The ERP targets are not additive. The National Marine Fisheries Service (NMFS) has not yet prepared recovery plans for steelhead trout or spring-run chinook salmon. Therefore, we do not know if the ERP actions directed at these species are adequate to serve as the recovery plans. The winter-run chinook salmon recovery plan was incorporated into the ERP for the splittail; the ERP includes all actions proposed in the Delta Native Fishes Recovery Plan.

ERP 0-77

Our priorities are being developed by the Interim Science Board, the ERP Focus Group, and the Policy Group. We intend to continue our screening efforts.

ERP 0-78

The ERP is a plan based on ecosystem recovery. It focuses on restoration or rehabilitation of ecosystem processes and functions. The MSCS looks at individual species and specific actions needed for their recovery. Integration of the two approaches will occur through implementation. Implementation will follow the basic ERP approach, but recovery of listed species will always be a priority.

ERP 0-79

The ERP is designed to restore ecological health. This new baseline will be maintained through mitigation of any new facilities.

ERP 0-80

We will prepare site- or project-specific environmental documentation for each of the projects you cite as potentially significant.

ERP 0-81

The Natural Heritage Institute (NHI) comments on the 1997 review draft of the ERPP were used to refine the draft sent out for formal review in 1999. NHI repeated many of its specific comments in its comment letter on the June 1999 Draft Programmatic EIS/EIR. Responses to these comments are identified as letter 1199 and are located throughout the response to comment document. The three appendices attached to the 1997 letter were reviewed by CALFED staff and were used to refine the June 1999 Draft ERPP and to focus the current ongoing work effort.

ERP 0-82

We concur. We will include the fry stages of salmonids as part of our monitoring program.

ERP 0-83

The ERPP and the EWA will not replace authorities granted by the federal or state ESAs.

ERP 0-84

The EWA is part of the long-term solution.

ERP 0-85

We concur. Please refer to the Water Quality Program Plan for specifics.

ERP 0-88

We concur. Ocean conditions may play a significant role in the growth and survival of anadromous species. Adverse or beneficial conditions may dictate the degree to which we achieve our goals.

ERP 0.1-1

We do not know the net overall impact of the ERP on the usable amount of water entering the Delta from its tributary streams. The experts disagree, and very little research exists to utilize in modeling. We do know that riparian habitats and wetlands generally use more water than typical agricultural crops. The use of water in a tidal wetland is very complicated, but it probably does result in more evaporation and transportation than for a typical Delta agricultural crop.

On the other hand, the ERP will be augmenting in-stream flows by about 400,000 acre-feet in an average year. Through its meander projects, setback levees along streams, and development of bypasses and floodplains, the ERP will attenuate floodflows. By spreading out floodflows over a somewhat longer period of time, the Delta could remain out of balance longer and more unstored water could be available for diversion or use in the Delta. Virtually all of the ERP riparian, floodplain, and wetland habitat will increase groundwater supplies through

recharge. In the Delta and Suisun Bay, National Wildlife Refuge's (NWR) preliminary modeling suggests that the ERP could contribute to increased water supplies or water quality in two ways. First, strategically developed shallow-water habitat and islands in areas like Frank's Tract and Big Break can reduce tidal excursions into the Delta and can result in a reduced need to release stored fresh water to repel salt water. Second, the preliminary modeling and experience associated with the 1997 levee failures in the Suisun Marsh indicate that strategic breeching of levees in the Suisun Bay area can broaden the tidal prism and reduce the amount of stored fresh water needed to repel salt water and maintain Delta water quality standards.

All of these factors will need to be considered, modeled, and evaluated before any meaningful net balance of water use by the ERP can be documented.

ERP 0.2-1

Habitat enhancement and restoration are essential elements of both the ERP and MSCS. The diversity and quality of habitats in the Bay-Delta watershed are critical to maintaining and recovering threatened and endangered species. These habitats are created and maintained by a variety of ecological processes, including streamflow, channel migration and meander, and Delta hydraulics.

CALFED is addressing numerous public comments directed at the habitat acreages presented in both the ERP and MSCS. One of the difficulties reviewers have encountered is due to the fact that the ERP and MSCS habitat designations differ in definition, and the MSCS includes habitats not addressed in the ERPP. The habitat recommendations, nonetheless, are intended to complement one another.

The primary purpose of this response is to clarify the recommended target acreages in the ERPP and MSCS.

The following sections discuss the various habitats recommended for enhancement or restoration during the 30-year implementation phase of the ERP. Generally, recommendations fall into one of two classes: enhance or restore.

- Enhanced habitat indicates that existing habitat is improved without acquisition of additional acreage. Willing landowners may benefit by enhancing existing habitat through conservation easements. Existing land uses may be altered but do not change significantly under enhancement.

- Restored habitat indicates that additional land is acquired from willing sellers through direct purchase or conservation easement and converted to the appropriate habitat. Existing land uses change under restoration.

Each habitat type is discussed, including its linkage with the habitat recommendations from the MSCS. In some instances, the ERP and MSCS recommendations differ and an explanation of the difference is presented.

There is virtually no certainty that the ERP habitat recommendations will be fully implemented during the 30-year implementation phase. The adaptive management process and the degree to which initial restoration efforts succeed or fail to reach ecological targets for species recovery will drive the magnitude of implementation. The ERP fully acknowledges the scientific uncertainty related to habitat management and restoration and, therefore, must rely on the scientific method and adaptive management to refine the course of restoration beyond the first 7 years of implementation.

Habitat Discussions

Tidal Perennial Aquatic Habitat. Tidal perennial aquatic habitat consists of the estuary's edge waters, mudflats, and other transitional areas between open-water habitats and wetlands. Similar habitats are defined by the San Francisco Bay Area Ecosystem Wetlands Goals Project (1999) as elements of tidal baylands that include mudflats, sandflats, and shellflats. It also includes marine and estuarine subtidal areas that are less than 2 meters deep at low water and shallow, tidally influenced riverine areas.

The ERP recommends restoring 7,000 acres of tidal perennial aquatic habitat in the Sacramento-San Joaquin Delta Ecological Management Zone and 1,500 acres in the Suisun Marsh/North San Francisco Bay Ecological Management Zone.

The 8,500 acres of tidal perennial aquatic habitat in the ERPP is consistent with acres reported in the MSCS.

Nontidal Perennial Aquatic Habitat. Nontidal perennial aquatic habitat used here includes permanent open water that is not subject to tidal influence. Nontidal perennial aquatic habitats include oxbow lakes, drainage divide ponds, agricultural drains, small farm ponds, industrial ponds, and ponds managed for waterfowl. This habitat is similar to the San Francisco Bay Area Ecosystem Wetlands Goals Project description of diked marsh, salt pond, and storage/treatment pond.

The ERP recommends restoring 4,200 acres of nontidal perennial aquatic habitat: 2,600 acres of nontidal perennial aquatic habitat in the Sacramento-San Joaquin Delta Ecological Management Zone and 1,600 acres in the Suisun Marsh/North San Francisco Bay Ecological Management Zone.

The total of 4,200 acres reported in the ERPP is greater than the 1,600 acres of lacustrine habitat reported in the MSCS. The MSCS reports the 2,600 acres of ERP nontidal perennial aquatic habitat in the Delta as a component of the MSCS nontidal freshwater permanent emergent habitat.

Saline Emergent Wetland Habitat. Saline emergent wetland habitat includes the portions of San Francisco, San Pablo, and Suisun Bays and the Delta that support emergent wetland plant species that are tolerant of saline or brackish conditions.

The ERP recommends restoring 7,500 to 12,000 acres of additional habitat and enhancing 6,200 acres of existing saline emergent wetland habitats in the Suisun Marsh/North San Francisco Bay Ecological Management Zone.

The 7,500 to 12,000 acres of saline emergent wetland habitat proposed for restoration and the 6,200 acres proposed for enhancement in the ERPP are consistent with the acreages presented in the MSCS.

Fresh Emergent Wetland Habitat (Tidal). Fresh emergent wetlands include all tidally influenced freshwater areas in the inter-tidal zones of the Delta that support emergent wetland plant species that are not tolerant of brackish water conditions. Areas that support fresh emergent wetland habitat include portions of Delta sloughs, midchannel islands, and other vegetated shallow-water areas.

The ERP recommends restoring 30,000 to 45,000 acres of fresh emergent wetland habitat in the Sacramento-San Joaquin Delta Ecological Management Zone.

The MSCS reports 30,200 to 45,800 acres of tidal fresh emergent habitat. The MSCS calculation includes the ERP midchannel island habitat (200 to 800 acres) under the MSCS tidal fresh emergent category.

Fresh Emergent Wetland Habitat (Nontidal). Nontidal fresh emergent wetland habitat includes permanent natural and managed freshwater marshes and wetlands. The ERP recommends restoring 17,000 acres of nontidal fresh emergent wetland habitat in the Sacramento-San Joaquin Delta Ecological Management Zone.

The MSCS recommends restoring 19,600 acres of nontidal freshwater permanent emergent habitat. The difference is that the MSCS includes the 2,600 acres of ERP nontidal perennial aquatic habitat in the MSCS category of nontidal freshwater permanent emergent habitat.

Midchannel Islands and Shoals. Midchannel islands and shoals are unique types of remnant tidal perennial aquatic and fresh emergent habitat present in the Sacramento-San Joaquin Delta.

The ERP recommends restoring 200 to 800 acres of midchannel islands and 500 acres of shoal habitat throughout the Delta.

The acreage reported for midchannel islands in the ERPP is consistent with the acreage reported in the MSCS, which is reported under the MSCS tidal fresh emergent habitat category.

- The MSCS has been revised to include 500 acres of MSCS lacustrine (ERP shoal) habitat throughout the Delta.

Seasonal Wetlands. Seasonal wetlands include natural and managed wetland areas. Seasonal wetlands are comprised of vernal pools, wet meadows or pastures, lands intentionally flooded on a seasonal basis, state and federal refuges, privately owned waterfowl hunting clubs, private environmental refuge lands, and seasonally flooded areas within a stream course or its floodplain. (Vernal pools are a special type of seasonal wetland discussed following this section on seasonal wetlands.)

The ERP recommends enhancing 308,125 acres of existing seasonal wetlands and restoring 29,000 to 29,500 acres. (This is a correction of the acreage reported in the June 1999 ERPP.) These acreages include the categories shown in the table that follows.

ECOLOGICAL MANAGEMENT ZONE	ACRES FOR ENHANCEMENT	ACRES FOR RESTORATION
Sacramento-San Joaquin Delta	4,000	28,000
Suisun Marsh/North San Francisco Bay	58,000	1,000-1,500
Butte Basin	36,150	None
American River Basin	5,150	None
San Joaquin River	172,800	None
Feather River/Sutter Basin	3,590	None
Colusa Basin	28,435	None
Seasonal wetland total	**308,125**	**29,000-29,500**

- The corrected acreage reported in the ERPP for seasonal wetland restoration is the same as the 29,000 to 29,500 acres of managed seasonal wetlands reported in the MSCS.

- The 308,125 acres of enhanced seasonal wetlands reported in the ERPP is the same as the acreage reported in the MSCS.

Vernal Pools. Vernal pools are natural seasonal wetlands with natural hydrologic conditions that are dominated by herbaceous vegetation and annual pond surface water or maintain saturated soils at the ground surface for a portion of the year of sufficient duration to support facultative or obligate plant species.

The ERP provides only one recommendation for vernal pool restoration: 100 acres in the Suisun Bay and Marsh Ecological Management Unit of the Suisun Marsh/North San Francisco Bay Ecological Management Zone.

The proposed action is to acquire and manage 100 acres of existing vernal pools and 500 to 1,000 acres of adjacent buffer area. The buffer area could include perennial or annual grassland, riparian areas, or other types of transitional habitat associated with vernal pool complexes. The riparian and riverine aquatic habitat and perennial grassland habitat recommendations for the Suisun Marsh/North San Francisco Bay Ecological Management Zone are inclusive of the 500 to 1,000 acres of buffer area for vernal pool management. The 500 to 1,000 acres of buffer area are not additive to other acreages.

The ERP and MSCS are consistent in identifying 100 acres of vernal pools for acquisition and management.

Agricultural Lands. The ERP encourages "wildlife-friendly" agricultural practices to support existing agricultural productivity while contributing to overall improvements for species dependent on pastures, harvested grain fields, and crops. Agricultural lands include farmed lands that are not seasonally flooded; however, seasonally flooding grain fields is a wildlife-friendly agricultural practice. The MSCS uses the terms "upland cropland" and "seasonally flooded agricultural lands" interchangeably for what is termed in the ERPP as agricultural lands providing "wildlife-friendly" agricultural practices. The MSCS acreages for these categories therefore should not be added together with the ERP acreages. The acreages are the same.

The ERP recommends developing and implementing "wildlife-friendly" agricultural practices throughout much of the ERP focus area. The general recommendations were developed to be consistent with the North American Waterfowl Management Plan and the Central Valley Habitat Joint Venture. The underlying premise for these recommendations was to implement a program with minimal effects on existing agricultural land uses. Participating landowners would be reimbursed for potential direct loss of income to implement wildlife-friendly agricultural practices.

ECOLOGICAL MANAGEMENT ZONE	ACRES FOR ENHANCEMENT	ACRES FOR RESTORATION
Sacramento-San Joaquin Delta	40,000-75,000	None
Colusa Basin	111,285	None
Butte Basin	108,832	None
American River Basin	20,948	None
San Joaquin River	15,290	None
Feather River/Sutter Basin	57,578	None
Wildlife-friendly acres total	**353,933-388,933**	**None**

The ERP and MSCS are consistent in the identification of 353,933-388,933 acres of lands to be enhanced for "wildlife-friendly" agricultural practices. There are no restore-type measures proposed for wildlife-friendly practices on agricultural lands.

Perennial Grassland. Perennial grasslands include upland vegetation communities dominated by native and introduced perennial grasses and forbs, including non-irrigated and irrigated pasturelands.

The ERP recommendations for perennial grassland include restoring 4,000 to 6,000 acres in the Sacramento-San Joaquin Delta Ecological Management Zone and 5,000 acres in the Suisun Marsh/North San Francisco Bay Ecological Management Zone.

The ERP and MSCS are consistent in reporting a range of 9,000 to 11,000 acres of perennial grasslands proposed for restoration.

Inland Dune Scrub. Inland dune scrub includes vegetated stabilized sand dunes associated with river and estuarine systems.

The ERP recommends enhancing 50 to 100 acres of low- to moderate-quality Antioch inland dune scrub habitat in the Sacramento-San Joaquin Delta Ecological Management Zone.

The ERP and MSCS are consistent in reporting 50 to 100 acres of inland dune scrub habitat for enhancement.

Riparian and Riverine Aquatic Habitat. This broad type of habitat includes riparian and shaded riverine aquatic habitat. Riparian vegetation is comprised of scrub, woodland, and forest habitats that support wildlife species. Riparian aquatic habitat is shaded by riparian vegetation. The MSCS includes additional designations: valley riverine aquatic, montane riverine aquatic, valley/foothill riparian, montane riparian, valley/foothill woodland and forest, and montane woodland and forest.

Generally, the June 1999 ERPP reported a mix of acres and miles of riparian and riverine aquatic habitats. In this analysis, miles of riparian are converted to acres using the following assumption: unless otherwise noted in the ERPP, riparian stream corridors are assumed to be 100 feet wide. This equates to 12.12 acres of riparian habitat per mile of corridor for one side of a stream, or 24.24 acres per mile including a riparian corridor on each side of the stream. Miles of riparian corridor in the Delta and Suisun Marsh reported in the ERPP have been converted to acres using 12.12 acres per mile. All other riparian acreages are based on 24.24 acres per mile. This is deemed sufficient for impact analysis purposes, as some riparian habitat will be present only on one side of a stream channel and the actual width of the corridor will vary greatly from a screen of riparian vegetation in some areas to dense riparian stands that may be 200 feet wide. Riparian acres for the Delta and Suisun Marsh were calculated from the prescriptions in the riparian and riverine aquatic habitat targets presented in Volume 2 of the ERPP.

The ERP recommends restoring 10,551-11,789 acres of riparian corridors, as follows: 1,284-1,195 in the Sacramento-San Joaquin Delta Ecological Management Zone; 200-300 acres in the Suisun Marsh/North San Francisco Bay Ecological Management Zone; 3,151 acres in the Cottonwood Creek Ecological Management Zone; 484 acres in the Butte Basin Ecological Management Zone; 3,720 acres in the Eastside Delta Tributaries Ecological Management Zone; 1,212 acres in the San Joaquin River Ecological Management Zone; and 500-1,000 acres in the West San Joaquin Ecological Management Zone.

- The MSCS has been corrected to reflect these acreages for restoration.

Summary of Total Ecosystem Restoration Program Acreages by Type of Habitat

ECOSYSTEM RESTORATION PROGRAM PLAN HABITAT TYPE	TOTAL ENHANCE (ACRES)	TOTAL RESTORE (ACRES)	MULTI-SPECIES CONSERVATION STRATEGY HABITAT TYPE
Tidal perennial aquatic	None	8,500	8,500 acres of tidal perennial aquatic
Nontidal perennial aquatic	None	4,200	2,600 acres of nontidal freshwater permanent emergent and 1,600 acres of MSCS lacustrine habitat
Saline emergent wetland	6,200	7,500-12,000	7,500-12,000 acres of saline emergent plus tidal slough acreages and enhance 6,500 acres
Fresh emergent wetland	None	30,000-45,000	30,200-45,800 acres of tidal freshwater emergent plus ERP midchannel island acreages
Fresh emergent wetland (nontidal)	None	17,000	19,600 acres of nontidal freshwater permanent emergent (includes 17,000 acres of ERP nontidal freshwater emergent wetlands and 2,600 acres of ERP nontidal perennial aquatic)
Midchannel island	None	200-800	200-800 acres reported as MSCS tidal freshwater emergent
Shoal	None	500	500 acres added to MSCS lacustrine habitat
Seasonal wetland	308,125	29,000-29,500	29,000-29,500 acres of MSCS managed seasonal wetlands
Vernal pool	None	100	100 acres of MSCS natural seasonal wetland
Agricultural land (wildlife-friendly practices)	353,933-388,933	None	353,933-388,933 acres of MSCS seasonally flooded agriculture and upland cropland
Perennial grassland	None	9,000-11,000	9,000-11,000 acres of MSCS grassland
Inland dune scrub	None	50-100	50-100 acres of MSCS inland dune scrub
Riparian and riverine aquatic	None	10,551-11,789	10,551-11,789 acres of MSCS valley/foothill riparian and montane riparian
Stream channel meander	None	18,000-26,000	MSCS includes these as acres of riparian habitat to be enhanced, not restored
Tidal and Delta slough	None	911-1,999	Included in MSCS tidal perennial aquatic (150-330 miles of tidal or Delta slough)

Please note: The total acreage for riparian and riverine aquatic habitat has not previously been calculated or reported.

Stream Channel Meander. Please note: stream channel meander is not an ERP habitat type. It is described in the ERPP as an ecological process. Acreages identified for stream meander are included for impact analysis purposes as a separate category to present the area identified for protection in the Sacramento River Conservation Area between Red Bluff and Colusa. Stream channel meander supports the natural regeneration of riparian and riverine aquatic habitat and other types of habitat essential to the recovery of threatened and endangered species but is not a type of habitat.

The long-term restoration and enhancement target for preserving and improving the stream meander corridor along the Sacramento River Conservation Area is to purchase in fee or through conservation easement 16,000 to

24,000 acres; acquire 1,000 acres in the Feather River/Sutter Basin Ecological Management Zone; and acquire 1,000 acres in the East San Joaquin Ecological Management Zone.

- The MSCS accounts for stream meander acreages by including them in the acres of riparian habitat to be enhanced.

Tidal and Delta Sloughs. Sloughs are natural tidal channels that connect fresh and saline emergent wetlands, other shallow-water habitats, and rivers within the Delta or Bay. Sloughs vary in depth and width, and have gently sloped and vegetated sides.

The ERPP recommends restoring 65-160 miles of sloughs in the Sacramento-San Joaquin Delta Ecological Management Zone (395-970 acres), 50-100 miles in the Yolo Bypass (303-606 acres), and 35-70 miles of sloughs in the Suisun Marsh/North San Francisco Bay Ecological Management Zone (213-423 acres).

- The ERPP has been changed from the 100-150 miles reported in the June 1999 ERPP to correct figures of 65-160 miles.

In the MSCS, tidal and delta sloughs are accounted for in tidal emergent, tidal perennial aquatic, and riparian. These are not additive.

Please note: The total acreage of tidal, Delta, and Yolo Basin sloughs has not been previously calculated or reported in the ERPP. The ERPP reports tidal and Delta sloughs as miles of sloughs to be restored. To improve evaluation of restoration of slough habitats, slough miles have been converted to acres. The single assumption for the calculation was that average slough width was 50 feet (6.06 surface acres per mile). This width reasonably describes the range of widths present in natural or restored sloughs, with upper branches being considerably less than 50 feet wide and lower sections exceeding 50 feet.

Cumulative Impact. A subjective assessment of the cumulative impact of the full implementation of all recommended habitat and stream corridor restoration measures is that agricultural lands would be moderately affected even with the implementation of presently identified offsetting measures.

ERP 0.3-1

Unfortunately, the ERPP is very large and does not lend itself to consolidation. Volume 2 of the ERPP includes a substantial amount of duplication because we drafted the discussion of each ecological zone to be a stand-alone discussion. Much of what you suggest will be accomplished by revisions to the Strategic Plan.

Volume I: Ecological Attributes of the San Francisco Bay-Delta Watershed

General Responses

ERP I 0-2

We recognize the role that ocean conditions play in the life cycle of salmon. We further recognize we can do nothing to affect ocean conditions. Predators and harvest are recognized as stressors in Volume I.

Overview

ERP I 1.0-0

The ERPP does not rely on keystone species; rather it focuses on the restoration of ecological processes and functions.

ERP I 1.0-1

The ERP is one of eight major program elements intended to restore a balance among competing users of water.

ERP I 1.0-2

Organization of the Plan

ERP I 1.1-1

The ERPP is focused on the environmental problems of the Bay-Delta ecosystem. The plan is based on, and expands on, the many agency programs that address various facets of the overall problem. In Volume II of the plan, we document ongoing programs and acknowledge their progress. In Volume III, we outline an institutional structure that could be used to consolidate the many agency programs. We will continue to utilize existing publically owned land where possible. Third-party, along with direct, impacts will be evaluated in site-specific environmental documents.

Geographic Scope

ERP I 1.4-1

Many of the CALFED agencies are actively involved in attempts to resolve problems in the Trinity River. Coordination is occurring at the agency level.

ERP I 1.4-2

CALFED has no ecosystem restoration projects proposed for Mendocino County.

ERP I 1.4-3

The objective of the ERP is to deal with ecological problems manifest in the Delta. We have found no biological or physical link that would lead us to believe that resolution of problems in South or Central Bay would result in improvements in the Delta.

ERP I 1.4-4

The ERPP looks at 14 ecological zones that cover the Central Valley watersheds tributary to the Delta, in addition to the Delta.

Implementation Strategy

ERP I 1.5 -1

The goals and objectives included in the Strategic Plan go well beyond consideration of just fish. The San Francisco Bay will be considered in the context of its contribution to the ecological health of the Delta.

Key Ecological Attributes of the San Francisco Bay-Delta Watershed

ERP I 2.0-1

Please see common response 3.

Rationale

ERP I 2.1-1

We concur. Please note our discussion on Ecosystem Management in the Strategic Plan.

Vision for Ecosystem Elements

ERP I 3.0-1

Please see common response 3.

Habitats

ERP I 3.2-1

CALFED has committed to the restoration of natural habitats and restoration of ecological processes to attain a more durable environment.

ERP I 3.2-2

We added the phrase "and other areas of the Central Valley and its rivers."

Priority Group I

ERP I 3.4-1

The ERP has included the recovery plans developed under the ESAs and is integrated with the CVPIA.

Populations of Selected Species for Sustainable Commercial and Recreational Harvest

ERP I 3.8-1

The decision to include striped bass as a species to maintain at a level suitable for sustained recreational harvest was made at the CALFED policy level. It is consistent with the goals of the CVPIA. Management and recovery of striped bass will be constrained by the needs of threatened or endangered species, which have the highest priority.

Introduction

ERP I 4.1-1

The comment suggests that ERP efforts to restore channel-forming flows are in conflict with flood control. The scouring effect, the establishment of meander zones, and the reintroduction of floodplains should improve flood management. The increased channel capacity derived from set-back levees should benefit flood management.

Central Valley Streamflows

ERP I 4.2-1

Please see common response 3.

ERP I 4.2-2

The ecosystem water program is intended to be a participant and beneficiary in new water developed by the CALFED Program.

ERP I 4.2-3

The commentor believes that "CALFED should implement a policy that in-stream uses of water are to receive priority in all water use determinations." This policy suggestion is outside CALFED's authority. Neither CALFED nor the implementation of the ERPP will be conducted as a regulatory program.

ERP I 4.2-4

The basic premise as to how in-stream flow improvements will benefit the ecosystem is presented in Volume 1, Section 4 in the ERPP. The proposed flows are identified by stream in Volume II. The process we intend to follow to reduce scientific uncertainty is described in Chapter 3 in the Strategic Plan.

ERP I 4.2-5

The ERP is focusing on flows and flow events that form and sustain habitats. These are not the very high flows that cause flood events or that occur at long intervals in time. Rather, we are seeking the benefits of flows that occur on regular intervals of 3-5 years. Together with the occasional flood, the reestablishment of these more common flow events should support ecological processes and functions.

ERP I 4.2-6

Please see common response 3.

ERP I 4.2-8

Please see common response 3.

ERP I 4.2-9

Please see common response 3.

ERP I 4.2-10

The sum of the targets for streamflow improvements on each of the streams tributary to the Delta is approximately 400,000 acre-feet annually. This water will be derived from a number of sources. In some cases, it will be purchased from willing sellers with storage in excess of their current annual or longer term needs. Permanent water rights will be purchased from willing sellers, or water rights will be leased for various periods of time. Groundwater exchange programs will be developed where seasonal needs exist and a safe yield can be developed with willing landowners or districts. Limited opportunities exist for conservation, which could augment in-stream flows, but these opportunities will be pursued. The ERP will share in the use of new supplies developed through off-stream and groundwater storage.

ERP I 4.2-11

The ERPP is a program plan. It is not intended to serve as the discussion on potential impacts. Please see response ERP 0.1 for a discussion of ERPP water use.

ERP I 4.2-13

The ERP will obtain water through a variety of programs, including conservation.

ERP I 4.2-15

We do assume that to the extent we can mimic natural flow patterns and volume, we will be able to rehabilitate the ecosystem. This is an area of focused research in Phase III of the Program.

ERP I 4.2-16

Section 1707 of the California Water Code provides for protection of an "environmental water right."

ERP I 4.2-17

State law determines the beneficial uses of water and the priorities for appropriation.

ERP I 4.2-18

This issue is presently before the SWRCB.

ERP I 4.2-19

This issue is a major focus of the ERP science program. It will be a topic of scientific research and adaptive management in Phase III of the CALFED Program.

ERP I 4.2-20

All additional water needed to meet the ERPP target flows will be developed or acquired. The water will not be obtained through regulatory processes, and it will be used to augment current regulatory flows. The ERP and EWA will be managed as a single program.

ERP I 4.2-21

Water developed or acquired for ecosystem restoration will be protected under Section 1707 of the Water Code. Unfortunately, state law does not provide for the appropriation of water for in-stream uses. CALFED will develop a specific program to implement its environmental water acquisition program and to coordinate with the CVPIA program.

ERP I 4.2-22

We have obtained the services of McBain and Trush to help us develop individual tributary stream restoration plans.

ERP I 4.2-23

We agree with the need for sound science. We have established a science board to help us in that area. Water will be purchased on the open market at fair market value. We do not see the ecosystem program as having an unfair advantage. Any future decisions on conveyance facilities will be made by the Governor and the Secretary of the Interior with the advice of the CALFED Policy Group. South San Francisco Bay has no physical or biological link to the ecosystem problems of the Delta.

ERP I 4.2-24

Additional flow needs targeted in the ERPP are estimated to be 400,000 acre-feet. All water for the ERP will be derived from new supplies, obtained by conservation, or purchased from willing sellers.

ERP I 4.2-25

The ERP has identified the need for approximately 400,000 acre-feet of water to augment Central Valley streamflows. That water will be derived from a number of possible sources. These include short-term and long-

term transfers, acquisitions of water rights, groundwater banking, and new surface storage. At the programmatic level of analysis, we cannot adequately compare costs. Because the water needs are tied to individual streams, we can only compare alternatives that meet the specified needs for a particular stream and, in some cases, seasonal needs on a particular stream. As we move into Phase III of the Program, we will assess needs and alternatives on a case-by-case basis.

ERP I 4.2-26

If a new entity is established by law to manage the ERP, it will hold the water rights acquired. If a new entity is not established, a CALFED agency, most likely the California Department of Fish and Game (DFG), will hold the rights.

ERP I 4.2-27

We removed the unsupported legal conclusion.

ERP I 4.2-28

The ERP has identified the need for about 400,000 acre-feet of streamflow augmentation. That water will be acquired from willing sellers or new supplies. The ERP has been funded through Proposition 204 and federal appropriations. Money to buy water has been budgeted.

ERP I 4.2-29

The authority to require storage releases for Delta outflow is vested with the SWRCB. The ERP environmental water acquisition program is working with willing sellers and developing new supplies to augment streamflows required under the various regulatory programs.

ERP I 4.2-30

We have described our flow targets at the programmatic level. When we conduct project-specific analysis, we will provide the requested detail.

Central Valley Stream Temperatures

ERP I 4.3-1

CALFED does not propose to dilute Colusa Basin flows to decrease temperatures. Nor do we propose diversion of the drain water to settling ponds. This warm water could be seasonally reused on locally grown agricultural crops. During the higher run-off periods, temperature is not a concern.

ERP I 4.3-2

We agree. We intend to do what we can to improve temperatures. We recognize that this may be the most difficult aspect of steelhead trout recovery.

ERP I 4.3-3

Our temperature targets are stated for streams where the appropriate investigation has been completed. In many cases, it will be impossible to attain appropriate temperatures below foothill dams. In these cases, we will investigate ways to move anadromous fish above the dams to cooler headwater reaches.

ERP I 4.3-4

A change has been made to Section 4.3 in Volume 1 of the ERPP.

ERP I 4.3-5

If additional water is needed below Don Pedro Reservoir, it will be obtained from new supplies or willing sellers.

Coarse Sediment Supply

ERP I 4.4-1

It is our intent to use the meander belt and floodplain elements of the ERPP to reduce flood damage. We will be working only with landowners who are willing sellers.

ERP I 4.4-2

We do not advocate the same approach to all coarse sediment problems. The solutions we craft will be site specific.

Stream Meander

ERP I 4.5-1

We understand the concern that meander of Butte Creek could affect existing infrastructure. We consider this infrastructure to be a constraint on ecosystem restoration. This is especially true of the Gary N. Brown Siphon which we helped to fund. Through CEQA and/or NEPA, we will conduct the necessary analysis to avoid or mitigate the impacts you are concerned about.

ERP I 4.5-2

We have convened a team of experts to evaluate and identify the flows needed to support the meander process. The Phase III evaluation will be used to condition diversions to off-stream storage.

ERP I 4.5-3

We agree with your concern. Any project that CALFED entertains will be thoroughly analyzed by qualified experts, disclosed in the appropriate environmental documents and will be subject to permit conditions of the appropriate regulatory agencies. The designation of liability would likely be included in the permits.

Natural Floodplains and Flood Processes

ERP I 4.6-1

The Levee System Integrity Program is restricted to the Delta and Suisun Marsh. Ecosystem restoration efforts will be closely coordinated in those areas within the CALFED Program. Levee rehabilitation along the Sacramento and Feather Rivers falls under the scope of the U.S. Army Corps of Engineers' (Corps') Comprehensive Study. The ERP will closely coordinate with the Corps on programs outside the Delta and Suisun Marsh. Levee risk or impact assessments will be included in site-specific environmental documents prepared for ecosystem restoration projects.

ERP I 4.6-2

CALFED recognizes that virtually all the proposed ERP actions along regulated rivers and designated floodways will require permits from several agencies, including the State Reclamation Board. We will apply for the necessary permits and will comply with imposed requirements. An analysis of increased roughness, cross section changes, and potential debris loads will necessarily be part of the required permit application and analysis.

ERP I 4.6-3

Increasing channel capacity through setting back levees and increasing the numbers and size of flood bypasses are proven means to manage floods. In any instance where CALFED might find an opportunity to restore a more natural flood process, the preservation and enhancement of public safety and property protection will be the paramount issue of concern. Maintenance responsibility will be established before any new levees are constructed.

ERP I 4.6-4

Prior to undertaking any action that might increase flood concerns, CALFED will consult with the U.S. Army Corps of Engineers (Corps) and the State Reclamation Board. We will either avoid or mitigate the identified impacts.

ERP I 4.6-5

Any new levees will be constructed to the standards of the Corps. All setback levee proposals will be carefully analyzed.

Bay-Delta Hydraulics

ERP I 4.7-1

The CALFED Water Management Strategy and, in particular, the EWA focus on Delta water project flexibility and management. We agree that there are times when taking less water will benefit the fishing and times when fishing protection is less sensitive.

Bay-Delta Aquatic Foodweb

ERP I 4.8-1

Two comments are made, one relating to the foodweb and one regarding invasive species. The ERP proposes to reinvigorate the foodweb process in the Delta by reducing exported nutrients through the EWA program and operational adjustments, and by a program of habitat rehabilitation.

CALFED is preparing a specific non-indigenous species program intended to provide guidance and specific projects for the control and management of invasive species.

Fresh Emergent Wetland

ERP I 5.7-1

The potential to increase organic carbon in drinking water supplies is a major point of concern in CALFED's environmental restoration and drinking water quality programs. It is not our intent to degrade water quality. We will avoid or mitigate impacts to drinking water.

Seasonal Wetlands

ERP I 5.8-1

We will consult with CALTRANS to avoid potential highway maintenance problems.

Agricultural Lands

ERP I 5.14-1

CALFED does acknowledge and support the role that small grain agriculture plays in support of waterfowl and other wildlife. Our wildlife-friendly agriculture program is intended to expand on successful public/private partnerships.

CALFED will work with the counties, and will document and mitigate potential impacts.

CALFED has as its first priority the use of existing public land for habitat restoration.

Chinook Salmon

ERP I 7.5-1

While we recognize that we cannot change some factors controlling salmon populations, we expect to achieve recovery through our proposed actions.

Steelhead Trout

ERP I 7.6-1

The ERP acknowledges and accepts the difficulties of steelhead trout restoration. We are exploring every option available to provide access to headwater reaches of Sacramento and San Joaquin Valley streams.

ERP I 7.6-2

Steelhead trout are a specific target species for the ERP and the MSCS. We fully accept the need to recover wild steelhead trout and we recognize the difficulty of doing so. Please refer to Volume 2 of the ERP for specific actions and targets for steelhead trout.

At-Risk Native Species (Priority Group II)

ERP I 8.0-1

Recovery plans have not been developed for all listed species. The fish and wildlife agencies are working to complete the plans.

Suisun Song Sparrow

ERP I 8.5-1

The San Pablo Bay song sparrow has been added.

Salt Marsh Harvest Mouse

ERP I 8.7-1

We concur.

Native Resident Fish Species

ERP I 10.1-1

We have made the addition.

Waterfowl

ERP I 10.4-1

We have made the addition.

Striped Bass

ERP I 11.1-1

The ERPP sets the same population goal established by policy of DFG. Our public health objective is to remove the body burden of toxicants and obviate the need for public health warnings.

ERP I 11.1-2

The ERPP identifies striped bass as an important harvested, introduced species. Maintenance of striped bass will not be given priority over native species. Striped bass will be managed under the existing biological opinion issued by NMFS for winter-run chinook salmon.

ERP I 11.1-3

The ERP focuses on restoration of species through habitat and ecological processes. We do not advocate hatcheries. Striped bass are targeted as an important harvested species.

Visions for Reducing or Eliminating Stressors

ERP I 12.0-1

Invasive species and harvest are identified as stressors in Volume 1 of the ERPP.

ERP I 12.0-2

Please refer to Volume 1 of the ERPP where we discuss introduced species and harvest as stressors on the population.

Water Diversions

ERP I 12.2-1

Diversions are a major stressor addressed by the ERPP. Screening and operational changes will be used to reduce the impacts of the two major diversions in the Delta.

ERP I 12.2-2

The screening of problem diversions and the provision of fish passage to upstream habitats are very important priorities in the ERPP. Please also see response ERP III 4.2-1.

ERP I 12.2-3

Water diversions in the Bay-Delta watershed directly and indirectly affect fish, aquatic organisms, salinity, sediments, streamflow, habitat, foodweb productivity, and species abundance and distribution.

ERP I 12.2-4

CALFED has experienced substantial success working with diverters to cooperatively remove and replace damaging diversions. The diverters consider this cooperative program to be a benefit they derive from the ERP, not a threat.

ERP I 12.2-5

All fish screens will be custom designed and monitored for effectiveness.

ERP I 12.2-6

We will.

ERP I 12.2-7

The major state and federal diversions are identified as substantial stressors on Delta-dependent fishes. CALFED proposes to screen those diversions and to modify their operation in order to reduce impacts.

Dams and Other Structures

ERP I 12.3-1

Please see common response 3.

ERP I 12.3-2

Please see common response 3.

ERP I 12.3-3

We agree. We have established a program to evaluate the feasibility of removing dams or the provision of alternative access to upstream areas.

ERP I 12.3-4

Please see common response 3.

Gravel Mining

ERP I 12.6-1

The ERPP does identify gravel mining in levee stream channels as an ecosystem stressor. Although regulated, this extraction does remove coarse sediment from the ecosystem. This coarse sediment is an essential building block of habitats.

Invasive Aquatic Plants

ERP I 12.7-1

The ERPP identifies invasive species as a stressor and is developing a focused program to manage these problems.

Invasive Aquatic Organisms

ERP I 12.8-1

Please see response ERP I 4.8-1.

ERP I 12.8-2

Excessive predation is a factor evaluated under the invasive species stressor in Volume 1 of the ERPP. Temperatures are also identified as a stressor.

Predation and Competition

ERP I 12.12-1

Seals and sea lions do appear to be increasing in numbers, and they may be an important predator of salmon. Society has placed protections on these animals, and their numbers cannot be controlled artificially.

Contaminants

ERP I 12.13-1

We agree with both points raised. We intend to fund studies in order to define cause and effect. We will not use a regulatory approach to solve identified problems.

Fish and Wildlife Harvest

ERP I 12.14-1

The efforts of harvest as a stress on salmon populations is discussed in Chapter 12, Section 14 in Volume 1 of the ERPP.

ERP I 12.14-2

We acknowledge the role that adverse ocean conditions play in the life history of salmon. Commercial salmon fisheries are highly regulated, and those regulations are adjusted annually. CALFED agencies will provide their input into that regulation-setting process with a goal of assisting in achieving CALFED's objectives.

Artificial Fish Propagation

ERP I 12.15-1

The ERPP does not rely on hatchery production to meet its goals.

ERP I 12.15-2

CALFED will conduct a comprehensive review of hatchery practices.

Volume II: Ecological Management Zone Visions

General Responses

ERP II 0-1

Where CALFED has proposed specific habitat restoration targets, those targets are identified as necessary to achieve ecological health. If those targets are partially or completely implemented by programs other than CALFED, they will satisfy the CALFED objective. Where a local habitat conservation plan achieves restoration beyond that required for mitigation and actually improves the ecological health baseline above current levels, it will be counted as progress toward the CALFED targets and objectives.

ERP II 0-2

Volume 2 of the ERPP discusses the examples you cite where the aggregate industry is helping to restore environmental values.

ERP II 0-3

In Volume 2 of the ERPP, we identify streamflow targets for all of the rivers and streams tributary to the Delta. Our estimate is that approximately 400,000 acre-feet of water will be required to achieve these targets. We further state that the water will be obtained from willing sellers or from conservation or new developed sources.

ERP II 0-4

The ERPP targets and actions are programmatic. The degree of scientific uncertainty is identified. The actions and targets are subject to revision.

ERP II 0-5

The targets and actions are programmatic and subject to change.

ERP II 0-6

CALFED appreciates National Heritage Institute's (NHI's) input regarding the need to expand the ERP targets. NHI's October 1998 report, An Environmentally Optimal Alternative for the Bay-Delta, provided CALFED and others with important input to the process and will be considered carefully during site-specific planning. The targets currently in the ERPP can be biologically justified. However, CALFED also recognizes that once implementation begins, adaptive management may guide us to modify those targets. If the targets are expanded, the impacts of that expansion will require supplemental environmental documentation. CALFED also appreciates NHI's recommendation to develop a program of incentives that makes it attractive to landowners to initiate restoration programs. We expect that this tool will be used effectively to implement the ERPP.

ERP II 0-7

The targets and actions are programmatic and subject to revision.

ERP II 0-8

The programmatic targets are often identified as ranges and are all subject to revision in the more detailed analysis to be conducted in Phase III of the Program.

ERP II 0-9

The ERPP does encompass the CVPIA and other restoration programs. The Land Retirement Program in the CVPIA is in response to drainage problems, not ecosystem deficiencies manifest in the Delta. Where there are different objectives between the ERPP and other restoration programs, there are often different targets.

ERP II 0-10

We have prepared a specific analysis of the habitat targets for the ERPP and the MSCS. Please see response ERP 0.2-1.

ERP II 0-11

The ERP and Watershed Program involve all watersheds tributary to the Delta.

ERP II 0-12

The mitigation suggested would represent a substantial shift in the state's tax-sharing policy and would require legislation. CALFED is participating in high-level policy discussions in an effort to resolve this concern.

ERP II 0-13

It may not be possible for us to provide for adequate flow and temperature needed to sustain natural spawning steelhead trout in the foothill regions of Central Valley streams below the major dams. An essential element in the recovery of steelhead trout is access to headwater reaches of the streams. We intend to evaluate all feasible means to provide access to these headwater reaches.

ERP II 0-14

Please refer to the Stage 1 actions proposed in the Strategic Plan. The adaptive management process calls for continuous monitoring, evaluation of conceptual models, and analysis of alternatives.

ERP II 0-15

The Watershed Program has always been focused on planning and local facilitation. The ERP is focused on restoration of habitats.

ERP II 0-16

The ERP has not been adopted as a recovery plan by the fish and wildlife agencies. The intent or goal of the ERP is to achieve restoration of sustained, high levels of populations of species currently in danger. Our goals are beyond the level needed for de-listing under the ESA.

ERP II 0-17

The Phase II Report is a summary document and does not lend itself to the detailed specifics in the ERPP. The commitments to goals, objectives, and targets relative to ecosystem restoration are contained in the ERPP.

Ecosystem Restoration Program Plan

ERP II 1.0-1

The introduction to Volume II describes the scientific process we intend to follow. Later in Volume II, you will note our proposals for over 600 actions.

Thank you for your comment.

Geographic Scope

ERP II 1.5-1

We have no scientific data that would suggest that expansion of our solution area to include all of San Francisco Bay will help to reduce conflicts manifest in the Delta. We will continue to find projects that result in improved quality and quantity of ecological impacts to San Francisco Bay.

Terms Used in the ERPP

ERP II 1.8-1

Where scientific uncertainty exists, our targets are followed by either one or two diamonds. We are committed to pursue additional research and evaluation of demonstration projects for those targets with the greatest level of uncertainty and to pursue staged implementation for targets with moderate levels of uncertainty.

Sacramento-San Joaquin Delta Ecological Management Zone

ERP II 4.0-1

Proposals to restore striped bass populations are presented in Volume 2 of the ERPP in the section titled "Sacramento-San Joaquin Delta Ecological Management Zone."

ERP II 4.0-2

The NHI offers no suggestion as to how to improve the targets they criticize.

ERP II 4.0-3

The major habitat changes associated with levee construction in the Delta occurred prior to 1906. We used that date because it offered the earliest documented data point.

ERP II 4.0-4

While our use of a reference period may seem arbitrary and unscientific, using costs and opportunity as the sole basis for setting habitat targets seems unsupportable.

Description of the Management Zone

ERP II 4.2-1

The comment suggests that the only way Delta outflow can be increased is by reducing use upstream. While this is somewhat correct, it does not take into account the time value of water. Conserved floodflows can be redirected to critical time periods without a net reduction in consumptive use upstream of the Delta.

ERP II 4.2-2

Third-party impacts are a universal issue of concern with water transfers. All transfers proposed will be analyzed for third-party impacts, and appropriate mitigation will be implemented.

ERP II 4.2-3

We agree. Out intent is to provide access to historical spawning areas wherever possible. Please also see response ERP III 4.2-1.

ERP II 4.2-4

CALFED is working with the Regional Water Quality Control Board to set the appropriate standards and to obtain the necessary permits to reuse dredged material.

Vision for the Ecological Management Zone

ERP II 4.4-1

The ERPP is a comprehensive program that addresses both the stress from water project operations and the loss of habitat from agricultural conversion, dredging, and erosion.

Visions for Ecological Management Units

ERP II 4.5-1

We concur. Before we implement any habitat restoration that could cause a negative impact on the floodflow capacity of the Yolo Bypass, we will conduct the necessary analysis, develop appropriate mitigation, and obtain the necessary permits.

ERP II 4.5-2

We concur.

ERP II 4.5-3

A small gated connection to bring fresher water into this portion of the Delta is substantially different than a Hood diversion to an isolated facility. Any further development of this concept would involve a thorough analysis and the appropriate environmental documentation.

ERP II 4.5-4

We concur.

ERP II 4.5-5

We concur.

ERP II 4.5-6

CALFED is working with the Delta Protection Commission. CALFED has no land use authority.

ERP II 4.5-7

We agree. We have corrected our oversight.

ERP II 4.5-8

We concur. We have a draft of this type of agreement in the MSCS.

ERP II 4.5-9

We made the addition. We have no control over the conversion of one crop to another.

Visions for Ecological Processes

ERP II 4.6-1

The discussion of streamflows and processes is not prioritized. Streamflow restoration is included in the ERPP's highest priority for the restoration of ecological processes.

ERP II 4.6-2

No priority is intended in a listing of targets or programmatic actions.

ERP II 4.6-3

We have improved our definitions and descriptions of habitat types.

ERP II 4.6-4

Frank's Tract is relatively shallow and is located in an area where nearly all land surfaces are deeply subsided. It also offers opportunities to generate water quality benefits by reducing tidal incursion.

ERP II 4.6-5

We concur. We have initiated the studies.

ERP II 4.6-6

Our objective is to rely less on habitat on the waterside of levees and more on berms attached to the waterside of the levees. This will reduce the conflict with maintenance and could contribute to levee stability.

ERP II 4.6-7

Thank you.

ERP II 4.6-8

No priority should be inferred from the listing of targets and actions. Water hyacinth control is underway.

ERP II 4.6-9

We concur. Our non-native invasive species strategic plan includes this element.

ERP II 4.6-10

We concur. They have been removed.

ERP II 4.6-11

We will consider funding increased boat speed limit enforcement.

Visions for Habitats

ERP II 4.7-1

The comment expresses a preference for voluntary habitat restoration on agricultural lands. Our target to "cooperatively manage 40,000-75,000 acres of agricultural lands" in the Delta is entirely voluntary and is incentive based. We will pay landowners for foregone value or inconvenience.

ERP II 4.7-2

The restoration of water-covered areas in the Delta, such as Franks's Tract, Big Break, and additional smaller areas, is an important element of habitat restoration in the Delta. These types of projects are very difficult, very costly, and require considerable analysis. They are also difficult to permit. We have initiated the early stages of planning for restoration of flooded areas in the Delta.

ERP II 4.7-3

The target for cooperatively managed agricultural land in the Delta is 40,000-75,000 acres. In all cases, this will be done under a management plan developed with the landowner, and the landowner will be compensated. Private lands currently managed for wildlife or fisheries benefits will also be eligible for the Program.

The ERP will address stressors directly and not through regulatory programs. CALFED has no regulatory authority. We expect that the implementation of the ERP will make it possible or easier to obtain permits under existing regulation in the future.

ERP II 4.7-4

All of our habitat restoration is based on the voluntary and compensated participation of landowners.

ERP II 4.7-5

We are using this map, which identifies public land and private land that can be converted to habitat, in order to guide our Stage 1 actions.

ERP II 4.7-6

We agree. Widening channels is one option to developing shallow-water habitat discussed in the ERPP.

ERP II 4.7-7

We do not intend to fill Frank's Tract. Rather, our objective is to develop a mosaic of habitats that serve the needs of several Delta-dependent fishes.

ERP II 4.7-8

CALFED targets include both tidal and seasonal wetlands. No conversion of existing seasonal wetlands will occur without appropriate mitigation.

ERP II 4.7-9

The role of shallow-water habitat is a critical scientific uncertainty. It will be the focus of peer-reviewed research by CALFED.

Visions for Reducing or Eliminating Stressors

ERP II 4.8-1

We acknowledge the physical and potential legal difficulties of consolidating diversions in the Delta. We would undertake such an effort only if the biological benefits warrant doing so.

ERP II 4.8-2

We have funded new studies to address the uncertain needs or benefits of screening smaller diversions in the Delta.

ERP II 4.8-3

The level of salinity management in the 1960s was selected as appropriate in the recovery plan for Delta native fishes by the U.S. Fish and Wildlife Service (USFWS).

ERP II 4.8-4

Both issues are of concern.

Visions for Species

ERP II 4.9-1

We include striped bass as a valuable species. We target flows for striped bass spawning and downstream migration. The EWA will take striped bass into consideration as a target species.

Restoration Targets and Programmatic Actions

ERP II 4.12-1

CALFED has adopted a policy that is intended to reduce the need to convert economically productive Delta agricultural land to habitat. CALFED will focus first on public land, next on easements, and last on private lands acquired from willing sellers. Restoration of submerged land and the recreation of channel islands and attached berms will also be considered. Through this combination approach, we expect to achieve most, if not all, of our objectives. Appropriate avoidance or mitigation will be implemented.

ERP II 4.12-2

Targets for increased Delta outflow are included in Volume 2 (page 83 in the June 1999 ERPP). Our recommendations for habitat restoration in the Suisun Marsh also are included in Volume 2 (page 135 in the June 1999 ERPP).

ERP II 4.12-3

CALFED is following the recommendations in the "Ad Hoc" memo. Our priority continues to focus on the habitat enhancement of publically owned lands. Where we have funded the purchase of private lands, it has been

at the request of the landowner and with a clear demonstration of economic hardship. Both McCormack-Williamson Tract and Liberty Island have a history of frequent flooding and levee failure.

ERP II 4.12-4

The feasibility of restoring shallow, tidally influenced habitat in the central and western Delta is substantially limited by the high degree of subsidence. This fact and lack of certainty as to how to reverse subsidence are constraints that affect our habitat targets. If evaluations currently in progress successfully demonstrate a means to raise the elevation of heavily subsided islands in the central and western Delta such as Sherman Island, it could become a location for restoration of various tidal aquatic habitats.

ERP II 4.12-5

The ERPP's focus on fish screens in the Delta is associated with the larger diversions. We are conducting an analysis to evaluate the need and feasibility of screening the smaller agricultural diversions and a process for prioritizing those diversions for screen installation.

ERP II 4.12-6

We concur. We have funded extensive research into the mercury concern. We will have all material proposed for habitat or levee construction tested.

ERP II 4.12-7

We have committed to minimal conversion; each project will be designed to avoid neighboring impacts, or mitigation will be provided.

ERP II 4.12-8

The additional acreage is associated with "wildlife-friendly" agricultural lands. Targets are subject to reevaluation based on adaptive management and site-specific environmental documentation.

Suisun Marsh/North San Francisco Bay Ecological Management Zone

ERP II 5.0-1

Many existing programs focus on the ecological restoration of San Francisco Bay. The Comprehensive Conservation and Management Plan (CCMP) is the most comprehensive. CALFED has focused its planning effort on the area upstream of the central Bay and specifically on improving the quality and quantity of ecological inputs to the Bay. Our focus is appropriate and will complement efforts under the CCMP.

ERP II 5.0-2

We recognize the role of Bay wetlands in the ecosystem and have targeted their restoration; we will continue to fund acquisition and restoration.

Description of the Management Zone

ERP II 5.2-1

We have made the correction.

ERP II 5.2

Descriptions of Ecological Management Units

ERP II 5.3-1

We agree that a broad range of salinities is involved and that seasonal differences exist. Our use of a broad range of salinities does not connote low priority.

Visions for Ecological Management Units

ERP II 5.5-1

Our vision includes the statement "...consideration for maintaining the natural hydrologic regime and salinity levels of the slough and marsh." This will incorporate seasonal variation.

ERP II 5.5-2

Target 1A, under water diversions, includes power plants and refineries.

ERP II 5.5-3

Our focus is on the tidal reaches. The Watershed Program will deal with restoration at higher elevations.

Visions for Habitats

ERP II 5.7-1

The ERP flows and the EWA flows and management will result in increased Delta outflow. Fisheries habitat will be increased through the development of tidal wetlands in the Suisun Marsh. Operation of the tidal gates in the Suisun Bay can be modified to protect fisheries habitat.

Visions for Reducing or Eliminating Stressors

ERP II 5.8-1

We concur. Please refer to the targets and actions for specific proposals.

Visions for Species

ERP II 5.9-1

We have made the additions.

Integration with Other Restoration Programs

ERP II 5.10-1

These related programs are in Section 5.10 in Volume II (page 132 in the June 1999 ERPP).

Restoration Targets and Programmatic Actions

ERP II 5.12-1

The ERPP does identify the ecological need to return tidal action to some former tidal wetlands in the Suisun Bay area. As these targets are implemented, they will involve only willing sellers and will be coordinated with levee rehabilitation and management of the Suisun Marsh.

ERP II 5.12-2

If our targets are found to be inadequate, we will revise them through the adaptive management process.

ERP II 5.12-3

The North American Waterfowl Habitat Plan and the San Francisco Bay Area Wetlands Goals Projects are the appropriate documents to find seasonal wetlands goals for San Pablo Bay.

ERP II 5.12-4

We propose actions to more closely evaluate natural seasonal inflow. The restoration of tidal wetlands and other habitats around Suisun and San Pablo Bays, and the restoration of natural processes and habitats upstream of the Bay will contribute substantially to the restoration of foodweb processes.

ERP II 5.12-5

We apologize. We have clarified this section.

ERP II 5.12-6

We recognize the many activities that are ongoing. Our targets are correct for our purposes. They could be modified through adaptive management.

Sacramento River Ecological Management Zone

ERP II 6.0-1

The CALFED proposal to allow the Sacramento River to meander was taken from the citizen and landowner process that developed the Sacramento River Conservation Area Handbook. We are specifically following the recommendation developed in that collaborative process.

We will try to address concerns over loss of local taxes through the use of easements and the payment of in-lieu taxes.

We will evaluate the potential for increased flood risk to pockets of agricultural land and will undertake appropriate mitigation.

All proposed projects will include site-specific evaluations. Existing "hard points" such as the bridges you mention will remain protected. We agree that future redesign and reconstruction of bridges and other facilities should include bypasses and other flood relief measures. If appropriate, we will participate in the funding of alternatives.

Description of the Management Zone

ERP II 6.2-1

We have made the addition.

ERP II 6.2-2

The gravel mining operations of these creeks are regulated. They do not contribute to significant spawning areas.

Vision for the Ecological Management Zone

ERP II 6.4-1

We have integrated the SB 1086 program into our vision for meander of the Sacramento River. This integration includes the "hard points" policy objective.

Visions for Ecological Management Units

ERP II 6.5-1

We have commissioned a team of experts to develop the appropriate level of science.

Visions for Ecological Processes

ERP II 6.6-1

We concur. We have started those studies and will followup any actions to refine our conceptual models.

Visions for Reducing or Eliminating Stressors

ERP II 6.8-1

Please see response ERP II 6.8-2 below.

ERP II 6.8-2

The statement on page 164 in Volume II of the June 1999 ERPP reads as follows: "Significant progress has been made in screening the larger diversions, but screens are needed on the remaining unscreened largest, many medium-sized, and small diversions." We will look into the projects you suggest.

Visions for Species

ERP II 6.9-1

The addition was made.

Integration with Other Restoration Programs

ERP II 6.10-1

The efforts of the ERP are focused on ecosystem restoration. Other CALFED programs deal with flood management and water supply. These and parallel programs of the Corps will be used to obtain a balance of benefits.

Restoration Targets and Programmatic Actions

ERP II 6.12-1

This is an area of scientific uncertainty that we will study. Spring and summer flows are considered most important for riparian recruitment.

North Sacramento Valley Ecological Management Zone

ERP II 7.0-1

We are not clear as to which streams are associated with this comment. Out intent is to evaluate completely the potential of each tributary. Historically, not all streams provided for all freshwater life cycle needs of salmon. Many of the ephemeral streams supported only short-term rearing. Some of the smallest tributaries to the Sacramento River may not have contributed at all to the salmon life cycle.

Description of the Management Zone

ERP II 7.2-1

We have commissioned a group of scientific experts to begin dealing with this area of uncertainty. This work will be peer reviewed, discussed in a public process, and added to as necessary.

ERP II 7.2-2

Phasing, monitoring, and the adaptive management process are discussed in the Strategic Plan.

Descriptions of Ecological Management Units

ERP II 7.3-1

Thank you for the updated information.

Visions for Ecological Management Units

ERP II 7.5-1

Coleman Hatchery will be part of our overall hatchery practice review.

ERP II 7.5-2

Winter run do not currently use Battle Creek. We are evaluating several important genetic and scientific issues before we recommend their introduction.

ERP II 7.5-3

We concur.

ERP II 7.5-4

Our restoration efforts look at all of Battle Creek.

ERP II 7.5-5

This will be a focus of any water we purchase and will be factored into riparian zone protections.

Visions for Reducing or Eliminating Stressors

ERP II 7.8-1

If a poaching or harassment problem develops, we will request increased enforcement by DFG.

ERP II 7.8-2

We agree that habitat fragmentation is a stressor. Conservation easements or acquisition in fee are the tools available to CALFED to reduce this stressor.

Visions for Species

ERP II 7.9-1

Scientific questions regarding genetics and disease must be answered prior to introducing (or reintroducing) winter run to Battle Creek.

Integration with Other Restoration Programs

ERP II 7.10-1

We have added them to the integration section.

Restoration Targets and Programmatic Actions

ERP II 7.12-1

In Volume 2 of the ERPP in the "North Sacramento Valley Ecological Management Zone" section, we present Programmatic Action 4A, which deals with the potential removal of the McCormick-Saeltzer Dam.

ERP II 7.12-2

We are aware of this fact.

ERP II 7.12-3

We are aware of this.

ERP II 7.12-4

We agree. We will try to acquire water rights to protect and augment flows in Battle Creek.

ERP II 7.12-5

We concur and have added a target.

ERP II 7.12-6

We concur and have made the addition.

Visions for Ecological Processes

ERP II 8.5-1

We agree with the objective. However, the aggregate extraction that occurs on lower Cottonwood Creek is permitted and regulated. We are considering a voluntary and compensated relocation of these operations to areas outside the live stream channel.

ERP II 8.5-2

We agree. This specification is in the existing permits.

Colusa Basin Ecological Management Zone

ERP II 9.0-1

We concur. Our objective is to exclude anadromous fish and reduce temperature impacts.

ERP II 9.0-2

We concur. But we cannot rely on fish screens alone to restore ecological health.

ERP II 9.0-3

CALFED has considered, on a programmatic basis, the opportunity to augment flows on the westside tributary streams through exchange. Considerable Phase III analysis will need to proceed before an extension is formally proposed.

Description of the Management Zone

ERP II 9.2-1

While we agree that large stands of valley oak trees are rare and should be protected, their loss does not present an ecological impact manifest in the Delta.

Visions for Habitats

ERP II 9.7-1

We concur and have made the addition.

Visions for Species

ERP II 9.9-1

We expect the tri-colored blackbird and the white-faced ibis to benefit from our proposed actions. Chinook salmon are not included in the vision for the Colusa Basin Ecological Zone. Historically, Thomes, Elder, and Stoney Creeks sporadically supported spawning chinook salmon when rainfall and streamflow patterns allowed upstream migration. Under ideal flow conditions, these streams can still support fall-run chinook. The approach presented in the ERPP includes efforts to resolve uncertainties and problems arising from the ecological dysfunction of streamflow, coarse sediments, and floodplains. These processes need to be improved prior to developing or recommending actions to restore fall-run chinook salmon, which at this time is not warranted.

Butte Basin Ecological Management Zone

ERP 11 10.0-1

This comment encompasses numerous issues and represents highly specific local knowledge of the Butte Creek watershed. In general, the programmatic actions presented in Volume 2 of the ERPP are not at the site-specific level of detail commensurate with the level of detail provided in this comment. Some of the major issues discussed in the comment include the following ecological elements described in Volume 1 of the ERPP: dams and other structures, water diversion, streamflows, water temperatures, predation and competition, spring-run chinook salmon, riparian and riverine aquatic habitat, artificial propagation of fish, and contaminants. These are addressed in the Volume II section "Butte Basin Ecological Management Zone - Butte Creek Ecological Management Unit."

The ERPP vision for the Butte Creek Ecological Management Unit is restoring spring-run chinook salmon and steelhead populations by improving fish passage, increasing and improving streamflow, consolidating and screening diversions, and protecting and restoring the riparian corridor.

The ERPP flow targets for Butte Creek are to (1) increase flow; and (2) develop and implement comprehensive watershed management programs to protect water quality, increase summer base flows, and protect and restore other resources such as riparian vegetation.

The ERPP coarse sediment target for Butte Creek is to improve spawning gravel and gravel availability.

The ERPP target for stream meander and floodplains is to preserve and restore the 50- to 100-year floodplain along the lower reaches of streams in the Butte Basin Ecological Management Zone, and to construct setback levees to reactivate channel meander in areas presently confined by levees.

The ERPP target for riparian and riverine aquatic habitat is to develop a cooperative program to restore and maintain riparian habitat along Butte Creek.

The ERPP target for freshwater and essential fish habitat is to maintain and improve existing freshwater and essential fish habitat through the integration of actions described for ecological processes, habitats, and stressor reduction and elimination.

The ERPP target for water diversions is to improve the survival of chinook salmon and steelhead in Butte Creek by helping to install positive-barrier fish screens.

The ERPP target for dams and other structures is to develop a cooperative program to improve the upstream passage of adult spring-run chinook salmon and steelhead in Butte Creek in order to allow access to 100% of the habitat below the Centerville Head Dam.

The ERPP target for the harvest of fish and wildlife is to develop harvest management strategies that allow the wild, naturally produced fish spawning populations to attain a level that fully uses existing and restored habitat.

The ERPP target for the artificial propagation of fish is to minimize the likelihood that hatchery-reared salmon and steelhead will stray into non-natal streams in order to protect naturally produced salmon and steelhead.

Cumulatively, these targets establish the scope of effort to be pursued in the Butte Creek Basin and mirror the concerns expressed in the comment. The implementation program will be driven by adaptive management, and

actions will be refined or redefined prior to implementation based on peer review and best available scientific information. The complexity of ecosystem restoration in Butte Creek and elsewhere also requires the further refinement or development of a local implementation plan.

Introduction

ERP II 10.1-1

Many anadromous and migratory species dependent on the Delta occupy the Butte Basin for part of their life cycle. The Butte Basin is a source of Delta inflow.

Visions for Ecological Processes

ERP II 10.6-1

We acknowledge the role that agriculture plays as a substitute for natural habitat. Our "wildlife-friendly" incentive program intends to increase those benefits.

Visions for Habitats

ERP II 10.7-1

We have made the addition.

ERP II 10.7-2

We have added greater sandhill crane. The tri-colored blackbird is an MSCS-evaluated species that is not included in the ERPP.

Visions for Species

ERP II 10.9-1

We have added greater sandhill crane. The tri-colored blackbird is not addressed in the ERPP.

Linkage to Other Ecological Management Zones

ERP II 10.11-1

Section 10.11 in Volume 2 of the ERPP discusses this linkage. The principal species of concern is the spring-run race of chinook salmon.

Feather River/Sutter Basin Ecological Management Zone

ERP II 11.0-1

Please refer to Volume 2 of the ERPP, "Feather River/Sutter Basin Ecological Management Zone," for specifics on our plan to restore the Yuba River. The San Joaquin River is discussed under the title "San Joaquin River Ecological Management Zone."

Visions for Ecological Management Units

ERP II 11.5-1

We have corrected the oversight.

Visions for Ecological Processes

ERP II 11.6-1

It is true that our vision is to restore ecological process to the extent we can. We fully recognize the constraints associated with existing intense urban and agricultural development.

ERP II 11.6-2

We concur. As we implement our actions, we will endeavor to assure variability and to protect against unnatural rapid rates of flow change.

Visions for Reducing or Eliminating Stressors

ERP II 11.8-1

We have initiated a comprehensive effort to look at the range of alternatives available to meet our objectives.

Visions for Species

ERP II 11.9-1

We have added giant garter snake. The white-faced ibis is an MSCS-evaluated species that is not included in the ERPP.

Visions for Reducing or Eliminating Stressors

ERP II 12.8-1

The comment requests prioritizing the studies necessary to evaluate alternative means of improving anadromous fish passage on the Yuba River. CALFED has established an intensive program to identify and conduct the needed studies.

ERP II 12.8-2

Our objective on the Yuba River is providing a means that would allow salmon and steelhead trout to utilize habitat above Englebright Dam. This action would mitigate some of the impacts caused by the construction of Englebright Dam. Any project developed to accomplish this objective will be analyzed in a project-specific environmental document.

Restoration Targets and Programmatic Actions

ERP II 12.12-1

The comments suggest that we construct a fish ladder at Folsom Dam. Experts have advised us that it is infeasible to build fish ladders at Nimbus and Folsom Dams. We are evaluating other ways to reintroduce anadromous fish above Folsom Dam.

ERP II 12.12-2

While CALFED itself is not a regulatory agency, our proposed flow targets for the American River will fulfill the intent of Fish and Game Code 5937, which used the "good condition" criteria for in-stream flows.

ERP II 12.12-3

We concur, except we would characterize the benefit to juvenile salmon as immigration flows rather than "attraction for downstream migration."

Yolo Basin Ecological Management Zone

ERP II 13.0-1

Thank you. We appreciate your positive comment.

Vision for the Ecological Management Zone

ERP II 13.4

CALFED does not look upon its proposals as interference but rather as an opportunity to provide for all the needs and benefits of these streams. We have committed to regional planning and implementation.

Visions for Ecological Management Units

ERP II 13.5-1

The MSCS outlines the means to provide the appropriate assurances.

ERP II 13.5-2

We recognize the magnitude and serious nature of mercury contamination. CALFED has funded over $3 million in mercury studies to date. We will continue to evaluate opportunities to remediate this problem.

ERP II 13.5-3

We concur.

ERP II 13.5-4

We concur.

ERP II 13.5-5

Flows in Putah Creek are very slow when compared to an unimproved condition. The numbers of fish, by species are very low in Lower Putah Creek. The ERP staff agree that the condition of Lower Putah Creek is inadequate to provide for the long-term needs of a vigorous population of native fishes. The ERP is not taking water from existing users. Rather, flow augmentation will be acquired from willing sellers or new supplies. Please refer to the MSCS for a discussion of our "good neighbor" policy proposal.

Visions for Ecological Processes

ERP II 13.6-1

Please refer to the "Restoration Targets and Programmatic Actions" section.

Visions for Habitats

ERP II 13.7-1

We concur and have made the addition.

Integration with Other Restoration Programs

ERP II 13.10-1

The North Delta NWR will accomplish most, if not all, of the ERPP habitat targets for the Yolo Bypass. The North Delta NWR is independent of CALFED. If CALFED were to stop today, USFWS would proceed with the North Delta NWR. While the refuge is independent of CALFED, it is not "in addition" to CALFED; USFWS and the ERP have worked together, and expect to continue working together, to plan and implement habitat protection and restoration in the north Delta. CALFED has funded acquisition of land in the North Delta that is expected to become part of the refuge, once established, where it will be managed to meet CALFED's goals. This is one of many ecosystem restoration projects funded by CALFED prior to the completion of the Programmatic EIS/EIR. USFWS is going through the required environmental documentation process for establishment of a new national wildlife refuge unit, which will be completed before the ROD.

Restoration Targets and Programmatic Actions

ERP II 13.12-1

Our targets for the restoration of floodplain and flood processes on Cache Creek contain the specific caveat "...consistent with flood control requirements." One of our important objectives is to establish and maintain a healthy riparian zone along Cache Creek. This will help to prevent erosion.

ERP II 13.12-2

We are aware of the mercury contamination from several abandoned mines around Clear Lake. We are funding research into the impacts and remediation of this pollutant source.

ERP II 13.12-3

Our discussion on Cache Creek covers a full range of problems and potential solutions. We place high priority on the resolution of mercury contamination problems as the first step in restoration of Cache Creek.

ERP II 13.12-4

We appreciate the endorsement.

ERP II 13.12-5

Coarse sediment supply or gravel is addressed in the "Restoration Targets and Programmatic Actions" section.

ERP II 13.12-6

Our use of diamonds (one, two, or three) is not intended to connote priority but rather the degree of certainty that a benefit will accrue. We agree on the need for more studies on the cost effectiveness of small screens. We have initiated that study.

ERP II 13.12-7

Thank you.

Eastside Delta Tributaries Ecological Management Zone

ERP II 14.0-1

Thank you.

ERP II 14.0-2

Thank you.

Descriptions of Ecological Management Units

ERP II 14.3-1

The value of 11,288 fall-run chinook salmon in the Mokelumne River represents the 1983 in-river run size. The total return including hatchery and natural spawners is 15,861.

ERP II 14.3-2

Plots of salmon abundance are being updated to include recent escapements.

ERP II 14.3-3

The term "FERC Settlement Agreement" has been changed to "Joint Settlement Agreement."

ERP II 14.3-4

The sentence on armoring has been revised as follows:

> "Also, the stream channel has become armored in a few places, but the presence of salmon redds in the same locations year after year suggests that armoring is a minor problem."

ERP II 14.3-5

We have incorporated the additional information.

ERP II 14.3-6

We have incorporated the more recent information.

ERP II 14.3-7

We have improved the discussion.

ERP II 14.3-8

We think there are 3.6 miles.

ERP II 14.3-9

We have made the addition.

Vision for the Ecological Management Zone

ERP II 14.4-1

There is not scientific documentation that natural spawning steelhead exist or existed in the Calaveras River. Salmon do use this river very infrequently.

Visions for Ecological Management Units

ERP II 14.5-1

The sentence regarding steelhead migration has been revised as follows:

> "Higher and more natural flows will help steelhead move upstream during the late fall and early winter."

ERP II 14.5-2

We concur and have made the addition.

ERP II 14.5-3

CALFED has placed considerable emphasis and resources on restoration of the Cosumnes River. However, we believe that the river has not historically supported large numbers of chinook salmon and is not likely to in the future.

ERP II 14.5-4

We will encourage and support the Corps evaluation. Bypasses are considered an ecologically superior alternative to levees.

Visions for Ecological Processes

ERP II 14.6-1

We have augmented the text.

ERP II 14.6-2

The role and sources of organic material are discussed in Volume 1 of the ERPP.

Visions for Habitats

ERP II 14.7-1

We unintentionally deleted the Butte Sink.

Visions for Reducing or Eliminating Stressors

ERP II 14.8-1

We have expanded the discussion.

ERP II 14.8-2

Habitat conversion is a universal concern. CALFED has no authority to regulate land use. Our approach is to rely on the use of easements or fee purchase to try to reduce the impact.

Visions for Species

ERP II 14.9-1

Recent records of steelhead in the Tuolumne River are only one factor we considered. Steelhead habitat was available prior to the construction of dams. Our intent is to further evaluate the potential for restoration.

ERP II 14.9-2

We have made the appropriate additions.

Integration with Other Restoration Programs

ERP II 14.10-1

We have updated this statement.

Restoration Targets and Programmatic Actions

ERP II 14.12-1

Our specific programmatic actions for flow on the Calaveras River all include the cooperative development of new water supplies, the use of water transfers, and the acquisition of water from willing sellers. We do not conclude that this will devastate the economy of San Joaquin County as you allege.

ERP II 14.12-2

If new supplies or willing sellers cannot be found, CALFED will need to reevaluate its objectives for the Calaveras River.

ERP II 14.12-3

The sentence regarding the 1996 POA has been revised as follows:

> "A Joint Settlement Agreement was signed in 1998 by EBMUD, DFG, and USFWS that provides improved fish flows for the Mokelumne River, higher minimum flows below Camanche Dam, and gain sharing of additional flows between EBMUD and the environment."

ERP II 14.12-4

The sentence regarding additional gravel injection sites has been revised as follows:

> "Lower gravel enhancement sites were established between Highway 88 at Mackville Road on the lower Mokelumne River in 1997 and 1998." These sites are approximately 5 miles below Camanche Dam.

ERP II 14.12-5

The ERPP relies on willing sellers and a comprehensive program to develop new supplies for fisheries restoration.

ERP II 14.12-6

This response has been consolidated with response ERP II 16.12-14. Please refer to that response for the answer to your comment.

ERP II 14.12-7

On the Cosumnes River, there appears to be little opportunity to develop new water supplies. This is because of the declining groundwater table. However, groundwater recharge basins could replenish the table and allow for some exchange of groundwater for streamflow. The development of a model will be considered. Target 4 refers to the Mokelumne River.

ERP II 14.12-8

We are targeting seasonal floodplain habitat because, as you point out, it favors native species. We added a second programmatic action under seasonal wetlands. The riparian acreage targets are stated as minimums. These are estimates as to what is needed to contribute to the ecological health of the Bay-Delta.

ERP II 14.12-9

We made the suggested changes on water diversion. We are not considering artificial propagation in any ecological unit. The recent studies on mercury that were cited were funded by the ERPP and will continue.

ERP II 14.12-10

We see no scientific reason to suspect that the Cosumnes River fall-run chinook are a distinct species. The detailed studies for the giant garter snake and western pond turtle seem to be outside the scope of the ERP.

ERP II 14.12-11

We are addressing salmon losses at the export pumps through the EWA. Reoperating the pumps and curtailing exports during critical periods are considered effective resolutions to the problems.

San Joaquin River Ecological Management Zone

ERP II 15.0-1

The commentor is concerned that CALFED is seeking to return San Joaquin River flows to those that existed prior to the construction of Friant Dam. The ERPP makes no recommendation for flow on the mainstem San Joaquin River below Friant Dam.

ERP II 15.0-2

The ERPP does include restoration of various ecosystem elements of the reach of the San Joaquin River below Friant Dam. If the courts restore flow to that reach of the river, we will develop a more comprehensive plan for restoration.

ERP II 15.0-3

In its current condition, the San Joaquin River seldom has hydraulic continuity with the Delta. If the river is rewatered by the court, we will expand our geographic scope.

ERP II 15.0-4

Section 15 in Volume 2 of the ERPP details our recommendations for the San Joaquin River.

Visions for Ecological Management Units

ERP II 15.5-1

This reach of the San Joaquin River was dewatered by an Act of Congress and is the subject of ongoing litigation. If the court orders a significant restoration in flow, CALFED will work to develop a restoration plan.

Visions for Ecological Processes

ERP II 15.6-1

If the courts reverse the existing circumstances on the San Joaquin River relative to flow, CALFED will revise its ERPP to include the mainstem San Joaquin River below Friant Dam.

ERP II 15.6-2

Because the San Joaquin River has been so heavily affected, it is difficult to use the 100-year flood as a benchmark. We will need to conduct additional analyses to determine reasonably reliable floodflows that can activate movement of coarse sediment. We will conduct these analyses in Phase III of the Program.

Visions for Species

ERP II 15.9-1

We have added the lamprey, stickleback, and pond turtle. The blunt-nosed leopard lizard is included in the MSCS because the species could be affected by CALFED projects.

Linkage to Other Ecological Management Zones

ERP II 15.11-1

The change has been made.

ERP II 15.11-2

The CVPIA has purchased water on both streams; it did not purchase options.

Restoration Targets and Programmatic Actions

ERP II 15.12-1

The ERPP has targets and objectives for the San Joaquin River above the mouth of the Merced River. Until such time as there is a program to provide flow from Friant Dam to the Merced River, this portion of the San Joaquin River will have a lower priority.

ERP II 15.12-2

We will develop that necessary science to support eventual stream-specific flow targets.

East San Joaquin Basin Ecological Management Zone

ERP II 16.0

We concur. Our knowledge of these streams is limited to the considerable recent work done on salmon. By proposing the Tuolumne River as a demonstration stream, we have given it the priority to conduct the detailed analysis necessary in order to more fully plan to restore its ecological health. Work on the Merced and Stanislaus Rivers will benefit from the in-depth study of the Tuolumne. This section will be revised during Phase III of the Program.

Descriptions of Ecological Management Units

ERP II 16.3-1

We agree that the hyacinth was a problem. We find the habitat to be degraded for a number of different reasons.

ERP II 16.3-2

We have made the change.

ERP II 16.3-3

Our adaptive management process is established to increase the degree of scientific certainty, not only on the Merced River, but for the entire ecosystem. Our ecosystem-based approach is designed to deal with problems associated with ecological processes, habitats, and stressors that affect chinook salmon throughout their life cycle. Anything we may study or any project we might implement will be coordinated with the Merced Irrigation District.

ERP II 16.3-4

We think that it is appropriate to cite all the material we evaluated.

ERP II 16.3-5

We would like to verify this model and use it to evaluate temperature stress reduction opportunities on the Tuolumne River.

ERP II 16.3-6

Our statement includes the qualifier "the presence of distinct anadromous runs of late fall-run chinook salmon is not confirmed."

ERP II 16.3-7

We have identified 36 small irrigation pump diversions below La Grange Dam.

Visions for Ecological Management Units

ERP II 16.5-1

We are aware of the lack of information on steelhead and the difficulties of their restoration. Until we know more about the possibilities, we believe that it is appropriate to consider steelhead as a possible, but unlikely, candidate species.

ERP II 16.5-2

Much less is known about the effects of diversions in the San Joaquin River watershed. Because the San Joaquin River supports only the fall run, screens on agricultural diversions may not be cost effective. The juvenile fall run usually migrate prior to the irrigation season. We intend to conduct further evaluation before investing in a large-scale screening program.

ERP II 16.5-3

Our vision includes taking actions that may allow steelhead to repopulate the Tuolumne River.

ERP II 16.5-4

We intend to work with these agencies to implement their plans.

ERP II 16.5-5

We concur.

ERP II 16.5-6

We concur.

ERP II 16.5-7

Increased survival of naturally spawned fish is our first priority. Artificial propagation is not.

Visions for Reducing or Eliminating Stressors

ERP II 16.8

We can conduct the evaluation as part of our adaptive management process.

Visions for Species

ERP II 16.9

We made the addition.

Integration with Other Restoration Programs

ERP II 16.10-1

We agree with your comment. Most of our coordination has been through the Tuolumne River Trust and the irrigation districts. We will include the Joint Powers Authority in the future.

ERP II 16.10-2

Comment noted.

ERP II 16.10-3

The change has been made.

ERP II 16.10-4

We have identified the agreement as the SJRA.

ERP II 16.10-5

The change has been made.

ERP II 16.10-6

We concur. Many of our proposals for the Tuolumne River are complementary to the Tuolumne River Regional Park.

Restoration Targets and Programmatic Actions

ERP II 16.12-1

Please refer to the "East San Joaquin Basin Ecological Management Zone" section in Volume 2 of the ERPP. Under the heading of "Central Valley Streamflows," you will see specific flow targets for the Stanislaus, Tuolumne, and Merced Rivers. These targets are included in the "Central Valley Streamflow Section" in Chapter 16 in Volume 2 of the ERPP.

ERP II 16.12-2

Please see response ERP II 16.12-1 above.

ERP II 16.12-3

The ERP target flows for the major San Joaquin tributaries were developed by agency scientists familiar with the species, habitats, and constraints on those streams. The differences in detail relative to water-year classifications are a function of incomplete scientific understanding. Each of these rivers will undergo a complete tributary assessment in Phase III of the CALFED Program.

ERP II 16.12-5

We concur.

ERP II 16.12-6

The target is programmatic and subject to revision.

ERP II 16.12-7

Lands owned by the state will not be purchased unless the current or planned use is incompatible with ecosystem restoration and the state agency owning the land is a willing seller.

ERP II 16.12-8

Screening 50% of the diverted water volume at diversions in the spawning area of salmon and steelhead will help to define further screening needs. Alternatives might be to eliminate or relocate these diversions.

ERP II 16.12-9

We disagree. Our targets are for planning purposes and will provide a framework for water development or purchases.

ERP II 16.12-10

All of our objectives relative to temperature identify existing limitation and call for "cooperative evaluation."

ERP II 16.12-11

We have made the change.

ERP II 16.12-12

The proposed programmatic actions will be further developed and scientifically justified before implementation.

ERP II 16.12-13

We included a temperature target to provide for over-summering steelhead. We have concluded it may be impossible to achieve a 60 degree Fahrenheit summer target. We have removed this target and will focus on more in-depth modeling to determine whether it is possible. We will conduct the modeling in Phase III of the CALFED Program.

ERP II 16.12-14

It is our intent to further evaluate temperature objectives and the possible impact of their implementation.

Visions for Species

ERP II 17.7-1

We have made the additions.

Environmental Documentation

The CALFED Program is currently in what is referred to as Phase II, in which the CALFED agencies are developing a Preferred Program Alternative that will be subject to a comprehensive programmatic environmental review. This report describes both the long-term programmatic actions that are assessed in the June 1999 Draft Programmatic EIS/EIR, as well as certain more specific actions that may be carried out during implementation of the Program. The programmatic actions in a long-term program of this scope necessarily are described generally and without detailed site-specific information. More detailed information will be analyzed as the Program is refined in its next phase.

Implementation of Phase III is expected to begin in 2000, after the Programmatic EIS/EIR is finalized and adopted. Because of the size and complexity of the alternatives, the Program likely will be implemented over a period of 30 or more years. Program actions will be refined as implementation proceeds, initially focusing on the first 7 years (Stage 1). Subsequent site-specific proposals that involve potentially significant environmental impacts will require site-specific environmental review that tiers off the Programmatic EIS/EIR. Some actions, such as recreation of shallow-water habitats in the Delta and Suisun Marsh, also will be subject to permit approval from regulatory agencies.

ERP II viii-1

Any land use change brought about by the implementation of the ERP will be proceeded by the appropriate level of environmental impact documentation. Appropriate mitigation and assurances will be included.

ERP II viii-2

The comment requests provisions to compensate landowners and others for impacts arising from projects to restore the ecosystem. Each program project will undertake the appropriate level of analysis, disclosure, and mitigation required by CEQA, NEPA, and regulatory programs.

ERP II viii-5

The money spent to date in the Restoration Coordination Program has been to implement ecosystem restoration actions while the programmatic environmental documents are being finalized. Conditions outlined in the proposal solicitation include that projects cannot prejudice the ultimate decision of the long-term CALFED Program. Any projects with regulatory conditions or mitigation requirements are evaluated on a case-by-case basis.

ERP II viii-6

CALFED's proposal solicitation process contains several steps. Copies of proposals that describe the project applicant, the cost of the project, and a complete project description are available both from the CALFED office and now on compact disc.

Chapter 1. Introduction

ERP III 0-1

The combination of our goals, objectives, indicators of ecological health, and the adaptive management process will allow us to identify progress and to define success.

ERP III 0-2

The ERP is a comprehensive effort to restore health to the Bay-Delta ecosystem. It is not a land grab.

ERP III 0-3

We are using members of the original core team and other consulting scientists to revise the Strategic Plan.

ERP III 0-4

The types of assurances being considered are discussed in Chapter 7 in the MSCS.

ERP III 0-5

Easements are our preferred means to attain ecosystem benefits on agricultural lands. In-lieu taxes will be funded and paid where appropriate.

ERP III 0-6

We do recognize conflict between ongoing agricultural production and the need to reclaim some agricultural land for habitat restoration. While we have made a commitment to minimize this reclamation, it cannot be avoided. We have no intent to "sacrifice the agricultural community."

ERP III 0-7

Goals for species, the science program, and Stage 1 actions to deal with stressors are described in the Strategic Plan.

ERP III 0-8

We have established an ERP Focus Group to help us with this task.

ERP III 0-9

Please refer to the Strategic Plan.

ERP III 0-10

We agree that it is desirable to align all agency restoration and mitigation programs into a single and well coordinated Bay-Delta/Central Valley ERP. However, doing so is well outside the scope of the CALFED Program. Further, it would be impossible to do so prior to the anticipated date of filing the ROD. This specific recommendation would most likely be accomplished as a follow on to the ROD.

ERP III 0-11

We concur with the recommendation. The MSCS and the ERP have been merged. We propose that the fish and wildlife agencies adopt the ERP as the recovery plan for listed species or as the official means to achieve recovery.

ERP III 0-12

A policy decision was made to emphasize the CALFED Program actions slated for the south Delta geographic area in early Stage 1 of the implementation program. The ERP actions proposed for implementation in that area are intended to establish new habitat in order to take advantage of opportunities for synergy and to address many of the scientific uncertainties identified in the Strategic Plan.

ERP III 0-13

These comments were prepared in October 1997 prior to the development of the Strategic Plan. Please refer to that plan.

ERP III 0-14

Implementation of the ERP is centered around a science-based adaptive management process. Revisions to the plan will continue throughout the implementation of the program.

ERP III 0-15

Please refer to the Strategic Plan.

ERP III - vi

We have followed the advise of both the expert panel and the core team. We continue to revise the Strategic Plan and to integrate their advise.

Relationship of the ERP to the CALFED Bay-Delta Program Mission

ERP III 1.1-1

The ERP is intended to provide a resolution to the ongoing conflict between the need to protect the environment and to provide for economic opportunity. It is but one of eight major programs identified by CALFED as important.

The Need for Restoration

ERP III 1.4-1

Actions to improve environmental values will not threaten water rights, water supplies, or flood protection in northern California. The ERPP recognizes existing constraints. We do not have the authority to take water rights, and it is a Program objective to improve water supplies. We intend to incorporate flood management improvements in our efforts to set back levees and enhance the use of flood bypasses as a surrogate for natural

floodplains. Our proposals for flow improvements are far below the design capacity of all physical flood management facilities.

Our riparian forest acquisition and development efforts are focused on the unleveed portion of the Sacramento River. We continue to recognize hard points and infrastructure as constraints to ecosystem restoration. We will perform any appropriate analysis requested by the State Reclamation Board or the Corps as we apply for permits within their jurisdiction.

ERP III 1.4-2

There appears to be a widespread misconception that the ecosystem restoration proposed by CALFED intends to return California to a condition that existed prior to development. That is not the case. We have acknowledged existing constraints to ecosystem restoration. That acknowledgment includes a need to protect existing infrastructure, often referred to as "hard points," along our rivers and streams.

What is Ecosystem Restoration?

ERP III 1.5-1

We agree, but would argue that restoration will not occur without public support and identification with benefits.

ERP III 1.5-2

We continue to view flood management, water supply, power generation, and recreation as valuable public benefits of dams.

ERP III 1.5-3

The entire CALFED Program is intended to establish a balance between competing needs.

Chapter 2. Ecosystem-Based Management

ERP III 2.0-1

The ERPP goes well beyond existing legal requirements for restoration.

The Advantages Ecosystem-Based Management

ERP III 2.1-1

CALFED is committed to the development and use of equitable cooperating landowner assurances that encourage landowners and water managers to voluntarily cooperate in restoration efforts. The MSCS provides an outline of this policy.

The suggestion that regulatory agencies carry out mitigation at their sole or partial cost is contrary to public policy. It would amount to a public subsidy of private enterprise.

Flood-prone lands are the focus of most of our ERPP. These are the areas where we feel we can make the greatest level of progress in restoration with the least economic disruption.

ERP III 2.1-2

The ERPP is our commitment to change and rehabilitation.

Elements of Ecosystem-Based Management

ERP III 2.3-1

We agree.

Addressing the Uncertainty Inherent in Natural Systems through Adaptive Management

ERP III 2.4-1

CALFED has acknowledged the scientific uncertainty associated with restoration of the Bay-Delta Ecosystem. Our adaptive management program is designed to address this uncertainty. We are currently addressing many of the identified uncertainties and will convene a public peer review process to discuss the results.

ERP III 2.4-2

We concur. We have funded the U.S. Geological Society for some preliminary work on this question and will follow with more in Phase III of the CALFED Program.

Chapter 3. The Adaptive Management Process

ERP III 3.0-1

Implementation of the ERPP does include data collection, analysis, and adaptive management. Our process of project funding allows us to evaluate the cost and probable benefits.

ERP III 3.0-2

The process for determining "expected results" is a component of adaptive management. The process is described in Chapter 3 in the Strategic Plan.

ERP III 3.0-3

We have designed the adaptive management program to follow a rigorous scientific design based on testable hypotheses and conceptual models.

ERP III 3.0-4

In an effort to add more scientific rigor to the ERPP, we have initiated a "white paper process." Through this process, evaluations by independent scientists will be prepared, peer reviewed, and discussed in a public process. Additionally, the adaptive management process is intended to reduce areas of scientific uncertainty.

ERP III 3.0-5

We recognized the uncertainty and have developed an adaptive management process to reduce and deal with uncertainty.

ERP III 3.0-6

Adaptive management is the process we will use to make changes in ERP targets and actions. These changes will be analyzed in future environmental documents.

ERP III 3.0-7

We most certainly agree that there is scientific uncertainty in this ecosystem. Our adaptive management process is specifically designed to address this issue. As to the California Department of Food and Agriculture's (CDFA's) statement about striped bass, we do not agree. Striped bass, salmon, and steelhead have co-existed in this ecosystem for over 100 years. They have also declined together. We would like to meet with CDFA's experts to discuss their opinion.

ERP III 3.0-8

Please see responses ERP III 3.0-7 and ERP III 3.0-12.

ERP III 3.0-9

The Strategic Plan is intended to be a "dynamic framework" that will be continuously refined. Additional work on quantified objectives and refined actions and targets is underway. The adaptive management process will incorporate the recommendations of future scientific reviews to set priorities and refine goals and objectives.

ERP III 3.0-10

The ERP has begun the process of scientifically identifying these needs. Our "white paper process" is compiling existing data and opinion. This will lead to further research and experiments that are needed to further refine the necessary information.

ERP III 3.0-11

Our adaptive management process will provide the suggested assessment.

ERP III 3.0-12

Areas of scientific uncertainty and the process to resolve controversy are key elements of the scientific review program and the adaptive management process.

ERP III 3.0-13

Each of our streamflow augmentation projects will be evaluated under the adaptive management process.

ERP 3.0-14

We concur on the need for these studies.

Defining the Problem

ERP III 3.1-1

Each project implemented will include a testable hypothesis, a conceptual model, and a monitoring protocol to measure progress toward our goals. The restoration program is the most comprehensive and aggressive restoration program ever proposed in California.

Developing Conceptual Models

ERP III 3.3-1

Additional conceptual models are being developed in the "white paper process."

Defining Restoration Actions

ERP III 3.4-1

This is being done as part of the Strategic Plan refinement and the "white paper process."

ERP III 3.4-2

This is one of several topics being addressed in refinements to the Strategic Plan.

ERP III 3.4-3

In Stage 1, the ERP proposes to acquire about 100,000 acre-feet. The primary focus will be on those smaller tributary streams not covered by the CVPIA allocation. Adaptive management will be applied.

Monitoring Restoration Actions

ERP III 3.5-1

The linkage between the ERP and the Comprehensive Monitoring, Assessment, and Research Program (CMARP) is described in Chapter 3 in the Strategic Plan. The adaptive management program completely depends on the monitoring and assessment developed under the CMARP.

The linkage between the ERP and MSCS is twofold: (1) the ERP and MSCS overlap with regard to the objectives of recovery and conservancy; and (2) the MSCS will be the vehicle to identify specific mitigation needs of the CALFED Program, and the ERP will provide the planning and implementation framework to carry out the mitigation.

ERP III 3.5-2

Each project carried out under the ERP will be monitored for results. The detailed plans and project-specific EIRs will be prepared in Phase III of the Program. Habitat is the place or environment where a plant or animal lives.

ERP III 3.5-3

The CMARP is the monitoring program for the ERPP. The results of this monitoring will be analyzed and used in the ERPP adaptive management process.

ERP III 3.5-4

We agree, especially in the Delta where real-time monitoring can reduce impacts to other water users. Each monitoring program element will be specifically designed to meet the need and to test the conceptual model.

Chapter 4. Goals and Objectives

ERP III 4.0-1

The specific goals and objectives of the ERPP are set out in Chapter 4 in the Strategic Plan. Numerical targets for species or habitats are articulated in Volume 2 of the ERPP.

ERP III 4.0-2

Large, self sustaining populations supported by healthy ecological processes and a large variety of intact and functioning habitats is optimal.

ERP III 4.0-3

California has undergone irreversible change since the early 1940s. It is virtually impossible to restore the natural ecological conditions of that period.

Development of CALFED Program Mission and Objectives

ERP III 4.1-1

NHI does not provide any suggestion as to which objectives it feels are redundant.

ERP III 4.1-2

Striped bass are included in ERPP Goal 3,which deals with harvestable species.

ERP III 4.1-3

ERP Goal 6 deals with contaminants. We have provided over $3 million for an early and high-priority investigation of mercury contamination.

CALFED Ecosystem Restoration Goals

ERP III 4.2-1

The goal for steelhead trout as a priority group 1 species is to restore self-sustaining Central Valley steelhead to Central Valley streams and the Bay-Delta estuary. The restoration of self-sustaining populations of steelhead of natural origin is our goal. In our long-term objective statement, we said "Numbers of fish of natural origin should exceed in most years the estimated population level in the early 1960s: 40,000 adult spawners annually." We have not set 40,000 fish as an upper limit or ceiling. We will rely on monitoring, scientific evaluation, and the adaptive management process to achieve our goal. We will continue to evaluate the feasibility of removing dams and other barriers to migration, and the expanded use of fish ladders and bypasses. We will use population goals in the MSCS as the basis for recovery. Please also see response ERP I 4.3-2.

ERP III 4.2-2

When our goals are converted to specific population numbers, we find that most scientists agree that these were the populations that existed in the 1960s prior to the major impacts of the water projects.

ERP III 4.2-3

The loss of ecosystem integrity was the basis for the development of the goals.

ERP III 4.2-4

Your objection is noted. Our intent is to manage a striped bass population that does not result in detriment to threatened or endangered species.

ERP III 4.2-5

We concur. This concept is embodied in our goals.

ERP III 4.2-6

We concur. Our statement referring to non-consumptive use includes the natural heritage value.

ERP III 4.2-7

We fully recognize the changes brought about by human change. Where possible, the ERPP proposed to reverse those changes; in most cases, however, we can only reduce the impact.

ERP III 4.2-8

Where we are dealing with species that do not depend on the Bay-Delta ecosystem for a substantial portion of their life cycle, we will take actions to contribute to their recovery.

ERP III 4.2-9

This comment is directed at the preliminary version of the ERPP, "Volume 3: Vision for Adaptive Management." Subsequent to its release, CALFED ceased further development of Volume 3. Instead, CALFED convened the Strategic Plan core team of scientists to develop the Strategic Plan for Ecosystem Restoration. Presently, the species designation in the ERPP includes the species identified in the MSCS for "recovery," "contribute to recovery," and "maintain." The ERPP also includes two additional designations: "enhance and/or conserve biotic communities" and "maintain and/or enhance harvested species." Under these designations, striped bass is treated as a harvested species for which CALFED will undertake actions to maintain the species at levels that support or enhance sustainable harvest rates. A key to maintaining harvestable surplus levels is to recognize the need to recover, contribute to recovery, or maintain other species.

ERP III 4.2-10

This comment is directed at the preliminary version of the ERPP, "Volume 3: Vision for Adaptive Management." Subsequent to its release, CALFED ceased further development of Volume 3. Instead, CALFED convened the Strategic Plan core team of scientists to develop the Strategic Plan for Ecosystem Restoration. The Strategic Plan has elevated the concern for foodweb organisms, particularly the adverse effects of non-native invasive species such as the Asian clam. ERPP Strategic Goal 5 addresses non-native invasive species. This goal is to "prevent establishment of additional non-native species and reduce the negative biological and economic impacts of established non-native species." This goal also includes 10 strategic objectives that will direct the types of management actions and research undertaken during Stage 1 implementation.

CALFED Ecosystem Restoration Objectives

ERP III 4.3-1

The ERPP and the MSCS do have the same recovery goals for the suite of species evaluated in the MSCS.

Relationship of Goals, Objective, Targets and Actions

ERP III 4.4-1

The ERP is one of the most aggressive restoration programs ever developed. The targets will be measured against indicators of ecosystem health.

Chapter 5. Implementing the ERP

ERP III 5.0-1

At the programmatic level, the CMARP and the ERP were developed on separate tracks. Chapter 5 in the Strategic Plan addresses project selection criteria and the process for using science to address critical uncertainties. When specific monitoring or research needs are identified, the ERP budget will provide the necessary funding support.

ERP III 5.0-2

Implementation of the ERPP will focus on habitat restoration on public land as a first priority. The wildlife-friendly agricultural element of the ERPP is a financial incentive-based program.

ERP III 5.0-3

We concur. Our restoration coordination program and adaptive management process are designed to make those evaluations.

ERP III 5.0-4

Our policy will be implemented on a site-by-site basis. We will work only with willing sellers. We do not anticipate any need to acquire land currently planted to citrus trees. The targeted acreages are specified by ecological zone in Volume 2 of the ERPP.

ERP III 5.0-5

CALFED is in the process of developing its Water Management Strategy. For the ERPP, this will include developing priorities, an acquisition strategy, coordination with the CVPIA and the EWA and the relationship with regulatory programs.

ERP III 5.0-6

CALFED has committed to following the agreements reached in the SB 1086 process. The MSCS discusses the types of assurances being considered, including cooperating landowner assurances.

ERP III 5.0-7

We concur.

Refining the List of ERP Actions for Stage 1 of Implementation

ERP III 5.2-1

We are continuing to refine the ERP. Our intent is to achieve the restoration goals with minimal impact to agriculture and recreation.

Critical Uncertainties and Impediments to Restoration

ERP III 5.5-1

We identify the natural- and human-caused variability in flow regimes as an area of uncertainty requiring further investigation.

ERP III 5.5-2

This means we acknowledge our inability to restore this ecosystem to what it was prior to human intervention.

ERP III 5.5-3

We recognize the constraints and limited opportunities to restore the ecosystem. Our objectives are to achieve what is realistic.

ERP III 5.5-4

Scientific uncertainty is addressed in the ERPP. A process and means to reduce uncertainty are imbedded in the adaptive management process. Monitoring will include assessment at all trophic levels.

ERP III 5.5-5

This comment was provided in 1997 before the Strategic Plan was prepared. Foodweb concerns are now highlighted among the areas of scientific uncertainty discussed in Chapter 5 in the Strategic Plan.

Seizing Upon Restoration Opportunities

ERP III 5.6-1

We concur.

Regulatory Compliance

ERP III 5.7-1

The ERPP is not exempt from any regulatory process or law. Every project will be evaluated under CEQA and/or NEPA. Each project will be carefully and thoughtfully planned and executed. Impacts will be avoided or properly mitigated.

ERP III 5.7-2

The commentor requests streamlining for the permitting of already authorized flood control and bank protection projects on the Sacramento River. Most currently authorized levee maintenance and repair projects carried out by counties or local districts are not part of the CALFED Program and are outside the scope of the EIS/EIR. For CALFED-funded projects, such as parts of the Sacramento River meander project, CALFED is currently investigating methods to acquire needed permits more efficiently, while still allowing full regulatory agency review.

ERP III 5.7-3

ERPP projects are required to comply with the state and federal ESAs, CEQA, NEPA, and the Clean Water Act as well as with other regulatory programs.

Chapter 6. Institutional Structure and Administrative Considerations

ERP III 6.0-1

Volume 2 of the ERPP describes over 100 programmatic actions for the Delta. The phasing and partnering of restoration is described in the Strategic Plan.

ERP III 6.0-2

Most of the rationale and recommendation used to develop the ERP was based on existing plans or programs. They are referenced in the ERPP. Our adaptive management program will fold in the results of existing restoration efforts.

ERP III 6.0-3

Implementation of the ERP will be conducted at the local level. All land use change will be preceded by the appropriate level of environmental review and documentation. Please also see response IA-7.14-1.2.

Institutional Structure

ERP III 6.1-1

CALFED recognizes the need and benefits from coordination and potentially the consolidation of the many restoration efforts underway in the Central Valley. We are proposing an institutional structure that will make that objective possible. CALFED currently is mapping habitat restoration funded by CALFED and other restoration programs. This mapping will enable assessment of cumulative land use change in future project-specific environmental documents. It also will help us to document CALFED targets achieved by other programs. Please also see response ERP 0-16.

ERP III 6.1-2

We concur. The process we have begun involves several steps. First, we are taking the concepts, objectives, and targets in the ERPP through an in-depth scientific analysis. This helps us to be much more specific in our description of objectives. Next, we will present these objectives to a regional conservancy, resource conservation district, or other landowner groups and the county planning departments. It is at this stage that we hope to receive input as to the feasibility of implementing our objectives and alternatives that match the needs of the landowners and water users. When projects have been designed at the local level, we will prepare the appropriate environmental documents to disclose possible impacts, appropriate mitigation, and alternatives—if they are available. These environmental documents will be circulated for public review. If there is interest, we will host a public meeting to discuss the proposals. In addition to the standard environmental documents, we anticipate the need for assurances that our efforts at environmental restoration will not impose ESA burdens on those cooperating in, or neighboring, our projects. We are calling these assurances a "good neighbor agreement." Each agreement will need to be custom designed to fit the circumstances and location.

Public Involvement

ERP III 6.2-1

All ecosystem projects and programs will include local participation and will comply with local ordinances.

ERP III 6.2-2

The CALFED ecosystem restoration coordination program requires that all project applicants coordinate with local government. Butte County is the only county that has allocated staff to closely coordinate with the ERP.

That coordination has been successful, and we expect it to improve. CALFED does not have funds sufficient to fund additional participation by local government.

ERP III 6.2-3

The ERPP possesses no regulatory authority and does not seek such authority. Implementation of the ERPP will be coordinated with county government.

ERP III 6.2-4

We agree.

Public Outreach

ERP III 6.3-1

This is a good recommendation, and we will follow up with Colusa and other affected counties.

ERP III 6.3-2

Our effort to solicit public opinion and comment is very comprehensive.

Scientific Review

ERP III 6.4-1

We agree that independent science will be an important part of implementation of the ERPP. Please refer to page 47 in the June 1999 Strategic Plan for a discussion of this element of the program.

ERP III 6.4-2

We outline our scientific review process in Chapter 6 in the Strategic Plan.

ERP III 6.4-3

We agree. Our ideas on a science panel and science peer review are included in Chapter 6 in the Strategic Plan.

ERP III 6.4-4

The science review of the program will be an ongoing function. The process and products of the review will be public.

ERP III 6.4-5

We agree. We will apply the best available science to the determination of need and management of water acquired for environmental purposes.

ERP III 6.4-6

We agree.

Appendix A. Defining the Opportunities and Constraints: a Historical Approach

ERP III 7.0-1

Throughout the ERPP volumes, we discuss the many impacts to our fish populations. Appendix A in the Strategic Plan offers an in-depth historical perspective. Predation and competition are discussed as stressors in Volume I, Section 12.12.

The Importance of a Historical Perspective

ERP III 7.1-1

Appendix A provides a historical perspective and the constraints to ecological restoration.

Present Conditions and Trends

ERP III 7.3-1

The restoration to ecological health sought in the ERPP incorporates the actions included in the CVPIA and continued protections afforded the environment by all state and federal laws.

ERP III 7.3-2

CALFED is planning on continued coordination with the restoration element of the CVPIA. That coordination will include cost sharing for appropriate projects.

ERP III 7.3-3

Appendix A in the Strategic Plan was prepared in response to numerous requests for a historical perspective on changes to the Bay-Delta ecosystem.

ERP III 7.3-5

We have not prejudged the outcome of the hearings. We included this hearing as an important parallel process. The stated purpose of the hearing is to determine and allocate responsibility for Delta outflow requirements. We are fully aware of the negotiations associated with this hearing process and the possibility they may obviate the need for a protracted hearing.

Model of Contrasting X2 Relationships

ERP III 8.3-1

We agree that our simple landscape-level conceptual model of chinook salmon does not capture all aspects of juvenile fish movement associated with total influence. This figure was offered as an example.

Conceptual Model of Meander Migration in a Regulated River

ERP III 8.4-1

The model in Figure B-5 in the Strategic Plan is meant to describe river migration. We are not aware of any role played by temperature in this ecological process.

Appendix C. An Example of Adaptive Management Using Conceptual Models: Chinook Salmon and Deer Creek

Overview

ERP III 9.1-1

Your comment about the harvest fraction seeming excessive for San Joaquin natural fall-run chinook salmon appears misplaced. This section in the Strategic Plan describes an adaptive management example for Deer Creek, a tributary to the Sacramento River.

Background

ERP III 9.2-1

The ERPP does set restoration targets on a stream-by-stream basis wherever possible. Ocean harvest levels in a mixed-stock fishery must be aggregated.

Overall Conceptual Model for Spring-run Chinook Salmon

ERP III 9.3-1

Your comments relating to the potential behavior of salmon in the Mokelumne and Cosumnes Rivers may not be appropriate in a conceptual model developed for Deer Creek.

Appendix D. Draft Stage 1 Actions

ERP III 10-1

CALFED's effort to screen diversions on the Sacramento River has been a focus of early implementation. Approximately 80% of the volume of water diverted is now screened or will be soon. We believe that it is appropriate to evaluate the benefits of the projects in order to refine priorities.

ERP III 10-2

The comment recommends that Stage 1 actions focus on projects that are supported by strong scientific understanding. Nearly all of the early implementation actions funded to date focus on projects with a great deal of scientific certainty. An object of Stage 1 implementation is to reduce scientific uncertainty. We have included in the mix several actions specifically intended to shed light on the scientific uncertainty identified in Chapter 5 in the Strategic Plan.

ERP III 10-3

The draft Stage 1 actions are intended to address most, if not all, of the issues and opportunities identified in the Strategic Plan. The rationale for these actions is presented in the appendix to the Strategic Plan. The process of identifying, selecting, and funding projects is vested in the restoration coordination program as supported by the Ecosystem Restoration Roundtable.

ERP III 10-4

The ERPP is not intended to be a means to prevent growth in the Secondary Zone of the Delta or anywhere else.

ERP III 10-5

The programmatic actions proposed for the Yolo Bypass were developed by experts dealing with species in addition to splittail. They will be refined in the implementation phase of the Program.

ERP III 10-6

We agree and have funded over $3 million of additional research.

ERP III 10-7

The Stage 1 actions proposed cover the entire Delta.

ERP III 10-8

Central and west Delta Stage 1 actions include the study of potential habitat in Big Break.

ERP III 10-9

We will try to make the appropriate cost comparison.

ERP III 10-10

The actions proposed for Stage 1 implementation are intended to generate measurable ecological benefits and to provide insight essential to adaptive management. Striped bass are identified as an important sport fish that will be managed in concert with salmon recovery. We agree that Centerville Dam and the water diverted to it may cool Butte Creek.

ERP III 10-11

The ERPP does focus on existing public land. All projects will receive the appropriate analysis under CEQA and NEPA.

ERP III 10-12

The estimated cost of ERPP Stage 1 actions is $900 million. Congress authorized $430 million in funding and the state authorized $450 million through Proposition 204.

ERP III 10-13

All of the suggested actions are contained in Volume 2 of the ERPP as either targets or actions. While we agree that expanding the Stage 1 (first 7 years) list of actions is desirable and would complement many existing programs, we cannot do so. We do not have the staff or the budget to more than double our Stage 1 activities. Our primary focus in Stage 1 is to reduce the uncertainty surrounding ecosystem restoration in this ecosystem. We have chosen Stage 1 actions to accomplish that goal. We are not strictly limited by the Stage 1 actions. If opportunities present themselves, we will pursue them.

ERP III 10-14

Acquiring water for flow augmentation is an action in Stage 1.

ERP III 10-15

We agree.

ERP III 10-16

The concept of the "early action bundles" was developed to facilitate implementation by grouping proposed actions for the whole of the CALFED Program into geographic areas. Many commentors have found fault with this concept. For the ERPP, the Strategic Plan and the scientific uncertainties will be the principal means for prioritizing actions.

ERP III 10-17

Streamflow targets will be met through the acquisition of water from willing sellers and newly developed water. At the programmatic level, it is not possible to identify specific targets that will be met. We will pursue about 100,000 acre-feet of streamflow augmentation.

Draft Delta Stage 1 Actions

ERP III 10.1-1

The comment requests we expand the Stage 1 action list without suggestions as to how to do so. In light of the time and budget requirements necessary to implement a program like the ERP, the Stage 1 actions proposed are very ambitious.

ERP III 10.1-2

The comments suggest that we should incorporate elements in Stage 1 that complement existing programs. In the introduction to Appendix D of the Strategic Plan, we use the phrase "...CVPIA, or other restoration programs... ." By this, we mean all programs that have bearing on the restoration of ecological health of the Bay-Delta system.

ERP III 10.1-3

CALFED has adopted a policy to prioritize restoration or public lands first; second through the use of easements; and third, only if necessary, through the acquisition of private land from willing sellers.

ERP III 10.1-4

The actions selected for implementation in Stage 1A and throughout Stage 1 were selected to address the areas of scientific uncertainty identified in the Strategic Plan, in order to aggressively restore habitats in the Delta and to carry out full-scale demonstration programs on three very different tributary streams. Our use of the term "bundling" has generated some misunderstanding. We are simply grouping projects from the various CALFED programs to gain efficiency in environmental documentation and permitting.

ERP III 10.1-5

We concur.

ERP III 10.1-6

We have carefully considered the use of levee setback to increase habitat. Setback levees are expensive and may pose some flood management risk. We are further studying the feasibility of their use.

ERP III 10.1-7

We concur. We are developing a specific strategic plan to document our approach to dealing with non-native invasive species.

ERP III 10.1-8

We agree. Boat speed restriction and enforcement is a county responsibility. If the need is demonstrated, the ERP might fund additional enforcement.

ERP III 10.1-9

We concur. We have started a study to determine the benefits and efficacy of screening small Delta diversions.

Draft Sacramento River Basin Stage 1 Actions

ERP III 10.2-1

Agricultural fields serve as surrogate upland habitats. Our objective is to use "natural" habitat to provide a mosaic

of inter-related upland and wetland habitats wherever possible. In some cases, however, we will need to rely on modified practices on agricultural land.

ERP III 10 3.3-1

If we were to utilize a 100% hatchery tagging program as you suggest, a constant fraction tagging effort would be redundant.

ERP III 10.3-2

We concur. As we move into the implementation phase of our program, we will become more and more dependent on regional organizations such as conservancy and county planning departments to help us refine and implement the plan.

ERP III 10.3-3

The flows of the ERPP will be coordinated with the CVPIA. There are ecological needs not addressed in the CVPIA. These are addressed in the ERPP.

ERP III 10.3-4

Both the negative and positive impacts of off-stream storage have been considered and are discussed in the Programmatic EIS/EIR.

ERP III 10.3-5

We concur. As we go forward with implementation, we will evaluate the need to artificially augment coarse sediment recruitment.

ERP III 10.3-6

Clear Creek has a dual problem with regard to riparian vegetation. We have encroachment into what was the active channel of the stream and the need to reestablish a dynamic corridor. These objectives are not in conflict but do require appropriate sequencing for implementation.

ERP III 10.3-7

We agree. Implementation of restoration along Mill Creek will be community based.

ERP III 10.3-8

Tributary-specific assessments are a critical first step in all of our ecological management zones.

ERP III 10.3-9

Our approach to identifying in-stream flow needs to be oriented toward the rehabilitation of ecological processes in the streams. This focus will help us to identify species needs and the potential for overlap.

ERP III 10.3-10

Acquisitions for in-stream flow augmentation will be subjected to subsequent project-specific environmental documentation and review.

Draft San Joaquin River Basin Stage 1 Actions

ERP III 10.4-1

We have made the correction.

ERP III 10.4-2

The VAMP experiment is focused solely on migration of chinook salmon. It does not address ecological processes or other species.

ERP III 10.4-3

We concur. We will use both easements and fee acquisition.

C-028058

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Implementation Plan

Responses to Comments

IMPLEMENTATION PLAN
RESPONSES TO COMMENTS

1.1 Introduction

IP-1.1-1

The CALFED Bay-Delta Program (CALFED Program) agrees that CALFED Program elements, particularly those involving groundwater or acquisition of land and water, should be implemented in concert with input from local interests, and that these actions should be coordinated and should address long-term goals. CALFED is committed to close coordination with local entities potentially affected by Program implementation but cannot commit to holding in abeyance all actions until all local entities are in agreement. The Program is designed to be implemented in stages, with adaptive management providing the tool for modifying implementation based on what is learned at each stage.

It would be impractical to develop detailed local coordination plans that could anticipate all the possible combinations of actions and their effects. However, a local coordination plan to assure local participation and confidence in the CALFED process and other land acquisition programs will be developed. That local coordination plan will propose that the implementation be governed by a combination of tools that define the broad conceptual framework for the Program and disclose its potential range of impacts and benefits. Additionally, CALFED proposes:

- To document and formalize the agreement reached among CALFED agencies and stakeholders on action priorities and linkages in the Programmatic Record of Decision (ROD).
- That implementation of specific actions be governed by CALFED's solution principles and adaptive management.
- That actions be prioritized with broad public input.
- That individual actions will be accompanied by the appropriate environmental review, in compliance with all applicable laws and regulations, prior to permitting and implementation.

CALFED's policy is to closely coordinate with local planning entities, interest groups, and elected officials during Program implementation, including the project-level planning and environmental documentation process. The CALFED agencies believe that this approach is implementable and provides appropriate opportunities for public disclosure, input, and adjustments to ensure that local concerns are addressed in a coordinated way.

IP-1.1-2

Please also see common response 19. CALFED agrees with the need for firm assurances that the plan will be carried out as envisioned and meets the Program objectives in a balanced, timely, and equitable manner. However, the Program is designed to be implemented in stages, with adaptive management providing the tool for modifying implementation based on scientific data and what is learned at each stage. It would be impractical to develop project-level approaches and an assurances package that could anticipate all the possible combinations of actions and their effects, and guarantee that all these outcomes would meet the stated criteria.

Instead, CALFED proposes that implementation be governed by a combination of tools that defines the broad conceptual framework for the Program and discloses its potential range of impacts and benefits, then develop the requisite level of detail on specific actions on an appropriate priority basis. This step-wise implementation and assurances approach can be summarized as follows:

- First, CALFED proposes to include substantial, detailed agreements on action priorities and linkages before implementation. Prior to implementation, CALFED will also develop explicit assurances with respect to Delta operations.
- Second, CALFED proposes that implementation of specific actions be governed by CALFED's solution principles and adaptive management.
- Third, CALFED proposes that actions be prioritized with broad public input.
- Fourth, individual actions will be accompanied by the appropriate environmental review, in compliance with all applicable laws and regulations, prior to permitting and implementation.

In addition, CALFED will seek to provide assurances of regulatory stability as the Program unfolds. It is anticipated that the implementation phase will enhance coordination of CALFED, Central Valley Project Improvement Act (CVPIA), and Trinity River actions.

The CALFED agencies believe that this approach is implementable and provides appropriate opportunities for public disclosure, input, and adjustments to ensure that stakeholder concerns are addressed in a coordinated way. Specific assurance mechanisms may be needed to assure balance and adequate regulatory certainty as the Program moves forward. These mechanisms potentially include contracts, legislation (including bond measures, and authorizing and appropriations legislation), inter-agency agreements, licensing agreements, agency directives, and stakeholder-driven decision processes. Such assurances would be particularly important for projects that could result in substantial environmental impacts if improperly implemented (such as new surface storage facilities and conveyance facilities).

IP-1.1-3

CALFED agrees that adequate time, effort, and funding need to be committed, to ensure that the through-Delta alternative is given full opportunity to succeed. A staged decision process that will incorporate new scientific information as it is developed, impartial scientific review, and broad-based policy considerations has been proposed by CALFED.

IP-1.1-4

CALFED appreciates the important role played by the Delta Protection Commission (DPC) and welcomes a closer collaboration with the DPC in the planning and implementation process for the CALFED Program. Since December 1999, the DPC has been a member of the CALFED Policy Group.

IP-1.1-5

CALFED acknowledges the need for support at every level for the Program to succeed and the need for periodic public review and comment on the Program as implementation proceeds. The Implementation Plan has been revised to explicitly reflect the commitment to periodic public review of Program implementation. CALFED

Policy Group participants will be involved in all significant operational decisions with policy implications, and involvement at higher levels will be sought as needed to resolve outstanding concerns. Such direct involvement has been very helpful in moving the process forward during the programmatic planning phase of the Program. Detailed proposals for governing Program implementation in the interim and long-term are discussed in the "Governance" section in the Implementation Plan.

IP-1.1-6

While most commentors advocate balanced implementation, the meaning of "balance" means something different to each reviewer. CALFED has sought, and will continue to seek, balance based on stakeholder and agency comments, regulatory imperatives, scientific knowledge, and adaptive management. In this context, CALFED agrees with many commentors that Program implementation needs to be adequately funded, balanced, and meet all four of its Program objectives in order to succeed. Actions need to be prioritized to ensure that the most cost-effective and beneficial actions move forward first. The inter-relationships between Program actions need to be carefully considered in the planning and implementation phases of the Program. CALFED has sought to structure the implementation process to achieve these goals. The proposed implementation process is described in the Implementation Plan, with additional detail in response IP-1.1-2.

The specific water quality improvement actions proposed for Stage 1a consist of a broad range of actions, including conveyance improvements, flow management, source control measures, monitoring, public education, and studies (Table 3-1 in the Implementation Plan, Water Quality List of Actions).

Some commentors' suggestions to defer planning and implementation for storage and conveyance facilities in favor of nonstructural solutions have not been incorporated into the Implementation Plan because the lead time required for feasibility and environmental studies associated with implementation of storage and conveyance facilities generally takes many years, thus providing the de-facto opportunity for phased implementation proposed by the commentors. All implementation actions must undergo detailed technical and environmental review, with extensive opportunities for public input. Therefore, it is considered prudent to proceed with feasibility and environmental studies, consistent with available funding, for the most promising structural options.

IP-1.1-7

CALFED implementation is based on CALFED solution principles, including a key provision that the Program will pose no significant redirected impacts. Specifically, the CALFED Program actions are based on respecting and supporting area-of-origin water rights, Delta protective statutes, local water management plans, groundwater ordinances, and the rights of individual landowners to use water in accordance with their water rights. However, the CALFED Program actions are not intended to abridge the independent regulatory authority of its member agencies, including that of the State Water Resources Control Board (SWRCB) to regulate water rights throughout the Bay-Delta region.

CALFED has not ignored existing laws, regulations, and water use trends in the area-of-origin portions of the solution area. CALFED's alternatives analysis incorporates projected changes in local land use and water use throughout the solution area. The evaluation is based on adherence to all current laws and operating rules to the extent that those laws can be modeled with a monthly water balance accounting model (DWRSIM). For example, the estimates of Delta exports under future conditions (year 2020) includes increased consumptive use in area-of-origin counties, additional in-stream flows for the Trinity River watershed, and increased diversions from the American River basin to meet existing contractual obligations.

CALFED seeks to improve overall system performance by providing tools and incentives for improved water use efficiency, water transfers, watershed management, water storage (both groundwater and surface water storage, as appropriate) and conveyance. The Program also seeks to improve in-stream flows in key reaches for periods most beneficial to sensitive fish species, through voluntary, compensated water acquisitions and in-lieu arrangements as appropriate. The specific Program actions in these areas are described in the Programmatic Environmental Impact Statement/Environmental Impact Report (Programmatic EIS/EIR) and in the individual program plans, including the Water Use Efficiency, Watershed, Ecosystem Restoration, and Water Transfer Program Plans.

In addition, implementation of Ecosystem Restoration Program actions, as well as other actions involving significant land purchases or interests in land such as easements, will be achieved through willing-seller transactions. Where necessary for the construction of specific facilities for water management, such as groundwater recharge, surface storage, canals, monitoring sites, and so on, CALFED agencies may resort to eminent domain in order to achieve Program objectives. CALFED's commitment is to keep such transactions to a minimum, without jeopardizing overall Program implementation.

IP-1.1-8

Program implementation is summarized in the Implementation Plan. Additional detail is provided for specific program components in the individual program plans.

IP-1.1-9

While it is true that CALFED's goals include environmental restoration and improved water supply reliability for in-Delta and Delta-dependent water users, the Program is far broader and more comprehensive than the reviewer suggests. The reviewer is referred to the Programmatic EIS/EIR and supporting appendices for a description of the eight Program elements and their potentially broad contribution to improved water use efficiency, water quality, ecosystem quality, water transfers, watershed management, levee system integrity, storage, and conveyance.

IP-1.1-10

The CALFED mission includes improving water management for beneficial uses of the Bay-Delta system. CALFED seeks to reduce the mismatch between Bay-Delta water supplies and current and projected beneficial uses dependent on the Bay-Delta system. The Program seeks to accomplish this through a broad range of actions documented in the Programmatic EIS/EIR and supporting appendices, including measures to improve water use efficiency, water quality, water transfers, groundwater and surface water storage, and conveyance. The Program identifies numerous Stage 1 actions to advance these actions, including regional action priorities for the south Delta region as identified in the Implementation Plan. Advance planning for the most critical actions is already underway. In addition, CALFED will seek to provide assurances of regulatory stability as the Program unfolds. It is anticipated that the implementation phase will enhance coordination of CALFED, CVPIA, and Trinity River actions.

However, the Program scope does not include assuring water supply reliability for all service areas dependent on the Bay-Delta system for part or all of their water supplies. CALFED actions must be supplemented with appropriate local planning and implementation of water supply management actions to ensure that local goals are met.

IP-1.1-11

During Program implementation, CALFED will refine its procedures for disbursing grants, loans, selection of proposals, and contracts for directed actions. CALFED seeks to develop fair, open, and effective procedures that will result in actions consistent with CALFED goals and that focus implementation on the highest priority and most cost-effective actions. CALFED will build on the experience of the Ecosystem Restoration Program project selection process and other processes to develop the implementation funding procedures. Until these procedures have become established and been given an opportunity to work, it will not be possible for CALFED to commit to funding any specific actions recommended by stakeholders.

IP-1.1-12

Coordination of a large and complex program involving federal, state, and local agencies will be an ongoing challenge. A permanent governance structure is proposed and will be implemented to address planning, coordination, and implementation functions, as described in the CALFED Governance Plan (Section 4 in the Implementation Plan). In the interim, coordination is provided at multiple levels. Decision-making authority will continue to rest with each of CALFED's participating agencies, with key roles played by the Secretary of the Department of Interior (federal) and the Resources Secretary (state). Many coordination concerns are discussed and addressed by the CALFED Policy Group, which includes representatives from the various CALFED participating agencies. The Bay-Delta Advisory Council (BDAC) or a new public advisory group, consisting of a broad cross section of CALFED's stakeholder community, will continue to discuss and provide advice to the Policy Group on various aspects of the Program, including coordination issues. Numerous technical groups and direct coordination between technical staffs in the CALFED participating agencies also provide a great deal of technical coordination. For detailed information regarding the Financing Plan, please see response IPF 5.0-1.

CALFED's proposed Multi-Species Conservation Strategy (MSCS), is designed to provide appropriate coordination between Program actions, CVPIA actions, and regulatory program requirements.

The Implementation Plan suggests Program actions that potentially may be accomplished during Stage 1. The Implementation Plan also delineates a variety of actions that may proceed in the very near term, or what is referred to in the plan as Stage 1a. The Implementation Plan is based on a prioritization of actions in each common program and in the Storage/Conveyance elements. The CALFED agencies have made no commitments to implement the actions identified for Stage 1a and will make no such commitments until action-specific environmental review is complete. Please also see common response 16, discussing conveyance and a potential isolated facility.

The Bay-Delta Accord (Accord) of December 15, 1994, delineated certain ecosystem restoration activities for implementation and financing prior to completion of the Programmatic EIS/EIR process. These activities are the non-flow-related projects called for in the Water Quality Control Plan for the Bay-Delta (1995), which are labeled as "Category III activities" in the Accord. Funding for Category III activities has been provided by the California Urban Water Agencies, California Proposition 204, the Federal Bay-Delta Act, and U.S. Environmental Protection Agency watershed funds. The California Resources Agency and the Department of Interior have cooperated in the selection process for ecosystem restoration projects through CALFED's Ecosystem Restoration Program. All Category III projects have met specific criteria that merit their implementation prior to completion of the Programmatic EIS/EIR. All projects have been justified independently of the Program by lead agency(ies) for the project(s). All projects have been accompanied by the appropriate level of environmental review *as required by law*. Finally, no projects have been selected that would prejudice the ultimate direction of the Program.

Each Category III project has been accompanied by the appropriate environmental review. Please see response IP 4.3-1, which explains the different types of Category III projects and the different levels of environmental review that have taken place. Actions funded to date include land acquisition, either in fee or using a conservation easement. Only a small portion of the lands acquired have been converted away from agricultural use. In most instances, agricultural practices have continued on the acquired lands. Chapter 9 in the Programmatic EIS/EIR discusses how mitigation strategies, including those for impacts on agricultural land, will be incorporated into individual Program actions during Phase III.

The Programmatic EIS/EIR is not required to enumerate (1) all discretionary approvals made by CALFED or the CALFED agencies following the Notice of Preparation for the Programmatic EIS/EIR, with the potential to affect agricultural resources; or (2) the California Environmental Quality Act (CEQA) compliance undertaken for each action. The Programmatic EIS/EIR evaluates the impacts of the CALFED Program at a general-plan level to provide the CALFED lead agencies with the information needed to compare the alternatives evaluated in the document and to help them in their decision of whether to adopt the Preferred Program Alternative. The comment refers to a provision of CEQA that is intended to provide a list of agencies expected to use an EIR in their decision making and a list of permits and other approvals required to implement the project, to the extent that information is known (CEQA Guidelines Section 15124). For a programmatic document (such as this Programmatic EIS/EIR) that is prepared to evaluate the long-term impacts at a general-plan level of detail, much of that information is not yet known. Chapter 8 in the Programmatic EIS/EIR lists the general regulatory approvals and permits that are anticipated to apply during implementation; these may or may not apply to individual projects as the Program moves forward.

If site-specific projects that tier off the Programmatic EIS/EIR involve significant new impacts that have not been evaluated in the EIS/EIR, additional environmental documentation will be required. The cumulative impacts of early implementation ecosystem restoration projects, along with the overall Ecosystem Restoration Program, are evaluated in the Programmatic EIS/EIR. Chapter 7 in the Programmatic EIS/EIR discusses the cumulative impacts of implementing the CALFED Program on agricultural resources, including anticipated land use changes. During project-level planning for specific actions, the relationships between geographically and operationally related actions will be analyzed.

CALFED agrees with the need for coordination between land use planning and water resources planning. CALFED conceptually supports increased coordination between land use and water resource planning. However, land use planning historically has been a local government agency responsibility, and the CALFED Program is not intended to change existing land use authority.

CALFED staff and agencies are committed to building and maintaining good coordination at all levels of the Program.

IP-1.1-13

The words of encouragement are appreciated.

IP-1.1-14

Please see common response 1. Although the Programmatic EIS/EIR may not address impacts at the level of detail that many commentors desired, the document defines the broad Program scope and resultant impacts with sufficient detail for necessary programmatic evaluations and decision making. Additional detail on specific

proposed Stage 1 actions is included in the Implementation Plan. The Phase II Report summarizes the planning and analysis conducted during Phase II of the CALFED Program.

CALFED acknowledges some disparity between the level of detail of the various Program elements. The Program plans are programmatic in nature and are the result of collaborative efforts by CALFED staff, CALFED agencies, cooperating agencies, and stakeholders. Thus, while the goal is to adequately define the Program in sufficient detail for the purposes of a programmatic evaluation, by its nature a program that includes a large geographic scope, broad objectives, and a very diverse range of participants will not result in a uniform level of definition across all subject areas. However, the disparity may appear greater than it will actually be in practice.

For example, although Ecosystem Restoration Program goals are fairly specific with respect to target habitat acreages, the Program is quite general with respect to the location of such acreages. Given CALFED's commitment to minimize acquisition of land and to eschew condemnation of land for Ecosystem Restoration Program purposes, the specific timing and location of action that will comprise implementation of the Program are to a large extent undefined. Program definition will occur during implementation as opportunities to implement the Program vision, compatible with local landowner and local land use planning goals, are acted upon. The Watershed Program is expected to be largely locally directed, compatible with the overall objectives of the CALFED Program. Hence, the focus is on developing an appropriate collaborative project evaluation and prioritization process, rather than on identifying specific actions. In both cases, therefore, implementation will be largely driven by the opportunities to work with local landowners and agencies to incrementally implement actions that advance the overall Program objectives. Concerns about the lack of detail associated with the Stage 1a implementation actions summarized in Table 3-1 in the Implementation Plan have been addressed by additional Program refinements in the Phase II Report, the Implementation Plan, and associated program plans—which are sufficient for a programmatic analysis.

Various commentors have demanded that CALFED provide much greater specificity in various Program elements, such as water use efficiency measures, the Integrated Storage Investigation, implementation strategy, and so on. The challenge for CALFED is to produce a plan that defines the broad Program scope and its impacts with sufficient detail for intelligent decision making and legal sufficiency, without overwhelming the stakeholder community with detail. There is also a compelling need to complete the programmatic planning phase within reasonable budgetary and time constraints such that those actions for which substantial agreement exists can begin implementation. CALFED is criticized for both the lack of project-specific detail and for the overwhelming amount of information provided in the June 1999 Draft Programmatic EIS/EIR. It is impossible to resolve the conflicting imperatives for more detail and less bulk in the same set of documents.

IP-1.1-15

CALFED disagrees with this assertion. The foundations of any planning process are information about current conditions, current trends, and reasonable assumptions about the future. The future, of course, is an unknown; hence, CALFED has sought to establish a reasonable range with planning "bookends" as described in Attachment A in the Programmatic EIS/EIR.

CALFED's planning process is based on existing laws and regulations. The CALFED Program is not based on assumptions about future legislative activity, other than an expectation that federal and state government funding will become available. In some areas, with input from its agencies and the stakeholder community, CALFED has developed proposals for future legislation (for example, establishment of the water transfer clearinghouse and creation of the CALFED governance entity).

IP-1.1-16

The Implementation Plan summarizes some of the high-priority actions proposed for implementation in Stage 1 (the first 7 years) and Stage 1a (the first 2 years) of Program implementation. The plan includes specific proposals for augmenting environmental flows—taking into consideration monitoring and research information, water, and funding availability, and Program priorities (please see Section 2.3, "Ecosystem Restoration," and Section 2.11, "Science Program"). Please also see Table 3.1. While these actions do not guarantee that all environmental flow requirements will be met at all times, they do indicate that the Program seeks to advance this goal in the context of a balanced Program implementation.

IP-1.1-17

CALFED's efforts to engage stakeholders throughout the CALFED solution area have been more extensive than any attempted in previous water resources planning efforts. The CALFED Program will continue to work with stakeholders and the public in an open and collaborative process in order to develop a solution plan and actions to restore environmental health and improve water management in the Bay-Delta system. The CALFED Program has offered, and will continue to offer, many opportunities for stakeholder involvement—such as BDAC meetings and work groups, public Policy Group meetings, and public hearing and workshops. Policy Group meetings and decision making have been public since August 1999, and BDAC meetings take place several times a year. Many BDAC meetings have been held outside Sacramento to increase public access. Specific suggestions for improving and invigorating that participation process are appreciated and will be incorporated as appropriate.

IP-1.1-18

CALFED has sought to develop, with very broad stakeholder input, a comprehensive, programmatic approach to problems facing the Bay-Delta system. Correcting those problems requires actions of various kinds, as laid out in the Preferred Program Alternative and detailed in the program plans defining its elements. Every effort has been made to develop a plan without broad redirected impacts. However, projects implemented will result in some change in the environment—be it change in land use, construction or removal of facilities, or reoperation of existing facilities. Every project has some effect that someone, somewhere could construe as an impact. For example, construction of a wastewater treatment plant, which might greatly reduce pollution in a body of water, would require that the treatment plant be constructed somewhere, thus affecting existing land use on the affected parcel—be it a natural area, an orchard, or an industrial site. To require no impact of Program actions, anywhere, on any scale, would effectively paralyze Program implementation.

CALFED assumes that all diverters from the Bay-Delta do so in order to accrue benefits from those diversions. The proposed broad-based user fee for water uses is intended to reflect the incremental impact of diversions from the Bay-Delta system, in order to facilitate a practical means to restore and maintain the system. Such a broad-based fee needs to be responsive to the relative impacts of the various diversions and their relative water rights priorities, recognizing that every water user contributes some incremental impact to the Bay-Delta system. Developing a fair and reasonable broad-based user fee to assure the continued restoration of the Bay-Delta system will be a complex and difficult undertaking, responsive to the available biologic, hydrologic, and institutional factors associated with each diversion. (Please also see response IPF 5.0-5.)

IP-1.1-19

CALFED does indeed support the current negotiations that are underway, as well as this approach to resolution of complex issues in general.

IP-1.1-20

CALFED disagrees with the commentors' assessments. The Programmatic EIS/EIR presents alternative impact assessments of the proposed programmatic documents at a programmatic level. Given the geographic scope of the Program, the multiple objectives of the Program, the hundreds of potential solution actions, and CALFED's commitment to respect and support local water management goals, it would be logistically impossible to provide project-level assessments of all possible combinations of implementation actions and their impacts. There are literally millions of possible combinations of actions, each with a unique combination of benefits and impacts that could be analyzed. To attempt such a task would be an immense undertaking, with little hope of reaching closure or of being reviewed and understood by the stakeholder community. CALFED's strategy has been to group planning assumptions so that the aggregate effect of each planning assumption group creates a reasonable "bookend" for impact analyses. Delta operating criteria, ranges of surface water and groundwater storage implementation, ranges of implementation of water use efficiency and water transfers, and ranges of ecosystem restoration actions are among the key variables that were grouped for impact analysis of the alternatives. Project-level environmental assessments and feasibility studies will be tiered off the Programmatic EIS/EIR.

IP-1.1-22

Please also see common response 3. The CALFED Program seeks to restore the Delta ecosystem as one of its four co-equal Program purposes. CALFED is proposing the Ecosystem Restoration Program as a means of restoring and protecting public trust resources. This includes the proposal to acquire additional water from willing sellers in order to augment streamflows that will benefit fish and other aquatic resources, as well as acquisition of interests in land from willing sellers and cooperative agreements to support ecosystem restoration efforts. CALFED recognizes that the decline of ecological resources is the result of multiple causes throughout the ecosystem, including land use changes, introduction of exotic species, introduction of toxic materials, water diversions, dams, canals, highways, and intensified human use of virtually all aspects of the environment. The Ecosystem Restoration Program proposes to deal with many of these causes through cooperative, not regulatory means. Within that framework, CALFED seeks to augment streamflows in key stream reaches on a voluntary and compensated basis, with appropriate protections for third parties that may be affected by reallocation of water by these means. Similarly, proposed land use changes will take place on a voluntary, compensated basis in order to respect private property rights and local economic concerns. Protecting public trust resources in this manner is entirely consistent with the California Supreme Court's direction to protect public trust resources where feasible.

IP-1.1-24

CALFED agrees that education is an important aspect of water conservation, which to a large extent depends on changing public water use patterns for success. Education is an important element of the Water Use Efficiency Program. This function is most effectively performed at the local level, where local conditions and specific opportunities for improving water use efficiency are best understood. CALFED's programmatic approach is to encourage local education and outreach efforts with technical support, incentives, grants, and loans. Such technical support, incentives, grants, and loans, rather than reliance on a regulatory hammer, are the primary implementation tools proposed by CALFED for the Water Use Efficiency Program. This approach does not in any way limit enforcement of existing laws and regulations, but it is hoped that it will reduce the need for use of the regulatory hammer in the future.

The issue of who should pay for what is discussed at length in the Financing Plan (Section 5 in the Implementation Plan). The commentor is directed to that document in response to the suggestion that taxpayers not be forced to pay for the most expensive projects. Please also see response IP-1.4-1.

IP- 1.1-25

CALFED agencies and staff share the commentor's desire to expeditiously develop specific, balanced, implementable solutions to the problems facing the Bay-Delta and those who depend on it. What has become clear in the past 4 years is that those words mean very different things to various stakeholders. No amount of staff effort can paper over the strikingly divergent vision of various stakeholders as to how the Bay-Delta system should be managed now and in the future. The CALFED process has brought into focus the areas for which there is broad consensus and those for which there is no consensus. CALFED has sought to build on the areas of agreement with a staged implementation approach that will tackle the many outstanding, contentious issues in a constructive manner. The reviewer is also referred to responses IP-1.1-6 and IP-1.1-10 for further discussion of balance and meeting local water supply needs.

IP-1.1-26

CALFED and its participating agencies rely extensively on highly sophisticated mathematical models to simulate various important features of California's hydrologic processes and its water resources development system. Those models reach the heart of the water budget concern. CALFED used a variety of models to support its programmatic analysis including, but not limited to:

- DWRSIM - for system operations evaluation,
- DWRDSM2 - for Delta simulation modeling,
- DWOPR - for flood simulation modeling,
- Various spreadsheet models, and
- Economic evaluation models.

These tools are constantly updated and refined to accurately portray system conditions and include new data. Please also see response IP-2.0-3.

IP-1.1-27

After carefully weighing substantial technical analyses; assurances concerns; and the often deeply held, divergent viewpoints of CALFED stakeholders, CALFED has selected a through-Delta conveyance strategy as part of the Preferred Program Alternative. The isolated conveyance component of the dual-Delta conveyance alternative (Alternative 3) was judged to be the technically superior alternative in terms of export water quality, export water supply reliability, and reduced fisheries impacts. However, assurances concerns, particularly with respect to in-Delta water quality and ensuring Delta levee integrity, were not resolved.

Assurances concerns rendered Alternative 3 unimplementable as a Preferred Program Alternative for the CALFED Program at this time. Additional information will be obtained during Stage 1 to determine whether water quality objectives and fish recovery goals can be met and which, if any, additional actions will be necessary to achieve the Program goals and objectives. If it is determined to be necessary, further technical studies of a dual-Delta conveyance alternative will be undertaken. The specific decision process and schedule for evaluation and selection of new approaches will be part of any necessary supplemental programmatic and project-specific environmental documents.

CALFED's Delta conveyance strategy is articulated in the Phase II Report, with additional specific details on early implementation actions in Table 3.1 in the Implementation Plan. In the judgment of the CALFED agencies, this is the greatest level of detail that can be justified at this time, given the lack of current scientific knowledge about

certain aspects of fisheries impacts, the absence of consensus in the stakeholder community on Delta conveyance alternatives, and CALFED's commitment to apply adaptive management to the solution process.

IP-1.1-28

CALFED has proposed a broad implementation strategy that relies to a large extent on adaptive management, which in essence means that research and monitoring will be an integral part of each implementation action in order to determine effectiveness and opportunities for improvement. The Vernalis Adaptive Management Plan (VAMP), described in the "Meeting Flow Objectives for the San Joaquin River Agreement, 1999-2010" (DWR, 1999), is one recent, detailed example of the application of adaptive management applied concurrently with a set of fisheries improvement actions.

To be applied successfully, each action must be accompanied by a carefully structured monitoring and evaluation program tailored to resolving the critical scientific questions. This project-level detail can be developed only on a case-by-case basis. It is also not possible at this time to determine who would be in charge, as implementation will be conducted by numerous local, state, and federal entities. CALFED proposes that there be a commitment to oversight of this process and has advanced a proposal for long-term governance structure (please see Section 4 in the Implementation Plan).

IP-1.1-29

Because of the Program size and complexity, implementation of the Preferred Program Alternative is anticipated, to take place over a period of 30 years or more. Initial actions will be implemented during the first 7 years of the Program. Adaptive management and project-level environmental analysis will allow for Program flexibility.

IP-1.1-30

The Ecosystem Restoration Program recognizes the value of a mosaic of habitat types. The Ecosystem Restoration Program and the MSCS will implement the restoration of a wide variety of habitat types, but the focus in the Suisun Marsh will be tidal wetlands.

IP-1.1-31

The specific actions and programs proposed in the Strategic Plan should be viewed as the detailed discussion of the Stage 1 actions for the Ecosystem Restoration Program.

IP-1.1-32

The descriptions of actions associated with the bundles do not completely describe Stage 1 actions for the Ecosystem Restoration Program. They do describe proposals for the first 2 years for some, but not all, of the Ecosystem Restoration Program Stage 1 actions. Please refer to the Strategic Plan for a more complete set of proposals.

IP-1.1-33

The Ecosystem Restoration Program proposes to assist in implementation of the Suisun Marsh diversion screening program. Diversions that are selected as the highest priority will be screened first.

IP-1.1-34

CALFED has placed considerable emphasis and resources on the restoration of the Cosumnes River. However, the river has not historically supported large numbers of chinook salmon and is not likely to in the future.

IP-1.1-35

The Ecosystem Restoration Program has funded substantial acquisition, restoration, and study along the Cosumnes and Mokelumne Rivers as a major component of its early implementation effort. More will be done in Stage 1, as part of the North Delta Program.

IP-1.1-36

Stage 1 is not the only or entire time frame for implementation of the visions for ecological zones contained in the Ecosystem Restoration Program. Implementation will take place over a period of 30 years or more.

IP-1.1-37

Thank you for your support.

IP-1.1-38

Substantial areas of scientific uncertainty are associated with habitat and entrainment issues in the south Delta. For this reason, CALFED proposes to implement some actions in the early implementation of Stage 1. Our purpose is to reduce scientific uncertainty.

IP-1.1-39

If the opportunities are presented by willing sellers, CALFED will pursue them.

IP-1.1-40

CALFED concurs.

IP-1.1-41

The Ecosystem Restoration Program has initiated investigation into these issues and will continue to do so.

IP-1.1-42

CALFED concurs. It is our intent to use the science and research component of the Ecosystem Restoration Program to address this and the many other issues associated with restoration of natural streamflow processes.

IP-1.1-43

CALFED agrees with the commentor that Program components must be consistent. Actions will be prioritized to ensure that the most cost-effective and beneficial actions move forward first. The inter-relationships between Program actions need to be carefully considered in the planning and implementation phases of the Program.

CALFED has sought to structure the implementation process to achieve these goals. For the south Delta, CALFED has sought to develop a broad, well-integrated solution approach to the lower San Joaquin River and south Delta region's water management and fisheries concerns, which includes substantial flexibility and a broad set of actions to attack problems from many fronts. (Please also see responses IP-1.1-6 and IP-2.8-1.)

IP-1.1-44

CALFED agrees with the commentors and is developing such a review process, including peer review for the Ecosystem Restoration Program and other Program elements. Such a process will itself be subject to review and refinement throughout the implementation process. It must be recognized, however, that Program priorities will not be driven purely by scientific imperatives. The need to implement policy decisions; the need to assure appropriate regional and resource priorities; and the constraints of laws, regulations, and permit requirements may need to be considered in conjunction with the recommendations of science review panels. The challenge will be to clearly articulate and debate this blend of science, policy, and regulatory constraints.

IP-1.1-45

The support for this approach is appreciated.

IP-1.1-46

CALFED, through the Ecosystem Restoration Program and the MSCS, does not share the commentors' pessimism regarding the ability to recover jeopardized species. However, CALFED does acknowledge the uncertainty of which measures will be most effective in meeting Ecosystem Restoration Program and MSCS goals. Therefore, adaptive management, supported by sound science, monitoring, and adequate funding, will be implemented to evaluate the effectiveness of the measures.

IP-1.1-47

It is very difficult to calculate the value of natural resources. CALFED can and will determine the costs for mitigation of potential impacts on such resources. CALFED has estimated such costs at a significantly higher percentage (20% of project costs) than typically used for similar private resource mitigation projects (4-5% of project costs). Therefore, CALFED has included full mitigation costs using conservative estimates for water development proposals described in the Program documents, including the Programmatic EIS/EIR.

IP-1.1-48

Please also see common response 5. The comment underscores the challenge of formulating a coherent, specific suite of alternatives when the scope of the Program, both in terms of geography and subject matter, would allow for literally millions of combinations of actions. Each of the Program elements, such as the Water Use Efficiency Program, identifies a large number of potential solution options that can be implemented to various degrees throughout the CALFED problem and solution area. The Programmatic EIS/EIR discloses these actions and discusses their potential impacts and benefits, thus meeting its obligation under the National Environmental Policy Act (NEPA) and CEQA. What the document does not do is artificially link specific combinations of the various program actions with specific storage and Delta conveyance combinations. CALFED chose not to create such specific action combinations for the simple reason that it is entirely unrealistic to narrowly define alternative futures for such a complex system. In other words, CALFED's assertion that the common program elements "do

not vary" should be construed to mean "do not vary in concert with or as a specific function of the Delta conveyance alternative."

CALFED did evaluate on a programmatic scale, however, the broad range of effects of selecting future water management strategies, ranging from emphasis on demand management and more restrictive Delta environmental protections (Criterion A) to a greater emphasis on new system storage and no new environmental protections (Criterion B). The environmental impact evaluation of alternatives was conducted with both Criterion A and Criterion B, thus capturing a reasonable range of uncertainty and flexibility with respect to implementation of key Program components. The resultant matrix of evaluations (please see Attachment A in the Programmatic EIS/EIR) appropriately captures the range of alternatives on a programmatic scale. (Please also see response IP-1.1-20.)

IP-1.1-49

Such a detailed evaluation of the isolated conveyance component would occupy as much text as the entire Programmatic EIS/EIR and would go well beyond the appropriate level of detail for a programmatic document. During the course of alternative formulation, CALFED staff has conducted fairly extensive modeling of various dual-conveyance strategies and has made the results of those studies available to the public both in hard copy and through CALFED web sites. The results of those analyses were summarized in the March 1998 Phase II Interim Report. The dual-conveyance evaluations recognized that diversions from the south Delta, combined with cross-Delta flow from the Sacramento River, significantly improved central and south Delta water quality as compared to a no-diversion scenario. This modeling suggested that a minimum diversion rate of approximately 3,000 cubic feet per second (cfs) was sufficient to protect in-Delta water quality. Please also see common response 16 and response IP-1.1-27.

IP-1.1-50

The export/import (E/I) ratio was formulated as a tool to limit the adverse hydrodynamic and entrainment effects of State Water Project (SWP) and Central Valley Project (CVP) diversions in the south Delta. One of the primary benefits attributed to the proposed dual-Delta conveyance alternative is that it would divert water upstream of the Delta, thus significantly reducing adverse hydrodynamic conditions and direct entrainment effects. The proposed relaxation of the E/I ratio would reflect this physical attribute of the dual-Delta conveyance system.

As noted in response IP-1.1-48, the Programmatic EIS/EIR does analyze the effect of a range of water management criteria, as embodied in the bookend clusters of assumptions (Criteria A and B). It would be impractical to analyze each protective standard individually, as recommended by the commentor.

While assurances are an important element of the CALFED planning process, it is now clear that a single comprehensive assurances package will not be included as part of the Programmatic EIS/EIR. Please see response IP-1.1-2 for further discussion of that issue.

IP-1.1-51

The proposed actions are included as part of the comprehensive U.S. Army Corps of Engineers (Corps)/California Department of Water Resources (DWR) flood evaluation and CALFED's Integrated Storage Investigation. In addition, agencies with dam operating responsibilities periodically review their dam reservation criteria. The proposed integration of these efforts is a reasonable recommendation. The proposed analysis is not necessarily an alternative to evaluation of new storage opportunities but should be and will be conducted concurrently. The real

question is to what level of detail and integration these reevaluations of existing storage facility operations will be conducted.

IP-1.1-52

Without exception, the proposed concepts and actions have been provided to CALFED through the alternative formulation and evaluation concept. Many of these concepts and actions have been incorporated into CALFED's program plans and the Programmatic EIS/EIR; others have been modified or left out in an effort to develop a practical Preferred Program Alternative consistent with CALFED's solution principles.

One theme that appears throughout this comment is the need for explicit, detailed assurances for environmental restoration, beyond that which is provided by the existing regulatory framework. CALFED's response to assurances concerns for various stakeholders is provided in response IP-1.1-2, and the commentor is referred to that response. Another theme that appears throughout this comment is the need to fully take advantage of primarily "soft path" water management tools to meet urban and agricultural water requirements, with a need to cap Bay-Delta system diversions at a level below current levels.

CALFED has considered such an approach as part of its extensive, interactive, integrated water management analyses. While the details of CALFED's Water Management Strategy will continue to evolve over the coming years, the CALFED agencies believe that all available tools, including additional surface storage, must be considered for implementation. CALFED also believes that a cap on exports, below current levels, would make it extremely difficult to achieve a balanced solution and is therefore an action of last resort.

In addition to this overview response, CALFED has responded to some specific elements of this comment, as follows: responses IP-1.1-2, IP-1.1-11, IP-1.1-26, IP-1.1-32, IP-1.4-1, IP-2.0-1, IP-2.0-3, and IP-2.8-2.

IP-1.1-53

The purpose of the Programmatic EIS/EIR is to evaluate the environmental consequences of the CALFED Program at a programmatic level in order to support the CALFED lead agencies in their decision of whether to adopt the Preferred Program Alternative or one of the other alternatives evaluated in the document. Adoption of the CALFED Program does not include the discretionary decisions to proceed with those early implementation projects for ecosystem restoration that have been funded through the CALFED Program during the last several years. Each of these projects has been justified independent of the Program and subject to its own environmental review, where legally required. Please see response IP 4.3-1 that describes funding for early implementation of ecosystem restoration projects and the environmental review requirements imposed on each project. The cumulative impacts of the early implementation ecosystem restoration projects, along with the overall Ecosystem Restoration Program, are evaluated in the Programmatic EIS/EIR. Neither NEPA nor CEQA require the Programmatic EIS/EIR to enumerate every early implementation project. This information, however, is publicly available from the CALFED Program.

IP-1.1-54

The regulatory framework within which the CALFED Program will act, as well as the manner in which the Program will comply with applicable environmental laws, are discussed in Chapter 8 in the Programmatic EIS/EIR. The affected environment, or existing environmental conditions, is described in each chapter that addresses a natural resource or impact category. For example, the affected environment/existing conditions pertaining to wildlife are set forth in Section 6.2, which addresses impacts on vegetation and wildlife. It is unclear

how the recommended "regulatory baseline" would differ from or add to the regulatory framework description or the affected environment/existing conditions descriptions provided in the Programmatic EIS/EIR.

The comment does not specify which species are intended when the comment refers to species "eligible" for listing. Under both state and federal Endangered Species Acts (ESAs), an individual species may be listed through a regulatory process that culminates in a formal determination of whether the species is threatened or endangered. If a species is determined to be threatened or endangered, it is added to the list of threatened species or endangered species, as appropriate. The U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and California Department of Fish and Game (DFG) may propose a species for listing. In addition, any member of the public may propose a species for listing under state and federal ESAs. Please refer to Title 50, CFR Section 424.01 et seq. for an explanation of the process to list a species under the federal ESA, and to Title 14 CCR Sections 670.1-670.5 for the process under the California ESA. The CALFED Program will not limit or supplant these processes. The commentor may propose for listing any species that the commentor regards as eligible for listing without regard to the CALFED Program.

However, listing additional species would provide little, if any, benefit in achieving the objectives of the CALFED Program. The MSCS and the Ecosystem Restoration Program propose to protect both species that are listed under state or federal law and species that are not listed. The federal ESA provides for citizen enforcement lawsuits concerning species listed thereunder. This is not in itself, however, a sufficient reason to list additional species. CALFED is committed to implementing the CALFED Program. Additional citizen enforcement suits under the federal ESA are not necessary for, and may conflict with, this purpose.

IP-1.1-55

CALFED was established, in part, to reduce the contentious legal battles centering on the management and use of the Delta's water resources. Creating additional opportunities for litigation concerning the implementation of CALFED would likely increase and intensify these legal battles. Enabling legal action where CALFED is unable to meet specific objectives—such as Ecosystem Restoration Program/conservation objectives, water quality objectives, and water supply reliability objectives—is not consistent with the purpose of the CALFED Program.

At present, the precise nature, location, and timing of Stage 1 actions are unknown. The Programmatic EIS/EIR is a programmatic document and does not analyze specific Stage 1 actions. Please see common response 1. Stage 1 actions must comply with CEQA and NEPA independently, although such compliance may be tiered from the Programmatic EIS/EIR. When Stage 1 actions are identified and defined, they will be subjected to appropriate further environmental review. Likewise, the extent to which specific Stage 1 actions may affect listed species and may require authorization under the federal ESA or the California Natural Community Conservation Planning Act (NCCPA) is not known at present. Incidental take permits will be required for any CALFED action that may take a listed species and is not subject to the discretionary authority of a federal agency. All CALFED actions that may take a listed species and are subject to the discretionary authority of a federal agency must obtain an action-specific biological opinion in accordance with the MSCS.

The commentor's objection to the programmatic biological opinions appears to be based on the assumption that the programmatic biological opinions will authorize take of listed species. This is not so. The programmatic biological opinions will not authorize take of listed species. Take will be authorized, where appropriate, through the streamlined compliance process described in the MSCS. The MSCS compliance process requires appropriate additional environmental review for Stage 1 actions that will affect listed species or other species evaluated in the MSCS. Assurances will be provided for specific Stage 1 actions only after subsequent appropriate environmental review has been conducted to comply with CEQA, NEPA, the ESA, and the NCCPA.

The federal habitat conservation plan (HCP) process will be used for CALFED Program actions that are not subject to the discretionary authority of a federal agency. Assurances will be provided for such actions in accordance with the federal "no surprises" rule. (Please see Federal Register: February 23, 1998 [Volume 63, Number 35] pp. 8859-8873; [**http://endangered.fws.gov/r/f980223.html**].) Most Ecosystem Restoration Program actions will be subject to the discretionary authority of a federal agency. For most Ecosystem Restoration Program actions, a federal agency will either carry out the action, provide funding, or issue a permit necessary to carry out the action. Some Ecosystem Restoration Program actions may be carried out by private entities without federal funding and may not require a permit from a federal agency. If such an action may take a listed species, the federal HCP process will be used to authorize the take.

If new surface storage was constructed, a permit under the federal Clean Water Act (CWA) would be required, federal funding would likely be used, and a federal agency such as the U.S. Bureau of Reclamation (Reclamation) or the Corps would possibly construct some or all of the project. Consequently, the HCP process would not be used.

IP-1.1-56

CALFED agrees; however, Table 3.1 has been revised to delete the column in question (Implementing Agency). No additional action is necessary.

IP-1.1-57

The CALFED agencies are developing a plan to address four inter-related resource management issues. Implementation of the plan may require new law or changes in existing law. Implementation of the plan probably will require appropriations from the state and federal governments.

Regarding substantive and administrative changes, CALFED agencies are reviewing current law to determine the amount of agency discretion in current law and whether new law or changes in the existing law are needed for implementation of the proposed Program. If changes are needed, the CALFED agencies will propose that executive branch officials endorse the changes and propose them to the State Legislature and to Congress.

Regarding appropriations, the CALFED agencies are developing a proposal to finance the expected costs of the Program. The CALFED agencies expect that state and federal appropriations will be needed. In consultation with state and federal agencies with fiscal oversight responsibilities, CALFED agencies will propose that executive branch officials endorse the proposed appropriations and propose them to the State Legislature and to Congress.

The proposed appropriations may require separate statutory authorization. If so, the CALFED agencies will include such authorizations in the changes proposed to executive branch officials. The CALFED agencies, as units of the executive branch of government, are not empowered to enact or modify statute law or to appropriate funds. Therefore, a commitment from the CALFED agencies for enactment of federal and state legislation would be inappropriate.

IP-1.1-58

The ROD for the CALFED Program will describe the programmatic elements of the Program. The Program as developed is not a regulatory program. Therefore, the ROD for the Program will not impose conditions, regulatory requirements, or resource management prescriptions.

Agencies participating in development of the CALFED Program will continue to follow statutes governing both the scope of their regulatory authorities and the process for adoption of conditions, regulatory requirements, and resource management prescriptions.

IP-1.1-59

The CALFED Program as developed is a proactive program to address resource management issues. As such, the Program is subject to regulatory requirements. The CALFED Program is not a regulatory program that imposes requirements. Therefore, implementation of the Program by state and federal agencies is not properly viewed as adherence to a set of requirements.

Chapter 8 in the Programmatic EIS/EIR, "Applicable Laws, Policies, and Plans and Regulatory Framework," describes how the CALFED Program complies with all regulatory requirements that have been identified to date.

IP-1.1-60

Reduction in TDS is one of the primary objectives of the water quality program. Please see Section 7, "Salinity" (hence TDS) in the Water Quality Program Plan. Please also see responses IA-5.3-1 and WQ-3.5.5-2.

1.2 Strategies for Addressing Cross-Cutting Implementation Issues: Addressing Technical, Regulatory, and Policy Concerns

IP-1.2-1

CALFED has summarized the key existing regulatory programs and proposed approaches to coordinated compliance with them in the Phase II Report. In addition, coordinated compliance with federal and state ESA requirements is discussed in the MSCS. CALFED is also developing programmatic compliance guidance for Section 404 of the CWA, as well as for Section 401 compliance. While these actions will not eliminate conflicts nor provide absolute assurances of regulatory certainty, they do provide tools for resolving regulatory concerns more efficiently and constructively than if they were dealt with individually.

IP-1.2-2

The draft language in question is subject to negotiation and change in a process (the Section 404 memorandum of understanding [MOU] process) designed to clarify and advance programmatic regulatory compliance for various actions that might be undertaken as part of the Program. It is anticipated that surface storage and conveyance components will be the most difficult to permit, because these projects are located in or near wetlands, streams, rivers, or other "waters of the United States" and may result in significant impacts. There is a regulatory presumption that alternatives for achieving project purposes exist that do not affect wetlands and waters of the United States. Overcoming this presumption requires a demonstration, to the satisfaction of the regulatory agencies, that all less environmentally damaging practicable alternatives have been fully implemented. The suggested language changes will be considered as the MOU language is negotiated. The MOU development process will be completed with stakeholder review and participation, although the regulatory agencies will not cede any statutory authority to this process.

IP-1.2-3

CALFED will comply with Proposition 204 requirements for balanced implementation as specified in Section 78684.12 of the California Water Code, which sets conditions on the disbursement of $390 million for ecosystem restoration actions. CALFED is also conducting, in cooperation with other state and federal agencies, an Integrated Storage Investigation to address surface and groundwater storage planning concerns. As noted in response IP-1.2-2, CALFED is also working to establish the permitting framework for future Program actions, particularly storage and conveyance projects. Under current law, final permit actions for new surface storage can be taken only after the completion of project-specific feasibility investigations and environmental impact evaluations.

IP-1.2-4

As summarized in the Implementation Plan and detailed in the Comprehensive Monitoring, Assessment, and Research Plan (CMARP), monitoring and adaptive management are integral elements of the CALFED Program implementation.

IP-1.2-5

CALFED's Water Management Strategy and Implementation Plan both implicitly recognize the greater flexibility provided by water use efficiency, water transfers, groundwater management, and other actions. Although surface storage may provide larger increments of water, it too can contribute to system operational flexibility (please see the EWA in the Phase II Report). It is not necessary to include a comparative analysis of the various water management tools' compatibility with adaptive management. Instead, proposed Stage 1 actions propose substantial early investment in water use efficiency, water transfers, groundwater management, and other actions. These broad-based water management actions will rely to a large extent on adaptive management to provide tools for modifying implementation based on what is learned during implementation of individual actions. For adaptive management to be applied successfully, each such action must be accompanied by a carefully structured monitoring and evaluation program that is tailored to resolve the critical scientific questions. This project-level detail can be developed only on a case-by-case basis. However, CALFED also recognizes that the planning process for large surface storage projects takes many years to complete, and thus deems it prudent to advance the necessary environmental and feasibility studies in order to ensure that such storage options are implementable in the framework of the Water Management Strategy and the regulatory compliance requirements. Please also see response PH2: 3.6.1-26.

IP-1.2-6

CALFED is committed to full compliance with all applicable laws and regulations in the planning process, which for a major project such as new surface storage is necessarily a lengthy and complex process because of the many environmental, engineering, economic, and water management concerns that must be thoroughly assessed. CALFED seeks to develop a framework for a coordinated approach to the analysis of surface water and groundwater storage (the Integrated Storage Investigation), and to streamline the regulatory compliance process (especially the CWA, Section 404). CALFED is committed to inter-agency coordination on the planning efforts for all major Program components. This approach will not guarantee that specific projects will be constructed but will provide a more reliable and streamlined framework for planning than was previously available. Please also see response PH2:3.6.5-45.

IP-1.2-7

CALFED has gone well beyond the normal level of detail for programmatic EIS/EIR documentation endeavors and has described alternative actions, their benefits, and impacts that may accrue. Despite the large geographic scope and complexity of the Program, CALFED has defined a fairly specific range of potential impacts based on a systematic grouping of assumptions about Delta protective actions, water demands, and action alternatives. While it would be highly desirable to reach complete agreement among CALFED agencies and stakeholders on the issues of governance, finance, and assurances, these are not legally required components of the Programmatic EIS/EIR and Programmatic ROD. The level of definition achieved on these issues by the time of the Programmatic ROD will primarily be a function of the degree to which CALFED agencies and stakeholders find areas of agreement that can then be formalized by CALFED. In addition, CALFED is continuing to refine its Water Management Strategy to include more information on how surface and groundwater storage can fit into the system. This refinement will include opportunities for public review and comment.

1.3 Governance

IP-1.3-1

CALFED agrees and hence has devoted considerable effort to formulating a proposed interim and long-term governance structure for the Program, as detailed in Section 4, "Governance," in the Implementation Plan.

1.4 Finance

IP-1.4-1

The Programmatic EIS/EIR and companion documents do not spell out with specificity who the Program beneficiaries are and how the Program costs will be allocated among users. As noted in the Financing Plan (Section 5 in the Implementation Plan), a fundamental principle for allocation of Program costs is that beneficiaries should pay the cost of benefits received. The plan recognizes the difficulty of applying this principle in practice and indicates that policy judgments and negotiations will be necessary to establish Program financing. During implementation, it is anticipated that Program financing will be achieved through a series of inter-dependent actions, including bond measures, legislative appropriations, user fees, and other mechanisms. For individual projects, the level of detail for project-specific funding will be commensurate with the level of project planning (Please also see response IPF 5.6-1).

IP-1.4-2

CALFED agrees that it would be preferable to have all details of a complex plan laid out at the outset, so that all stakeholders can fully weigh their benefits and allocated costs. However, the current Program plan, including the Financing Plan, is programmatic in nature, designed to be implemented in stages over 30 years or more. The CALFED agencies believe that it is unrealistic to seek to develop a complete, highly detailed Financing Plan prior to the Programmatic ROD for the programmatic planning phase of the Program. However, stakeholders will have full opportunities to evaluate the costs and benefits of individual Program components during the project- level planning phase for each component.

IP-1.4-3

Stage 1 costs are documented in Section 5 in the Implementation Plan. The table indicated that the $2 million figure is for both recycling and water conservation. Projected expenditures have been revised and can be found in Section 5, "Financing Plan." CALFED shares the commentor's interest in assuring that expenditures are well balanced and cost effective.

IP-1.4-4

The treatment, storage, and disposal of hazardous wastes and investigation and remediation of environmental contamination from hazardous wastes and/or hazardous substances are already regulated by a variety of federal and state laws and regulations, including the Resource Conservation and Recovery Act; Comprehensive Environmental Response, Compensation, and Liability Act (Superfund); National Oil and Hazardous Substances Pollution Contingency Plan; California Health and Safety Code; California Code of Regulations; and California Water Code. Those laws and regulations include many of the concepts that the commentor recommended. Therefore, The CALFED agencies believe that these concerns are adequately regulated by separate authorities.

1.5 Implementation Actions

IP-1.5-1

CALFED appreciates this invitation and will consider the city, along with other potential locations, taking into consideration an appropriate range of factors, such as proximity to implementation sites, suitable access, available sites, proximity to population centers, and so on.

2. Stage 1 Actions

IP-2.0-1

As described in Section 2 in the Implementation Plan, CALFED has proposed specific actions for Stage 1 to achieve balanced Program implementation with benefits in water supply reliability, water quality, levee system integrity, and ecosystem quality. In many cases, the benefits of implementation are quantifiable; in others, the benefits will vary depending on the level of implementation, the results of research, and development of optimal solution approaches based on adaptive management. The degree of progress in Stage 1 will also highly depend on the funding that becomes available to support the implementation process.

IP-2.0-2

The commentor's observation on the duration of time required to complete Stage 1 actions is probably correct. The time estimates were based on the assumption that there are no major technical, logistical, financial, or political issues to halt progress. In other words, the duration estimates were the most optimistic that could be justified by estimates of the actual effort required to complete each action. CALFED agrees that accuracy, completeness, and scientific evaluations must be implementation priorities.

IP-2.0-3

CALFED does not doubt the value of laying out a water budget that explicitly identifies all budget elements. To the extent feasible, CALFED's analysis is based on such a water budget accounting, which takes into account

existing hydrologic features of the system, existing and proposed operating criteria, existing and proposed facilities, and explicit assumptions about the potential effectiveness of structural and nonstructural water management efforts. Since future hydrologic conditions are unknown, historical hydrologic records are used as samples of potential future years, with the full recognition that each new year is unique and inherently unpredictable. No matter how detailed and explicit the modeling/water budget accounting process, the best we can do is make educated guesses about the potential range in future hydrologic conditions, effectiveness of water management measures, and economic conditions. Accordingly, CALFED has sought to bracket the range of potential outcomes and impacts by grouping assumptions under Criterion A and Criterion B, as described in Attachment A in the Programmatic EIS/EIR. (Please also see response IP-1.1-26.)

2.4 Water Use Efficiency

IP-2.4-1

The Implementation Plan is a programmatic-level document that will guide more specific implementation efforts. During Stage 1, the Water Use Efficiency Program will work with local and regional agencies on strategies to address impediments to water recycling and may incorporate some of the commentor's strategies for working through institutional and public policy hurdles. Cost estimates likely will change during actual implementation of the CALFED Preferred Program Alternative. The Water Use Efficiency Program will work with local and regional agencies to refine this estimate.

2.6 Watershed Program

IP-2.6-1

CALFED's Stage 1 watershed management actions do not identify specific watersheds and projects to be implemented. The Stage 1 action list, developed with extensive stakeholder input, is designed to establish a fair, open, efficient, and scientifically defensible approach to implementing watershed restoration actions. Therefore, the merits of watershed management projects in the Feather River basin will be considered in this process in order to determine the portion of funding allocated to this component.

2.7 Storage

IP-2.7-1

CALFED has identified actions that will be taken in Stage 1 to expand storage capacity at existing reservoirs and strategically located off-stream sites by approximately 950 TAF, and to implement a major expansion of groundwater storage for an additional 500 TAF to 1 MAF. Decisions to construct groundwater or surface water storage will be predicated on compliance with all environmental review and permitting requirements, and maintaining balanced implementation of all Program elements.

Surface storage facilities require a substantial period of time to plan, design, and construct, depending on the proposed project, technical difficulties, impacts, and financing issues. Groundwater storage and conjunctive use projects are generally less facility-intensive but require extensive local coordination, monitoring, and modeling prior to construction. During Stage 1, CALFED—in cooperation with local partners—will complete feasibility studies and initiate environmental review and permit application processes for storage projects, as described in the Phase II Report. It is anticipated that construction of new storage projects will be initiated later in Stage 1, if all conditions are met. Please also see common response 4.

IP-2.7-2

The support is appreciated.

2.8 Conveyance

IP-2.8-1

The Programmatic EIS/EIR includes a Preferred Program Alternative that is consistent with the programmatic nature of the document (please see common response 1). In the June 1999 Draft Implementation Plan, CALFED recommended a preferred alternative to be evaluated along with other alternatives in the project-level environmental documentation for south Delta facilities improvements, in order to help identify and resolve the various technical and policy issues surrounding the south Delta. CALFED made its recommendation with the best available information at the time, including a recognition of the uncertainty involving many aspects of that information, and with detailed information regarding stakeholder concerns and interests.

Based on operational experience over the past several months, input from the stakeholder community, ongoing coordination with the Corps/DWR Comprehensive Flood Control Study, and progress with our technical studies, the CALFED agencies believe that it is appropriate to reevaluate the specific recommendations with respect to south Delta facilities improvements. Therefore, the south Delta preferred alternative has been removed from the Implementation Plan. Various alternatives will be evaluated in a project-specific environmental document, including the installation of a fish control barrier at the head of Old River and three flow control structures (on Old River, Middle River, and Grant Line Canal)—or their functional equivalents. CALFED will pay particular attention to developing an appropriate implementation sequence, such that incremental actions can provide balanced improvements across the various resource categories at each implementation step. Included in such an evaluation will be development of appropriate base conditions for the necessary modeling effort(s). Determining the appropriate base conditions is a project-specific concern that will be addressed in the project-specific evaluation. Therefore, it was not necessary to establish such project-specific base conditions for the programmatic evaluation. However, CALFED understands the shortcomings of its preliminary analysis and will continue to work with interested stakeholders to establish appropriate base conditions to evaluate alternatives for south Delta facilities improvements.

CALFED has taken no action on the 1991 agreement between the South Delta Water Agency (SDWA), Reclamation, and DWR. That agreement was signed by the SDWA and DWR, but not by Reclamation. DWR has made every effort to complete its obligations under the agreement, including modifying SWP Clifton Court Forebay gate operations, dredging and installing siphons for Tom Paine Slough, installing temporary barriers as permits and hydrologic conditions have allowed, and advancing the planning process for permanent facilities. CALFED's current approach is to meet the substantive goals of the settlement agreement with a more comprehensive range of actions, with the hope that further action to finalize the agreement will be unnecessary.

CALFED acknowledges and shares stakeholder concerns regarding the effectiveness and potential impacts of the various proposed actions. However, there is substantial flexibility in the recommended approach to ensure that south Delta water quality and supply availability are not affected, despite higher export rates during certain periods of the year and a new pumping regime designed to accommodate screening of the SWP and CVP intakes. Specifically, a south Delta facilities improvements project purpose statement has been developed that states:

> The purpose of the South Delta Improvements Project is to improve the reliability of the existing State Water Project facilities and operations within the south Delta, while ensuring that water of

adequate quantity and quality is available for diversion to beneficial use within the South Delta Water Agency's service area; and to contribute to restoring the ecological health of aquatic resources in the lower San Joaquin River and south Delta.

Project purpose statements have been developed for the other actions planned in the lower San Joaquin River and south Delta. In addition, the CALFED approach calls for a comprehensive group of actions, which would directly or indirectly benefit the south Delta region, including the SDWA service area. That approach includes the evaluation and, where practical, implementation of solutions to the problem of low dissolved oxygen in the lower San Joaquin River.

In summary, CALFED has sought to develop a broad, well-integrated solution approach to the lower San Joaquin River and south Delta region's water management and fisheries concerns, which includes substantial flexibility, opportunity for continued stakeholder input, application of adaptive management, and a broad set of actions to attack problems from many fronts.

IP-2.8-2

CALFED agrees that these actions, as well as nearly all Delta actions are controversial and require appropriate permits before they can move forward. The Implementation Plan should have made clear that the Programmatic EIS/EIR and the accompanying appendices define a broad vision with specific suggestions for Stage 1 implementation actions. However, all proposed actions need to undergo appropriate project-level feasibility and environmental review and permits approval before implementation, with full opportunity for public review and comment. Therefore, inclusion in the Stage 1 action list does not guarantee that a particular action will proceed; it is merely an indication that the action is considered by CALFED to be important, urgent, and potentially implementable. The list of Stage 1 actions will be updated based on comments received, Program development, projected funding, and the evolution of CALFED's implementation priorities. The proposed conveyance actions that one commentor recommends for deletion are actions that may provide significant improvements in Delta conveyance, in terms of water quality, water supply reliability, and fisheries impacts. Therefore, the actions have not been deleted from the Stage 1 action list as requested.

IP-2.8-3

CALFED agrees with the commentor's observations. The proposed approach to future decision making is reasonable but will be subject to change as future events unfold.

IP-2.8-4

CALFED agrees with this recommendation, as reflected in the impact analysis operational assumptions and in the proposed Stage 1 actions for conveyance. Potential actions include implementation of Joint Point of Diversion, physical inter-ties between the two systems at the intakes and between the aqueducts, consolidation of screened intakes, and better operational coordination. Such coordination needs to consider and respect existing water rights protections for all water users who might be affected by better coordination of export operations.

IP-2.8-5

The statement in question (in Section 5.2.8.1 in the June 1999 Draft Programmatic EIS/EIR under "Alternative 1 - Delta Region - Stage") has been deleted; therefore, no action is necessary.

IP-2.8-6

CALFED Stage 1 actions provide for an evaluation of flow recirculation into the San Joaquin River, using water from the Delta-Mendota Canal (please see "South Delta Improvements" in the Phase II Report). While it is possible for this recirculation to contribute to environmental pulse flows, it is unlikely that the recirculation could provide all the flows needed. To achieve the intended ecosystem benefit, pulse flows require a large volume of water over a relatively short duration. The rate of flows required is larger than the capacity of the Delta-Mendota Canal. Due to the programmatic nature of the CALFED Program, no specific decisions have been made concerning the best way to provide the flows. However, it is likely that the flows will come from willing sellers or water developed by CALFED Program. The pulse flows are not expected to adversely affect water rights or Delta statutes.

IP-2.8-7

The requested evaluation will be incorporated into the project-specific evaluations for a screened diversion facility on the Sacramento River.

2.9 Assurances and Institutional Arrangements

IP-2.9-1

As noted in the Implementation Plan, CALFED proposes implementation of an MSCS and notes the need for a final SWRCB decision on water rights allocations for the Water Quality Control Plan. These are the key elements for achieving a higher degree of regulatory certainty than current circumstances allow. In addition, one of the key goals of the Ecosystem Restoration Program is to restore listed and sensitive aquatic species in order to reduce the conflict between those species needs and the needs of Delta water users. It should be noted that the SWRCB reserves the right to periodically reassess water rights allocations for the Delta, and thus no permanent, absolute regulatory certainty can be guaranteed.

3.0 Near-Term (Stage la) Actions

IP-3.0-1

CALFED agrees that the various Stage 1 actions in the south Delta represent key actions that can provide immediate regional and statewide benefits in terms of water supply reliability, water quality, ecosystem quality, and levee system integrity. The Programmatic EIS/EIR provides the broad conceptual framework for implementing these actions and discloses the potential range of impacts and benefits of these actions. However, final decisions on the implementation of any of these actions requires complete, project-level compliance with CEQA, NEPA, the CWA, the federal and state ESAs, and all other applicable laws and regulations. Final decisions therefore cannot be guaranteed at the time of the Programmatic ROD. Depending on the actions, such compliance requires various levels of project-specific environmental review, ranging from categorical exemptions to full EIS/EIRs. Where impacts (including secondary and cumulative impacts) are less than significant, certain actions can proceed to the project approval and implementation stage prior to or concurrent with the completion of the Programmatic EIS/EIR. However, for most actions with significant impacts, the project-level environmental documentation will be tiered off the Programmatic EIS/EIR and completed subsequent to the Programmatic ROD. There are currently no plans for recirculating the Draft Programmatic EIS/EIR.

IP-3.0-2

CALFED supports the implementation of the San Joaquin River Agreement and the VAMP, with careful annual monitoring of potential effects on downstream flow and water quality. Any potentially significant adverse impacts need to be mitigated.

IP- 3.0-3

CALFED will continue to evaluate potential implementation actions in light of Program objectives, available funding, CALFED agency responsibilities, stakeholder input, and the results of monitoring actions that have been initiated.

4. General Responses

IP 4.0-1

The June 1999 Draft Programmatic EIS/EIR describes the interim Governance Plan and indicates that CALFED would develop the long-term governance structure and decision-making processes by the time of the Final Programmatic EIS/EIR. Development and adoption of an effective long-term governance structure is critical to the success of the CALFED Program. CALFED has been working with agencies, stakeholders, and the State and Federal Legislatures to develop a long-term governance structure. A primary function and responsibility of any long-term governing structure is to provide program integration and balance. CALFED agencies are proposing the creation of a joint federal-state commission for the long-term governing structure with state, federal, stakeholder, and tribal representatives. Establishing a new commission will require state and federal legislation. Therefore, the governance plan is only a proposal at this stage. By including public members on the commission and holding public meetings, public participation in decision making will be increased.

If legislation is adopted to establish a new commission, consideration will be given to geographic and interest group representation. In addition, CALFED agencies propose that agencies retain their regulatory authority, but some program authorities may fall within the scope of the commission and be subject to commission oversight. Governance is only one aspect of assurances; one must look at all parts of the Program to judge the adequacy of the assurances provided by the CALFED Program.

IP 4.0-2

As explained in Chapter 1 in the Programmatic EIS/EIR, the CALFED Program is a consortium of 18 state and federal agencies with management or regulatory responsibilities or expertise in the Bay-Delta estuary. Each of these agencies may carry out a second-tier project or be affected by the Program as it is implemented. At this programmatic level, it is unknown which agency will have the principal responsibility for carrying out or approving second-tier projects. It is most likely that the CALFED agencies with the appropriate legislative authority for each project would implement second-tier projects. Since the proposed CALFED Program actions are evaluated in the Programmatic EIS/EIR, the analysis may be used by any agency with authority to carry out parts of the Program in second-tier projects.

As a programmatic planning-level document, the Programmatic EIS/EIR does not analyze site-specific impacts of future projects at proposed locations and therefore cannot predict with certainty which impacts will occur and what site-specific mitigation measures are appropriate for second-tier projects. Consequently, the Programmatic EIS/EIR identifies mitigation strategies, approaches tailored to the types of impacts anticipated as a result of

CALFED Program projects, that will provide the basis to structure more specific mitigation measures. For each potentially significant environmental impact, one or more mitigation strategies are identified. These mitigation strategies will be considered as part of second-tier environmental review by any agency proposing to undertake projects that are within the scope of this Programmatic EIS/EIR. Where a second-tier project involves impacts that are addressed in the Programmatic EIS/EIR, the applicable mitigation strategies can be used to formulate site-specific mitigation measures and enforcement programs. The commitment to consider mitigation strategies, and to apply and enforce mitigation measures pursuant to those strategies, will be included in the ROD for the federal lead agencies and the findings adopted by the California Resources Agency. In addition, any state or federal project funded through legislation that provides for projects to be consistent or in accord with the CALFED Program will need to demonstrate compliance with this mitigation monitoring program, as set forth in the Mitigation Monitoring Plan adopted at the time of the ROD and certification of the Programmatic EIS/EIR.

Prior to the establishment of the long-term governing structure, the CALFED Policy Group will be the forum in which the agencies coordinate and collaborate on Program implementation. In the interim, authority to implement the CALFED Program will continue to reside with the CALFED agencies. The CALFED Program does not alter any agency's existing authority, does not delegate any agency's authority, and does not supplant any existing regulatory authority. In addition to other powers and responsibilities, the CALFED agencies have authority to participate in this cooperative planning effort.

IP 4.0-3

For the interim period of implementation, stakeholder participation will be provided through public participation in Policy Group meetings and work groups/technical groups in which stakeholders will participate, and possibly a new public advisory group. CALFED currently is proposing the creation of a new commission for long-term governance of the CALFED Program. Establishing a new commission will require state and federal legislation. As proposed, the commission would include state, federal, stakeholder, and tribal representatives.

CALFED agrees that the governing entity, whether the Policy Group or a new commission, must make the decisions regarding Program progress, integration, and balance. The new commission would be given the necessary authority to make corrections or adjustments to the Program, within the limits of the Programmatic EIS/EIR. This authority will be necessary to ensure that the Program is implemented in a balanced manner and that progress is made in all Program areas. However, CALFED also agrees that the Policy Group or a new commission needs to be accountable to the public, stakeholders, and State and Federal Legislatures. Decisions should demonstrate program balance and should be done in a public forum with public input.

IP 4.0-4

NEPA and CEQA are intended to inform decision makers and the public of the environmental consequences of a proposed action, provide an analysis of alternatives, and ensure consideration of mitigation options. The governmental or decision-making structure, however, does not cause physical changes to the environment or affect the analysis of anticipated impacts, alternatives, or mitigation options. Since the proposed CALFED Program actions are evaluated in the Programmatic EIS/EIR, the analysis may be used by any agency with authority to carry out parts of the Program in second-tier projects.

Because this is a programmatic analysis, many of the details of the individual actions within the Program cannot be analyzed in detail. Consequently, before most actions that are part of CALFED's programmatic decision can be implemented, they will be studied on a project- or site-specific level. The agency implementing a second-tier project will also be responsible for the environmental review of that project.

CALFED will continue to work in public forums with stakeholders, the public, and the State and Federal Legislatures as the governance proposal is refined. Any decision on long-term governance will require legislative action and, therefore, additional opportunities for public input will be provided.

IP 4.0-5

CALFED has developed a framework for long-term governance in the Final Programmatic EIS/EIR. Additional details regarding a new Commission will be developed by the time of the ROD. The proposal will require legislative changes; therefore, CALFED cannot take action independently to finalize a long-term governance proposal.

IP 4.0- 6

CALFED agrees that governance of the CALFED Program will require a change in authorities to enable the integration and coordination of the many programs currently managed by existing state and federal agencies. CALFED is working with state and federal agencies to determine which programs and funding should be under the authority of a new commission, if one is created. CALFED also agrees that a strong state/federal partnership in a CALFED governance structure is critical. Several structural options are being evaluated to determine how each supports a partnership. However, CALFED does not support a change in regulatory authorities or the subordination of regulatory authorities to the CALFED Program. Instead, CALFED proposes development of a program that meets and, in some cases, exceeds regulatory requirements. One of the main functions of the governing entity for the CALFED Program will be facilitation and coordination between state and federal agencies where independent regulatory authorities exist—such as the operation of the water projects and protection of endangered species. CALFED does not propose shifting those authorities under the management of a new entity but rather increasing the communication and coordination of the actions to reduce conflicts.

4.1 Background

IP 4.1-1

The members of the BDAC represent a broad cross section of interests related to the CALFED Program. Representation of groundwater interests in the Sacramento Valley is provided by the Northern California Water Association, Glenn-Colusa Irrigation District, and Community Alliance of Family Farmers. In addition, a groundwater/conjunctive use technical work group provides the opportunity for stakeholders to provide input into the Program.

4.2 Program Functions for Implementation Phase

IP 4.2-1

CALFED agrees that coordinated implementation of CALFED programs and close coordination between CALFED and other programs is an important governance function. This function is one of the primary purposes of the Policy Group as the interim governing entity and will be a primary function of the long-term governance entity, in whatever form it is set up.

The comment does not give a source for the affected agricultural land numbers, but they may be a compilation of several numbers in the Multi-Species Conservation Plan, including: Managed Seasonal Wetlands - 290,125-300,125 acres; Upland Cropland/Seasonally Flooded Agricultural Land - 353,933-388,933 acres; and the maximum of 243,000 acres of Important Farmlands that could be converted, as included in Section 7.1 in the Programmatic EIS/EIR. Adding these numbers to derive an acreage figure for agricultural lands affected by the Program is erroneous.

- The Managed Seasonal Wetlands figures include, for the most part, existing wetlands that would be improved and are not in agricultural use. The portion that would be newly created wetlands is already included in the 243,000-acre conversion figure in Section 7.1.

- The Upland Cropland/Seasonal Flooded Agricultural Land number will affect, but will not convert, agricultural lands; economic effects on lands in this category are discussed in Section 7.2. The June 1999 Ecosystem Restoration Program – "Ecological Attributes of the San Francisco Bay-Delta Watershed" – on pages 100-168, defines the uses of these areas.

Section 7.1.11 in the Programmatic EIS/EIR contains a number of mitigation strategies that are designed to minimize the amount of agricultural acreage that is converted to Program uses, including:

- Focusing habitat restoration efforts on public lands before converting agricultural land.

- Restoring existing degraded habitat as a priority before converting agricultural land.

- Using farmer-initiated and -developed restoration and conservation projects as a means of reaching Program goals.

- Siting and aligning Program features to avoid or minimize impacts on agriculture.

Given the location of agricultural lands in the state, the Program could not be successful without some conversion of agricultural lands to Program purposes.

IP 4.2-2

CALFED has developed a proposal for a long-term governance structure with primary functions of program oversight, direction, integration, and coordination. CALFED is proposing the creation of a new commission with sufficient authority over Program priorities and funding for each Program element to ensure achievement of the Program objectives and Program integration. Establishing a new commission will require state and federal legislation. The commission would provide a public forum to direct the CALFED Program. In the interim, the Policy Group will provide the oversight, direction, evaluation, and assessment for the CALFED Program. Independent evaluation or assessment of the CALFED Program, in the interim and long term, would be provided by the State and Federal Legislatures. In addition, independent science review of the Program has begun and will continue as a critical component of the Program. CALFED is not proposing to establish a formal appeals process. It is expected that public concerns will be voiced through informal appeals to the CALFED Policy Group in the interim and the new commission in the long term—as well as through public advisory groups, such as the Drinking Water Council.

For information on CALFED solution principles and third-party impacts, please see common responses 19 and 20.

4.3 Program Oversight - Governance Structure

IP 4.3-1

Public Policy Group meetings and BDAC meetings have provided and will continue to provide an opportunity for public input. A principle for designing any long-term governing structure and process is to involve the public and stakeholders in the decision-making process. We agree that the Delta Protection Commission (DPC) should be a partner with CALFED in the implementation of the Program, and that CALFED issues and projects of concern to the DPC should be discussed at the DPC public meetings. A primary function of the current and long-term governing structures is to provide the integration and balancing between Program areas.

To date, CALFED has funded more than $200 million for early implementation of ecosystem restoration projects through its Category III grant program pursuant to Proposition 204 and the Bay-Delta Act. All grant agreements require, as a condition of funding, that the project comply with all applicable laws and regulations, including NEPA, CEQA, and other environmental permitting requirements. In some instances, CALFED grants have included funding for preparation of environmental documents that must be completed before undertaking changes with potentially significant environmental impacts. The applicability of CEQA and NEPA depends on the nature of the proposal for grant funds. Many CALFED grants have funded education, planning, and research activities that are not the type of activities that trigger full-scale CEQA or NEPA review. Other proposals receiving grant funding, such as fish screens, land acquisitions, and physical restorations, have used negative declarations/findings of no significant impact (FONSIs) or have prepared EIRs or EISs independent from the CALFED Programmatic EIS/EIR. Other actions also may have been eligible for categorical exemptions/categorical exclusions.

IP 4.3-2

We agree that CALFED should work closely with the DPC, that the implementation of the CALFED Program in the Delta should be coordinated with the DPC, and that the DPC can provide a useful forum for working with local agencies and landowners in the Delta. In the early stages of implementation of the Ecosystem Restoration Program, CALFED has begun to benefit from the coordination with the DPC and has recently added a representative from the DPC to the Policy Group. The relationship with the DPC should continue to expand as full implementation of the CALFED Program begins.

IP 4.3-3

CALFED agrees that prior to the ROD, a proposal must be prepared regarding a long-term governance plan and interim governance implementation. The principles and functions outlined in the draft Governance Plan are being used to guide the long-term governance proposal. CALFED currently is proposing the creation of a new commission to replace the Policy Group. Establishing a new commission will require state and federal legislation. The long-term governance proposal is described in Section 4 in the Implementation Plan. Interim operating agreements (such as an Implementation MOU) will need to be developed by the time of the ROD or early in Phase III.

IP 4.3-4

CALFED is currently proposing the creation, by state and federal legislation, of a new commission to provide Program direction for the CALFED Program. For a detailed description of this proposal, please see revised Section 4 in the Implementation Plan.

IP 4.3-5

During the interim period, the Western Area Power Administration (Western) will continue to be represented on the CALFED Policy Group, which will act as the interim governance structure. The creation by state and federal legislation of a new commission to provide program direction for the CALFED Program currently is being proposed by CALFED. The proposal includes state, federal, stakeholder, and tribal commission members. The final decision on membership will rest with the State and Federal Legislatures. If the legislatures establish a new commission, there is a need to keep the number of members to a workable size. Therefore, it will not be possible to include all Policy Group members on a new governing board. Because those agencies that are not on the governing board will need to play a strong role in implementation of the CALFED Program, possibly contracts or memoranda of agreement will be needed to define their working relationship to the Program.

IP 4.3-6

CALFED is incorporating local community-based involvement in the interim and long-term governance structures. The CALFED Watershed Program is designed to provide technical and financial assistance to local watershed programs and to facilitate coordination among these watershed programs in order to achieve the CALFED Program objectives. We agree that the program should not be a "top-down" program, rather programs and projects funded by CALFED should be community based and target CALFED priorities and objectives.

In the interim and long-term governance of the Program, stakeholder and technical work groups (such as the Watershed Work Group) will be continued for all the program areas, including the Watershed Program. Until a long-term governance structure is in place, the Policy Group will serve as the interim governing structure—along with the Watershed Work Group and the Interagency Watershed Advisory Team. CALFED proposes the creation of a public advisory group to advise the new commission. CALFED is evaluating the need to create an interim public advisory group. Any proposal for a new CALFED governing structure will describe the relationship of the new entity to other existing and proposed entities.

Currently, CALFED is proposing the creation of a new commission to replace the Policy Group and provide long-term program direction. Establishing a new commission will require state and federal legislation. CALFED proposes a 12-member commission, with 4 state, 4 federal, and 4 stakeholder positions. Federal and State Legislatures would share the authority to appoint the stakeholder positions. The 4 stakeholder positions would include representatives from agricultural water users, urban water users, environmentalists, and Indian tribes. Additional detail is found in Section 4 in the Implementation Plan.

IP 4.3-7

As explained in Chapter 1 in the Programmatic EIS/EIR, the CALFED Program is a consortium of 18 state and federal agencies, including the California Department of Food and Agriculture, with management and regulatory responsibilities or expertise in the Bay-Delta estuary. CALFED agrees that agricultural interests should be represented in a new governing entity.

IP 4.3-8

CALFED recognizes that local participation and support for implementation of CALFED programs and projects will be essential. Currently, CALFED is proposing the creation of a new commission to replace the Policy Group and provide long-term program direction. Establishing a new commission will require state and federal legislation. CALFED agrees with the need for mechanisms for local involvement. We are working to describe how that

process will be implemented in the interim and long-term structures. A primary method of local outreach and involvement in the CALFED Program has been through the Watershed Program. The Watershed Program is designed to provide technical and financial assistance to local watershed programs and to facilitate coordination among local programs in order to achieve the CALFED Program objectives. We agree that the program should not be a "top-down" program, rather programs and projects funded by CALFED should be community based and target CALFED priorities and objectives.

IP 4.3-9

CALFED is currently characterizing the functions of a policy-level body as providing "program direction and oversight," and management of the Program elements as "program management." These functions and responsibilities have been considered when evaluating and selecting the optimal institutional structure for CALFED implementation. CALFED agrees that clearly assigning the responsibility for meeting Program objectives and targets is essential. CALFED will continue to work with agencies, stakeholders, and the Legislature to develop a long-term Governance Plan that successfully addresses these issues. Currently, CALFED is proposing the creation of a new commission to provide overall direction and oversight. Establishing a new commission will require state and federal legislation. The proposal, contained in Section 4 in the Implementation Plan, generally describes the relationship between the commission responsibilities and the management of the Program elements. In addition, Section 4 describes the authority needed by the commission to effectively oversee and direct the CALFED Program for 30 or more years.

4.4 Program Element - Governance Structure

IP 4.4-1

In the Final Programmatic EIS/EIR, CALFED has included a description of the problems that the current institutional structure will present as the Program shifts from planning to implementation. Currently, CALFED is proposing the creation of a new commission to provide long-term program direction and oversight. CALFED is reviewing the responsibilities and functions of each Program element to determine what institutional options would best perform those functions in order to meet Program objectives. CALFED agrees that to meet the Program objectives, the water supply reliability/water management program needs to integrate many of the CALFED programs (such as water use efficiency, transfers, storage, and conveyance). In developing the long-term governance proposal contained in Section 4 in the Implementation Plan, CALFED evaluated the institutional options for all the Program elements, including water management, and the need for integration and coordination among the CALFED programs.

4.4.3 Ecosystem Restoration Program

IP 4.4.3-1

During the interim, the Ecosystem Restoration Program will be overseen by the CALFED Policy Group, managed by the CALFED Program, and implemented by existing agencies, with scientific and public input and consultation. CALFED has evaluated several governing structures to determine which would best meet the Ecosystem Restoration Program targets and objectives, and provide the necessary integration with the CALFED Program as a whole. CALFED has not made a final recommendation regarding Ecosystem Restoration Program management in the long-term. The Ecosystem Restoration Program is a large and complex program that requires focused management. CALFED is evaluating how a new commission can effectively provide this management responsibility. A final proposal for management of the Ecosystem Restoration Program will be provided by the

time of the ROD or early in Phase III. The EWA will be managed by the state and federal fishery agencies (USFWS, NMFS, and DFG), in coordination with the management of the Ecosystem Restoration Program and water project operations, and with stakeholder and scientific input. The EWA and the role of the fishery agencies are described further in the Phase II Report and in Section 4 in the Implementation Plan.

We agree that the Ecosystem Restoration Program and other Program areas need a strong scientific and technical basis to achieve the Program objectives.

IP 4.4.3-2

The EWA will be managed by the state and federal fishery agencies (USFWS, NMFS, and DFG), in coordination with the management of the Environmental Restoration Program and water project operations, and with stakeholder and scientific input. The relationship of the Environmental Restoration Program and the EWA is described further in Section 4 of the Implementation Plan and the Phase II Report.

IP 4.4.3-3

CALFED agrees that a long-term commitment to manage, operate, and maintain restoration projects is needed in order to ensure that Program objectives and targets of the Watershed and Ecosystem Restoration Programs are met. Funding for acquisition of lands will need to be accompanied by a commitment to manage, operate, and maintain those lands for the CALFED purposes. In some cases, lands acquired and restored would become part of the state wildlife area system or federal refuge system. In other cases, the lands may remain in private ownership through easements. In the early Ecosystem Restoration Program, financing was provided for land acquisition and restoration actions. In most cases, ongoing costs for operations and maintenance have been the responsibility of the project proponent—whether federal, state, local, or private. The cost-sharing approach for ecosystem project operations and maintenance for the long-term implementation of the Ecosystem Restoration Program has not yet been developed.

IP 4.4.3-4

The CALFED Program intends to rely heavily on local organizations to assist in achieving the CALFED Program objectives. Locally directed programs and organizations, such as the Senate Bill (SB) 1086 program, will contribute to the overall success of CALFED by being the primary point of contact for restoration in their local area. Therefore, CALFED supports the new management entity for the SB 1086 program. CALFED is providing assistance in other areas of the state and on tributaries of the Sacramento and San Joaquin Rivers to establish similar locally based organizations that bring together different interests.

IP 4.4.3-5

CALFED agrees with your comment that the autonomy of an appointed board would be increased if the terms of the appointments were staggered rather than serving at the pleasure of the Governor. Currently, CALFED is proposing a new joint state and federal commission with 12 members equally divided between state agency, federal agency, and public members. The agency members would be specifically designated in the authorizing legislation and would be high-level officials of their organizations, such as USFWS and The Resources Agency. It is expected that the Governor or the President would appoint public members. The length of the terms for the public members has not been proposed. We agree that when considering the terms, the need to stagger the appointments is an important consideration. In addition to providing the overall direction and oversight for the CALFED Program, CALFED is evaluating the ability of a commission to manage the Ecosystem Restoration Program. A

final proposal for management of the Ecosystem Restoration Program will be provided by the time of the ROD or early in Phase III. Thank you for your comment in support of the CALFED Science Program.

4.4.5 Water Use Efficiency Program

IP 4.4.5-1

We agree that all barriers to water recycling should be evaluated, not only the financial and technical ones. In Stage 1 of the Program, CALFED proposes that legal, institutional, and funding limitations for agricultural and urban water recycling be resolved. The identification of the barriers to recycling and the method for removing the barriers are still being developed by CALFED and will not be included in the Final Programmatic EIS/EIR. The criteria and factors to be used in awarding financial assistance for water recycling will be developed during Stage 1. Public review and input will be sought in the development of the criteria. CALFED agrees that the Department of Health Services should be actively involved in the CALFED water recycling program.

5.0 Financing Plan

0. General Responses

IPF 5.0-1

Since this is a Programmatic Environmental Impact Statement/Environmental Impact Report (EIS/EIR), the specifics for designing and financing the specific components of each program have not been finalized; however, principles and strategies are being developed to help guide the CALFED Bay-Delta Program (Program) in making sound funding decisions during its implementation. Chapter 5 in the Implementation Plan (Financing Plan) contains the initial framework for developing a Program Financing Plan. This plan is a programmatic document, however, and is designed to highlight key issues and principles that will guide financing decisions over the 30-year life of the Program. It is not intended to be a complete, highly detailed finance plan.

The Financing Plan contains a discussion of historical cost-sharing, cost-allocation procedures; proposed cost-sharing scenarios; cost estimates for Stage 1 of Program implementation; and a preliminary identification of classes of beneficiaries for each of the Program elements. More detail may be provided by the time the Record of Decision (ROD) is signed.

Further, implementation of any financing arrangement for the CALFED Program will depend on continued cooperation among all parties, including the Congress, the California Legislature, and perhaps county boards of supervisors and water district governing boards. CALFED recognizes the need for a mix of funding sources, which might include appropriations of funds, creation of special funds, imposition of fees to support those funds, and approval of bond acts; but none of the CALFED agencies may spend government revenues without explicit statutory authority. The consequence is that the CALFED agencies can only propose a financing plan; we cannot implement a financing plan without continuing legislative action.

IPF 5.0-3

Specifics surrounding financing for the Program, such as identified funding for specific projects, will be determined during implementation of the Program. The Financing Plan contains general principles to guide funding during implementation. CALFED has taken into account its obligations to comply with the commitments included in the state's area-of-origin laws. For more information on area-of-origin concerns, please refer to common response 13.

IPF 5.0-4

The law does not require that funding for each program must be equal, as some comments suggest. CALFED agrees that a balanced financing plan with funding from a variety of sources, including state, federal, and user money, will be necessary for successful implementation of the Program. CALFED also agrees that all of the Program elements should progress during implementation of the Program and that implementation of Program actions should be balanced among the Program elements. This does not mean, however, that each Program element must spend the same amount of money.

The cost estimates for Stage 1 are based on the funds that would be necessary to adequately fund each component of the CALFED Program during the first 7 years of implementation. These projected expenditures do not

represent total funding for the life of the Program, and some Program elements involve more capital costs than others. Education, coordination, and research are not nearly as expensive as capital construction projects. A comparison of Program elements in terms of Stage 1 cost estimates is not a valid test for determining balance in the priorities for the Program. It would be irresponsible and inefficient to commit more funding than necessary to a Program element in Stage 1 simply because another program costs more. It cannot be assumed that one Program element is inadequately funded because it has a smaller budget than another program. The Water Transfer Program, for example, involves only administrative costs. It does not make sense to boost the budget for the Water Transfer Program because its budget is not as large as the other Program elements.

CALFED's Financing Plan is not based on artificially funding Program elements to equalize cost estimates and budgets. Instead, the Financing Plan is designed to find ways to adequately fund the Program in order to meet the goals and objectives of the Program while still meeting the Program solution principles that any solution must be affordable, equitable, implementable, and durable; reduce conflicts in the system; and pose no significant redirected impacts. For comments related to funding for storage, please also see IPF 5.7-1.

IPF 5.0-5

The principle that no redirected impacts result from the Program refers to any adverse impacts from projects, not funding decisions. The principle does not mean that anyone who is asked to pay for the Program is "harmed" and therefore should not have to pay under the no redirected impacts principle.

CALFED has adopted a beneficiaries pay principle to allocate the costs of the Program. This principle should prevent those who do not benefit from unfairly being asked to pay. There will be many beneficiaries from the CALFED Program, including water users and the public. A mixture of funding, including taxpayer money for projects with broad public benefits, will be needed for Program implementation. The CALFED agencies believe that this approach is both fair and consistent with the no redirected impacts principle.

One comment also suggests that the cost of participating in the CALFED process (for example, the cost of attending CALFED-related meetings) imposes redirected economic impacts. CALFED disagrees with this comment. These costs are not redirected economic impacts. The principle of no redirected impacts does not imply that any cost a stakeholder incurs during the CALFED process should be compensated.

IPF 5.0-6

As the comment indicates, some market transactions have already occurred in California and a legal framework has been established for them, including protection of the water rights of the selling entity. Therefore, it is likely that water districts and wholesalers already compare, at least to some degree, the cost of potential water purchases with the cost of new storage. Provided that new storage is not publicly subsidized, these comparisons with market signals have the desirable outcome mentioned by the commentor. From the standpoint of public planning, benefit-cost analyses of future storage facilities will be in a position to take into account the cost of water as revealed by market transactions. In addition, a number of modeling efforts have been undertaken to estimate the value of water in current uses (for example, agriculture) both with and without a functioning water market in place (for example, the CVPIA PEIS). It is expected that these modeling efforts can play a role in future planning decisions.

The CALFED *Economic Evaluation of Water Management Alternatives* (EEWMA) report has also addressed this issue. Please refer to that report for more information.

IPF 5.0-7

CALFED agrees with your comment. CALFED has adopted a beneficiaries pay principle to allocating costs, in which beneficiaries of the Program would share in the costs. The CALFED agencies believe that this principle would lead to more efficient choices of projects and less public subsidies. Public funds would be used, combined with user funding, to implement CALFED actions. CALFED has also considered a broad-based user fee to help fund Program actions.

IPF 5.0-8

The authorization of public funds is not undermining the effort to develop a financing plan based on beneficiaries pay, as your comment suggests. CALFED recognizes the need for a mix of funding sources with funding from all beneficiary groups, including state, federal, and user funding. All of these funding sources may not be available concurrently; however, this does not mean that opportunities for funding should not be sought as they arise. Judgment on the success of beneficiaries pay will depend on the final share of costs for Program implementation, not on initial funding sources to date.

IPF 5.0-9

CALFED agrees with the comment, and the suggested change has been made in the document.

5.1 Definitions

IPF 5.1-1

The Financing Plan contains a preliminary identification of classes of beneficiaries for each of the Program elements. Because this is a programmatic document, the Financing Plan does not attempt to define specific beneficiaries of the Program; however, beneficiaries of projects will be identified during Program implementation, when the site-specific planning documents are prepared. For more information on the beneficiaries pay principle, please refer to common response 9.

5.2 Historical Context for State and Federal Cost-Sharing

IPF 5.2-1

Effective cost shares depend on repayment terms (interest rates and the time period for repayment). The effective cost shares for federal project water historically have been low (in the range of 10-15%). The commentor cites even lower rates of repayment for federal irrigation water and requests that the Financing Plan be revised to reflect these rates. The intent of the historical background section of the Financing Plan, however, was to show the relatively low levels of repayment for federal project water,not to cite any specific effective cost shares. For this reason, a range was used rather than a specific number. The CALFED agencies appreciate the information contained in your comment but believe that the purpose was served by the original numbers contained in the June 1999 Financing Plan.

IPF 5.2-2

The CALFED agencies believe that the Financing Plan adequately addresses your concerns, as they relate to

CALFED, in the discussion of user fees and crediting. For more information on the impacts of the CVP, please refer to the CVPIA PEIS.

IPF 5.2-3

CALFED does not agree with this comment. The Financing Plan includes a discussion of the effective local cost shares of the federal and state water projects, which includes the amount of funding contributed by beneficiaries of the projects. The SWP, for example, has effective local cost shares of close to 100% for planning and construction, which highlights the significant amount of funding contributed by locals.

IPF 5.2-4

CALFED agrees that coordinating existing expenditures for other programs that are related to CALFED's goals and objectives is important. Consequently, CALFED staff worked with state and federal agencies to prepare a state and federal cross-cut budget for federal FY 2000/state FY 1999-00, showing funding for projects and programs that relate to CALFED purposes. CALFED also plans to complete a cross-cut budget on an annual basis.

The cross-cut budget will be a valuable tool for coordinating federal- and state-related programs, but it will not be used to go back and make judgments to build a "financial baseline" for the Program. Program implementation will use a forward-looking approach to allocating Program costs. Please refer to common response 9 for more information regarding the beneficiaries pay principle.

IPF 5.2-5

As the comment itself points out, SWP financing and repayment policies (at least for new facilities) "put the effective cost share a lot closer to 100% than the other alternatives examined," which was the main purpose of including this historical material.

This and other stakeholder comments raise technical questions about the precise level of effective cost-sharing for SWP financing, based principally on two considerations: (a) the use of Tidelands Oil and Gas revenues for some historical SWP financing, and (b) the fact that state revenue bonds would be exempt from federal taxation. Particularly regarding the second factor, there are different views concerning precisely how to account for tax-exempt financing.

The main purpose of including this historical material was to place in context cost-sharing alternatives for future financing. Since most water districts also have access to tax-exempt financing, more precise estimates of the influence of tax-exempt financing would not help distinguish among the alternatives being considered—federal financing, state financing, and water district financing (principally through repayment). In addition, the historical financing of SWP facilities with some Tideland Oil and Gas revenues would not bear directly on SWP financing of future facilities.

5.3 Cost Allocation

IPF 5.3-1

The criteria by which the Preferred Program Alternative was selected included the Program solution principles that any solution must be affordable, equitable, implementable, and durable; reduce conflicts in the system; and

pose no significant redirected impacts. All beneficiaries of the CALFED Program will be expected to share in the costs of implementation. CALFED's Water Management Strategy is currently studying different methods to allocate costs, and the solution principles will help to guide this process. In addition, stakeholders will have full opportunities to evaluate the cost-sharing terms for Program participation, as well as the costs and benefits of individual Program components, during the project-level planning phase for each component.

IPF 5.3-2

CALFED's Water Management Strategy is currently studying different methods to allocate costs. However, the specifics for allocating costs will depend on the project being implemented. CALFED will not be conducting a cost-benefit analysis for the 30-year life of the Program as part of the Financing Plan.

IPF 5.3-3

CALFED does not agree with this comment. Adaptive management could lead to the implementation of different projects than those that would be implemented without adaptive management, but this approach leads to more efficient spending and more effective projects. Adaptive management should actually lessen the chances that beneficiaries will not receive benefits, because funding decisions in the future will be based on science, modeling, and knowledge that may not be available at the present time and was not available in the past. While this approach could result in different beneficiaries, that alone would not require supplemental programmatic documentation. Rather, project-specific planning will include an allocation of costs.

Expenditures may not always lead to as much actual benefit as project planners had hoped. This risk is taken anytime a decision is made to implement anything. This problem is not unique to CALFED. There are no plans at this time to develop any mechanism for compensation in these cases. Under SWP and CVP rate setting, these costs are payable by ratepayers. In general, this risk has to be dealt with by any water supplier according to its own laws and policies. The issue is not particularly something that CALFED can or should address.

5.4 Program Benefits/Beneficiaries and Finance Options

IPF 5.4-1

A fundamental philosophy of the CALFED Program is that costs should be paid by the beneficiaries of the Program actions. The CALFED agencies consider this policy equitable, but the beneficiaries pay principle should be applied to CALFED for reasons other than equity and fairness. Beneficiaries paying for public programs encourages them to more carefully review their water and power needs and the costs of proposed programs (including mitigation costs) in relation to the benefits they receive. Such a policy also encourages examination of a fuller range of alternatives, including locally funded measures, to ensure that public funds are spent in the most cost-effective way to meet Program goals.

CALFED rejects the concept of reparations for damages based on past acts because it is not possible to accurately apportion the blame for the degradation of the Delta on any particular user or group. Second, it is destructive to the solution process. To attempt to place blame for past acts will lead to conflict, not to fixing the problems in the Delta. CALFED agencies have determined that solving the problem is their priority—not determining who caused the problem.

Regarding who specifically will benefit from the CALFED Program, please see common response 9. Additionally, some comments specifically question whether farmers, water users, water diverters, the people of California, or

fishermen will benefit from the Program. Clearly, all of the above-mentioned groups could benefit from the CALFED Program. During implementation, specific beneficiaries will be identified for specific projects; those who benefit will be expected to pay. Any user fees should be paid by the beneficiaries of the CALFED Program. The specifics of user fees will also be worked out during Program implementation, although some analysis regarding fees is included in the Financing Plan.

IPF 5.4-2

CALFED will not be measuring the benefits of the entire life of the Program to all beneficiaries, with and without the entire CALFED Program. Rather, this principle would be applied where appropriate to site-specific projects. Measuring benefits will be undertaken during implementation of the Program. Benefits will be estimated separately for different site-specific projects and programs. While future conditions are uncertain, it should be possible to estimate benefits from projects to beneficiaries in some cases, through modeling and studies.

IPF 5.4-3

Not all benefits of the CALFED Program can be easily quantified. Also, the specific benefits of the Program will depend on adaptive management and which projects are chosen during implementation. Finally, with a beneficiaries pay policy, those that benefit from the Program will pay, and an analysis of exactly where these beneficiaries are in the State is not necessary. Classes of beneficiaries are identified for each Program element in the Financing Plan.

5.4.1 Storage

IPF 5.4.1-1

CALFED has stated a policy of seeking public funding for the planning and evaluation of storage projects to ensure a comprehensive and fair comparison of storage options. However, should a storage project proceed to construction, then the public funds used for planning and evaluation will be subject to reimbursement by the project beneficiaries. This financing policy does not foreclose the option of also receiving up-front cost sharing by potential project beneficiaries.

The costs for construction of any storage facilities will be paid for by the project beneficiaries, which could include public, agricultural, and urban water users and hydropower users. When storage projects move out of the initial planning phase and into site-specific planning and design, beneficiaries will be identified and cost shares will be established to pay for the project, including construction, mitigation, and operations and maintenance (O&M). Public funds used to pay for the site-specific planning, design, and construction of specific projects will be reimbursed by project beneficiaries, which will be identified during the site-specific planning phase of construction. In addition, site-specific projects will be subject to further environmental documentation under NEPA/CEQA, and all stakeholders and members of the public will have full opportunities to evaluate the funding for these projects.

More information on the options for financing storage projects is included in the Financing Plan.

IPF 5.4.1-2

Beneficiaries of storage projects cannot be identified until specific projects are identified and studied. Storage can result in multiple benefits, including water supply, flood control, recreation, and environmental benefits from

water dedicated to the environment. All of these benefits vary, depending on the specific site that is chosen and how the project is operated. Until this kind of information becomes available during implementation, CALFED cannot identify specific beneficiaries of new storage. However, general classes of beneficiaries have been identified in the Financing Plan, and financing principles and strategies are being developed to guide funding and cost sharing of specific projects in the future. In addition, CALFED's Water Management Strategy is currently studying different methods to allocate costs, which will further develop funding strategies for storage projects.

IPF 5.4.1-3

CALFED agrees that financing will have a bearing on which projects will ultimately be chosen. CALFED also agrees with the statement that until a plan for the operation of new facilities is known, it is not possible to determine beneficiaries for a storage financing strategy based on "beneficiaries pay." CALFED disagrees, however, that financing for storage projects, including clear operational assumptions, are necessary during the initial programmatic planning stage. When specific sites are chosen and site-specific planning begins, then it is appropriate to develop a plan for operations and identify beneficiaries.

The Water Management Strategy is evaluating operational and financial strategies for any new storage. Specific operations of new facilities are not discussed in the Programmatic EIS/EIR but will be developed during implementation, when more information regarding site-specific projects is known. The financial principles that will be included in the Financing Plan will also help to guide funding decisions during Program implementation.

IPF 5.4.1-4

CALFED anticipates that significant additional investments in water use efficiency will be necessary during Stage 1 and beyond to address water supply demands caused by a rapidly increasing population and increased environmental water needs. The Water Management Strategy will study all tools of water management, including water conservation and recycling. Storage will not be developed and constructed instead of conservation and recycling but may be developed, together with these tools, if adequate water supply reliability is not provided through conservation and recycling alone.

The EEWMA report (available on the CALFED web page) also provides analysis of water management options, including both water use efficiency measures and storage.

In addition, CALFED has adopted a beneficiaries pay approach to allocating the costs of the Program. Beneficiaries paying for public programs encourages them to more carefully review their water and power needs and the costs of proposed programs (including mitigation costs) in relation to the benefits they receive. Such a policy also encourages examination of a fuller range of alternatives, including locally funded measures, to ensure that public funds are spent in the most cost-effective way to meet Program goals.

IPF 5.4.1-5

CALFED is not committing to funding any specific projects during the programmatic phase of the document. Specifics for financing site-specific projects will be developed during implementation of the Program. In addition, the Integrated Storage Investigation and the Water Management Strategy are evaluating storage in the CALFED Program, including groundwater storage.

IPF 5.4.1-6

CALFED has adopted a beneficiaries pay approach to allocating the costs of the Program. Beneficiaries paying for public programs encourages them to more carefully review their water and power needs and the costs of proposed programs (including mitigation costs) in relation to the benefits they receive. Such a policy also encourages examination of a fuller range of alternatives, including locally funded measures, to ensure that public funds are spent in the most cost-effective way to meet Program goals. The requirement that users pay for project water has been a long-standing principle of both federal and state water supply programs and projects; therefore, the scenario the comment refers to is not a realistic one.

IPF 5.4.1-7

The CALFED agencies believe that both new storage and water use efficiency measures should be cost effective. The water supply reliability benefits from both storage and water use efficiency measures could benefit the same groups of beneficiaries. To specifically mention that water use efficiency measures must be cost effective without making the same reference to new storage, as suggested by this comment, would be inconsistent.

IPF 5.4.1-8

As described in the Financing Plan, the beneficiaries of new storage facilities will depend on the design and operation of each facility and the allocation of the water supply. CALFED agrees with your comment, however, that both hydropower operators and commercial fishermen could potentially benefit from storage facilities. Commercial fishermen are already mentioned as beneficiaries, together with recreational users, where fisheries were used as an example. Hydropower was cited in the June 1999 Financing Plan as a potential benefit of storage. Hydropower operators have been added to the list of possible beneficiaries in the Financing Plan in Section 5.4-1, "Storage."

IPF 5.4.1-9

The use of a broad-based user fee to fund the portion of flows from storage facilities dedicated to the environment has not been proposed by the CALFED Program. The details surrounding the use of such fees still need to be developed; if user fees are proposed as a funding source for ecosystem water storage, more detail would be provided to support such a fee. CALFED does not necessarily agree that the establishment of user fees is a technical issue that requires analysis in the EIS/EIR.

IPF 5.4.1-10

CALFED agrees that costs would be allocated to projects based on use. Allocating costs for storage will depend on many factors, including the geographic location and operation of chosen facilities. Whether the primary beneficiaries of the new storage will be CVP or SWP users may influence how costs are shared, based on existing law. CALFED may also opt to use a mix of federal and state authorities for storage facilities but seek new legislation to specify levels of cost sharing for specific facilities.

IPF 5.4.1-11

CALFED recommends that O&M costs for irrigation, municipal and industrial, and hydropower be paid 100% by users. O&M costs for flows dedicated to the environment may or may not be funded by users, depending on whether the flows are part of the mitigation for the project.

The CVPIA involves dedication of water and water user payments to the Restoration Fund. It also involves cost sharing by the federal government and the state. CALFED agrees with this policy, and similar principles will be part of the CALFED solution. Public funds will be part of the mix.

IPF 5.4.1-12

CALFED has not adopted a "share the risk" policy for funding planning for storage. More information regarding this policy would need to be provided if CALFED proposes adoption of this principle. If adopted, the equity of such a principle to all beneficiary groups, including water users, would be included in the proposal.

IPF 5.4.1-13

General financing principles and strategies for surface water and groundwater storage are included in the Financing Plan. This comment points out a possible inconsistency that will need to be evaluated further, when specific financing proposals are made during implementation. CALFED agrees that if a decision is made to use different funding principles for surface and groundwater storage, the justification and reason for the decision should be explained.

IPF 5.4.1-14

CALFED agrees that this could be clarified further. The costs for construction of any storage facilities will be paid for by the project beneficiaries, which could include the public, agricultural and urban water users, and hydropower users. When storage projects move out of the initial planning phase and into site-specific planning and design, beneficiaries will be identified and cost shares will be established to pay for the project, including construction, mitigation, and O&M costs. Public funds used to pay for the site-specific planning, design, and construction for specific projects will be reimbursed by project beneficiaries, which will be identified during the site-specific planning phase of construction. In addition, site-specific projects will be subject to further environmental documentation under NEPA/CEQA, and all stakeholders and members of the public will have full opportunities to evaluate the funding for these projects. For more information on the financing of storage projects, please refer to Section 5.4.1 in the Implementation Plan.

IPF 5.4.1-15

The details surrounding the need for replacement power due to increased water supplies in order to meet downstream water obligations have not been included in the Financing Plan. This comment will be taken into consideration when the specifics for this issue are developed during implementation by site-specific planning. CALFED will not seek to change any existing regulations regarding water rights and mitigation with respect to power replacement costs.

IPF 5.4.1-16

CALFED agrees that it is difficult to evaluate specific cost-sharing scenarios for storage until a plan for the operation of new facilities is known, because it is not possible to determine beneficiaries for a financing strategy based on "beneficiaries pay." When specific sites are chosen and site-specific planning begins, it is appropriate to develop a plan for operations and identify beneficiaries. However, this does not mean that general principles and strategies cannot be developed prior to site-specific planning and design. The Financing Plan includes financing principles that will serve as the foundation for more detailed cost sharing and financing during implementation of the Program.

IPF 5.4.1-17

CALFED is proposing many water management options, including water use efficiency measures, water transfers, and possibly new storage facilities. CALFED has adopted a "beneficiaries pay" approach to allocating the costs of the Program. Beneficiaries paying for public programs encourages them to more carefully review their water and power needs and the costs of proposed programs (including mitigation costs) in relation to the benefits they receive. Such a policy also encourages examination of a fuller range of alternatives, including locally funded measures, to ensure that public funds are spent in the most cost-effective way in order to meet Program goals. CALFED does not view this as posing a "stranded assets" risk as is implied in the comment. Rather, this policy should make beneficiaries evaluate the costs of projects before they are built.

However, if the commentor means to say that stranded assets occur when any water conveyance or delivery systems are not able to be fully utilized for their original purposes, this could represent a stranding of sorts. Under SWP and CVP rate setting, these costs are payable by ratepayers. In general, stranded assets seem to be a condition that must be dealt with by any water supplier according to its own laws and policies. It is not particularly something that CALFED can or should address.

IPF 5.4.1-18

Your comment ignores the time value of water. At certain times, stored water can be released such that the increased flows would benefit the ecosystem. For more information on funding for storage, please refer to response IPF 5.4.1-1.

5.4.2 Conveyance

IPF 5.4.2-1

The SWP and CVP may lose flexibility because of new laws and regulations, as well as increased demand for water. However, the loss of flexibility due to new laws and regulations (for example, the Endangered Species Act [ESA]) is not necessarily a cost that the public should pay for. Water rights are subject to regulation, and project water rights (CVP and SWP) are junior to many other water rights.

The CALFED Program, including the Environmental Water Account (EWA), should provide more, not less, flexibility measured with respect to the without-project condition. Presumably, the CVP and SWP would need to be operated to comply with environmental laws in the absence of the CALFED Program. Because these costs would occur with or without CALFED, it is not necessary to include the costs as attributable to CALFED.

Assuming that the EWA provides more flexibility compared with other solutions, it can be viewed that the EWA would be taken voluntarily by water contractors to lessen the adverse impacts on them. If so, there is an argument that water contractors should pay for EWA water up to the point needed to meet legal requirements. If there are additional benefits beyond that point for environmental uses, there is a rationale for public funding for that increment. This point where the additional benefits start accruing may be difficult to determine, which provides a rationale for using some water contractor and some public funding.

Financing and funding decisions for an EWA will be made during implementation of the Program.

IPF 5.4.2-2

CALFED will consider your comment. If CALFED decides to propose such a fee, more detail will be provided regarding how such a fee might be structured. This and other fees may be considered after the ROD, during implementation of the Program.

IPF 5.4.2-3

Similar to storage, conveyance improvements could provide water supply reliability, water quality, flood control, and ecosystem benefits. The rationale for the possible use of user fees to help fund ecosystem improvements would be the increased flexibility of the system and the reduced possibility of regulatory actions in the future (such as ESA listings). The exporters that benefit from the conveyance improvements would be the water users who gain from this increased flexibility; therefore, these users would be the ones expected to pay into the user fee. In all likelihood, a mix of funding, including federal, state, and user funding, will be necessary to fund conveyance improvements. More detail on financing principles for conveyance has been included in the Financing Plan.

5.4.3 CALFED Levee Program

IPF 5.4.3-1

The City of West Sacramento claims that they do not benefit from the Levee System Integrity Program (Levee Program) and asserts that they should not have to pay for levee strengthening in the Delta. The Financing Plan outlines general beneficiaries of all of the Program elements, including the Levee Program, but specific beneficiaries will be identified during implementation of the Program. Because CALFED has adopted a "beneficiaries pay" principle, the City of West Sacramento should not be expected to pay for aspects of the Program for which they cannot be identified as beneficiaries.

IPF 5.4.3-2

CALFED has not performed a study to quantify potential supply reliability and water quality benefits from the levee protection program. While it may be true that it is difficult to measure and quantify benefits from the Levee Program to water users, this does not mean that water users will definitely not have to pay. There are identifiable benefits to water users from the Levee Program. The specifics for financing the Levee Program have not been finalized; however, general principles on cost-sharing options for the Levee Program have been provided in the Financing Plan.

In addition, CALFED is proposing a continuation of the Special Improvement Projects as an element of the Levee System Integrity Program Plan. Water quality benefits are identified as one of the primary purposes of this element, along with protecting recreation, navigation, and fish and wildlife habitat and providing other benefits.

IPF 5.4.3-3

It is reasonable that water users should have some say in project implementation if they are asked to pay for it. In fact, the Levee Program is proposing a Levee Implementation Group (LIG), as established by CALFED, that will develop a priority list of Special Improvement Projects consistent with the CALFED objectives and the primary purpose of the Special Flood Control Projects authority. The LIG will be comprised of CALFED agencies and stakeholders to provide a forum for stakeholder and science review, and to coordinate Levee Program actions with all other CALFED actions.

IPF 5.4.3-4

The commentor argues that the long-term impacts to exporters could potentially be mitigated in a less expensive manner than current levee maintenance costs. This may be true, but levee maintenance is needed for many interrelated problems, and CALFED cannot address problems in one problem area without addressing related problems in the other areas. Water users will not be asked to fund 100% of the costs of the Levee Program; but it is reasonable to consider water user funding to pay for a portion of the costs, based on the identifiable water supply reliability and water quality benefits they receive.

The specifics for financing the Levee Program, including the possible application of user fees, have not been finalized; however, general principles on cost-sharing options for the Levee Program have been provided in the Financing Plan.

IPF 5.4.3-5

The impacts of Delta island subsidence are being addressed by CALFED through the Delta Levee Subsidence Control Plan (Subsidence Control). The goals of the Subsidence Control element are to reduce or eliminate the risk to levee integrity from subsidence and assist in the coordination of subsidence-related linkages with other CALFED programs. The costs associated with this element would be the added costs to levee protection from subsidence. This element is being developed and evaluated at a programmatic level.

5.4.4 CALFED Water Use Efficiency Program

IPF 5.4.4-1

The comment suggests that Water Use Efficiency measures resulting in water dedicated to the environment may decrease supply to downstream users. CALFED disagrees with this comment. Any water from Water Use Efficiency measures dedicated to the environment would be reclaimed water that would be added to the system. While downstream users would not directly benefit from the use of this water, they would benefit from the increased regulatory flexibility that a healthy ecosystem allows.

The CVPIA involves dedication of water and water user payments to the Restoration Fund. It also involves cost sharing by the federal government and the state. CALFED agrees with this policy, and similar principles will be part of the CALFED solution. The CALFED agencies believe that a mix of public money and user funding will be needed to solve these difficult problems.

IPF 5.4.4-2

At least some of the benefits of conservation are private (for example, the savings in water, delivery, O&M, and treatment) and are to the conserving party. If the comment is arguing that since they are using less water, there is more water for everyone else, this does not necessarily guarantee any public benefit because the water could be used by other water users.

CALFED should not need to provide incentives to urban water agencies to fund measures that are locally cost effective. The benefits would outweigh the costs and local agencies would benefit from the measures. If the recycling or conservation action is not cost effective at the local level and the benefits are largely to the environment, then the urban agency would not be expected to fund the measure. Furthermore, if the measure is not cost effective at the state level, then other more cost-effective means of reducing demand or increasing

supply would be taken. The primary case in which public funding should be used for Water Use Efficiency actions are projects where the actions create public benefits, but at the expense of local water users. In such cases, the public would not realize the benefits were it not for the public funds needed to make the project worthwhile to the conserving party. In addition, public funding may be appropriate for some water use efficiency actions, due to the public benefits of demonstration projects or new technologies.

IPF 5.4.4-3

The Water Use Efficiency Program will be working with many different stakeholders, including WateReuse, on issues related to the Water Use Efficiency Program. The specific beneficiaries from water use efficiency actions implemented by CALFED will be determined during site-specific planning of the Program, because the exact cost shares to specific beneficiaries will depend on the location and nature of the project. General cost-sharing scenarios for the Water Use Efficiency Program, as well as the other Program elements, have been included in the Financing Plan.

IPF 5.4.4-4

CALFED agrees with the commentor that adequate funding will be needed early for water conservation actions. Adequate funding will be needed for all of the Program elements, including water use efficiency. All of the Program elements will require planning, execution, and evaluation under adaptive management; and CALFED will need to use a balanced approach when funding actions during implementation of the Program.

Proposition 13, passed by the California voters in March 2000, will provide some early funding for the Water Use Efficiency Program.

IPF 5.4.4-5

CALFED agrees with the comment that simply subsidizing conservation may not result in more water for the environment but rather a transfer of water to other project contractors. The idea that funding water use efficiency projects in southern California could be viewed as a market transaction, essentially a trade for water dedicated to the EWA, has not been explored. Financing decisions on the EWA likely will occur during implementation of the Program.

IPF 5.4.4-6

CALFED agrees with your comment that conservation may not result in more water for the environment unless measures are adopted to protect the water. The Financing Plan considers an incentive where water use efficiency projects that entail water being left in-stream, dedicated to the environment, and legally protected would receive public funding. Finalizing decisions on Water Use Efficiency measures will likely occur during implementation of the Program.

IPF 5.4.4-7

CALFED agrees with the comment, which is why CALFED has included conservation and recycling as priorities for Program funding during implementation.

IPF 5.4.4-8

CALFED does not agree with your comment. The federal Clean Water Act (CWA) provides for the creation of a State Revolving Fund (SRF) Loan Program capitalized in part by federal funds from the EPA. The CWA authorizes loan funding for construction of wastewater treatment and water recycling facilities, for the implementation of nonpoint source and storm drainage pollution control management programs, and for the development and implementation of estuary conservation and management programs.

IPF 5.4.4-9

Conservation and groundwater conjunctive use projects are part of the CALFED Program. Proposition 13, passed by the voters in March 2000, will provide some funding for both conservation and groundwater projects. In addition, CALFED remains committed to coordinating efforts with existing state and federal conservation programs to ensure efficient solutions. The cross-cut budget, which shows funding of existing federal and state programs, as well as CALFED funding, will be built on an annual basis throughout implementation of the Program.

IPF 5.4.4-10

CALFED has changed the paragraph as follows:

> The ultimate goal of the CALFED Water Use Efficiency Program is to develop a set of programs and assurances that contributes to CALFED goals and objectives, has broad stakeholder acceptance, fosters efficient water use, and helps support a sustainable economy and ecosystem. To achieve these fundamental goals, the Water Use Efficiency Program has the following objectives:
>
> - Reduce existing irrecoverable losses.
> - Achieve multiple benefits.
> - Preserve local flexibility.
> - Use incentive-based actions over regulatory actions.
> - Build on existing water use efficiency programs.
> - Provide assurance of high water use efficiency.

5.4.5 CALFED Water Transfer Program

IPF 5.4.5-1

Streamlining the water transfer process is of general benefit to the public. At least some water transfers would be for ecosystem purposes, and the costs of the program are relatively small with respect to the other CALFED Program elements. Therefore, CALFED proposes to fund the Water Transfer Program with public funds.

IPF 5.4.5-2

CALFED does not agree with this comment. Agricultural agencies that sell water will do so as willing sellers. Presumably, they would not sell water unless it is in their best interest to do so. CALFED's Water Transfer Program intends to streamline the process for water transfers in the state, which would lead to a better market for transfers. All buyers and sellers of water will benefit from the Water Transfer Program, including agricultural

water users. Any agricultural agencies that decide to sell water must be benefitting from the transfer, or they would not choose to sell the water.

5.4.6 CALFED Water Quality Program

IPF 5.4.6-1

The Financing Plan will serve as the foundation for addressing funding decisions during implementation of the life of the Program, not just Stage 1. Some of the actions proposed in Stage 1 do provide primarily ecosystem benefits. In these cases, benefits to water users would not be based on measuring avoided treatment costs. Some actions in Stage 1 (and presumably some actions beyond Stage 1) do provide drinking water quality benefits, however, and these projects may be subject to a benefits analysis based on the methodology questioned in your comment.

IPF 5.4.6-2

Using 100% public funding for broad research, studies, and monitoring may be considered as an option. A mixture of public funding and broad-based fees may also be considered. General principles on funding options for the Water Quality Program have been provided in the Financing Plan. The specifics on financing individual projects will be determined after the ROD, during implementation of the Program.

IPF 5.4.6-3

The approach for measuring benefits mentioned in the comment may be appropriate for some drinking water quality actions, which is why it was mentioned in the Financing Plan as a possible means of measuring willingness to pay. Not all water quality benefits are quantifiable, however; in some cases, a broad-based user fee may be appropriate when there are broad public benefits.

IPF 5.4.6-4

The Financing Plan mentions that water users are beneficiaries of the Water Quality Program. While it may be true that many of the actions for Stage 1 primarily benefit the ecosystem, water users do benefit from the Water Quality Program in Stage 1, and they will also benefit beyond Stage 1. The Financing Plan needs to be the foundation for financing the life of the Program, not just Stage 1. Because water users will benefit from the Water Quality Program, 100% public funding will not be considered as an option. General principles on funding options for the Water Quality Program have been provided in the Financing Plan. The specifics on financing individual projects will be determined after the ROD or during implementation of the Program.

IPF 5.4.6-5

CALFED does not agree with this comment. CALFED has made drinking water quality a primary concern of the Water Quality Program and will fund many studies in the early stages of implementation regarding drinking water quality and bromide. One example is the study to determine the sources and magnitudes of loading for many drinking water constituents, including bromide. The "Drinking Water" chapter in the Water Quality Program Plan concludes that organic carbon might be subject to control by drainage treatment if the technology can be proven and if it can be made economically feasible. This is why CALFED proposes pilot projects for drainage treatment as part of the Water Quality Program in Stage 1.

Section 2.1 in the Programmatic EIS/EIR mentions the actions CALFED will take to reduce salinity levels. These actions include reducing salt sources in urban and industrial wastewater to protect drinking and agricultural water supplies; and facilitating development of successful water recycling, source water blending, and groundwater storage programs. Salinity in the Delta would be controlled by limiting salt loadings from its tributaries and through managing sea water intrusion by such means as using storage capability to maintain Delta outflow and to adjust the timing of outflow and by managing exports.

CALFED does not agree that agricultural and urban water users do not benefit from the Water Quality Program. The benefits identified above, as well as other possible benefits, have been discussed further in the Financing Plan.

IPF 5.4.6-6

CALFED agrees that some Ecosystem Restoration Program actions may affect drinking water quality, but this issue needs further study. CALFED takes this issue seriously, which is why potential impacts will be researched during Stage 1.

In addition, the benefits or impacts of drinking water quality must be compared to the No Action Alternative. Compared to the No Action Alternative, the Preferred Program Alternative provides significant improvements in terms of both its water quality and ecosystem health effects. Under the No Action Alternative, each of the four areas of critical concern—ecosystem quality, water quality, levee system integrity and water supply reliability—would continue to deteriorate, with resultant potentially significant adverse impacts on fisheries, endangered species, and species of concern and their habitats. In addition, the quality of both in-Delta and export water likely would decline under the No Action Alternative. This decline in water quality could result in potentially significant adverse impacts on fisheries, ecosystem health, and drinking water quality. With the continued decline of the ecosystem, interruptions of water deliveries also likely would occur because of constraints on export pumping to protect threatened and endangered species. Finally, under the No Action Alternative, the Delta levees would continue to be vulnerable to failure because of limited maintenance in some locations and the lack of a comprehensive plan for effective emergency response.

IPF 5.4.6-7

CALFED does not agree with this statement. First, the costs to meet regulatory requirements are outside the scope of the CALFED Program, because CALFED is not a regulatory agency and regulations would occur with or without the CALFED Program. Furthermore, many CALFED actions, including implementation of the Ecosystem Restoration Program and other Program elements including the EWA, would increase flexibility and would most likely decrease the likelihood of future regulation. Second, the "beneficiaries pay" principle does not preclude cost sharing from water users who benefit from reduced regulations.

The comment also claims that the "beneficiaries pay" principle could cause significant redirected impacts related to drinking water quality. For more information on the no redirected impacts principle as it relates to financing, please refer to response IPF 5.0-5. For information on bromide and total organic carbon related to financing, please refer to response IPF 5.4.6-5.

IPF 5.4.6-8

While studies on salinity and plant types are not proposed for funding in Stage 1, CALFED will fund other actions regarding salinity. Section 2.1 in the Programmatic EIS/EIR mentions the actions CALFED will take to reduce salinity levels. These actions include reducing salt sources in urban and industrial wastewater to protect drinking

and agricultural water supplies; and facilitating development of successful water recycling, source water blending, and groundwater storage programs. Salinity in the Delta would be controlled by limiting salt loadings from its tributaries and through managing sea water intrusion by such means as using storage capability to maintain Delta outflow and to adjust the timing of outflow and by managing exports.

IPF 5.4.6-9

CALFED will not assess fees to collect for past actions, such as past applications of pesticides. However, any current or future uses of pesticides that are identified as potentially damaging to the ecosystem could be considered polluters under the "polluters pay" scenario. Cost sharing from polluters could be sought to fund ecosystem improvements. This action could prevent more stringent future regulations on the applications of such pesticides; therefore, the applicators would benefit from these ecosystem actions.

IPF 5.4.6-10

CALFED will seek funding for the Water Quality Program from a variety of sources, including federal, state, and user funding. Please see response IPF 5.5-3 for more information on CALFED Program funding.

5.4.7 CALFED Watershed Program

IPF 5.4.7-1

CALFED has chosen a benefits-based approach to allocating the costs of the Program. To the extent that relationships can be established between downstream users benefitting from watershed actions, cost sharing and coordination among downstream users and the watershed groups above the dams will be pursued. During implementation, the Watershed Program expects to strengthen the partnerships and relationships among all beneficiaries of the watersheds, including the public, local watershed organizations, and government organizations. Funding sources for watershed actions will be better coordinated and easier to access. In addition, relationships between watershed actions and beneficiaries will be identified and, to the extent possible, quantified. The Watershed Program will be better able to establish these relationships during implementation of the Program, when more information about specific projects becomes available through planning, research, and adaptive management.

While the "New York City-type funding plan" that some stakeholders have cited is a good example of cooperation among cities/counties and upstream watershed programs, CALFED does not agree that its applicability to the CALFED Program, in terms of financing, is clear and direct. New York City obtains nearly all of its water from three watersheds that flow directly into the City. Whereas in New York City there is a clear connection between a specific watershed (source) and user (New York City), the case for Sierra Nevada watersheds and water diverters from the Delta is less clear.

The possibility of using a broad-based water user fee to help fund the Watershed Program is discussed in the Financing Plan, which would provide user funding for watershed actions. Additionally, fees on water deliveries and hydropower users are identified as possible sources of funding during implementation. If a relationship between hydropower use and watershed management actions can be established, fees on hydropower users will be considered during Program implementation.

It is clear that there are multiple beneficiaries from the Watershed Program; all of them will be asked to pay provided that benefits from the Program can be demonstrated. While benefits may not always be quantifiable,

it is possible to link benefits to beneficiaries and to allocate costs based on this principle. Identification and linking of benefits to beneficiaries from all of the Program elements, including the Watershed Program, will be undertaken during implementation.

IPF 5.4.7-2

Based on the "beneficiaries pay" policy, CALFED will establish a link between the benefits of the Program and the beneficiaries; this information will be used when developing cost shares for specific projects during implementation. While some may consider it ideal to establish cost shares proportional to quantified benefits, for many projects in the CALFED Program (including the Watershed Program), the benefits are not easily quantified. Furthermore, a "beneficiaries pay" policy does not obligate CALFED to establish fees based on quantified benefits. This approach does not preclude CALFED from assessing fees to beneficiaries, as long as fees are based on a demonstration and linkage of benefits.

A general discussion of user fees, including possible fees on CVP and SWP users, is included in the Financing Plan.

IPF 5.4.7-3

The Financing Plan states that Delta exporters may benefit from the Watershed Program. If CALFED cannot identify benefits of the Watershed Program to Delta exporters, they will not be asked to pay for watershed actions. The comment that it is impossible to quantify and separate water quality and supply reliability benefits in the Watershed Program from other contributing factors is not a rationale for 100% public funding. Although a link must be shown between Delta water exporters and Watershed Program benefits, this does not require CALFED to quantify explicit benefits before requiring cost sharing from water users.

IPF 5.4.7-4

Cost-sharing scenarios are included in the Financing Plan for all of the Program elements, including the Watershed Program. However, specific details surrounding cost sharing will need to be determined during implementation.

IPF 5.4.7-5

CALFED agrees with the commentor that adequate funding will be needed for watershed actions. CALFED also agrees that deferred maintenance of the watershed would require additional funding in future years. Adequate funding will be needed for all of the Program elements, including the Watershed Program. Funding for the CALFED Program, including the Watershed Program, will come from both federal and state sources as well as from users. All of the Program elements will require planning, execution, and evaluation under adaptive management. CALFED will need to use a balanced approach when funding actions during implementation of the Program.

Proposition 13, approved by the voters in March 2000, will provide some funding for watershed activities in the state.

IPF 5.4.7-6

CALFED agrees that some public funding will be needed for implementation of the Watershed Program. However, the specific actions in the Watershed Program will be determined by local communities, working together with CALFED. CALFED cannot guarantee that any of the items that the commentor requests to be

publicly funded by the Watershed Program will be actions that will receive priority funding during implementation.

IPF 5.4.7-7

CALFED does not agree with this comment. Delta farmers and users of Delta exports may also benefit from the Watershed Program from reduced flood risk, increased water supply reliability, and improved water quality. More information regarding benefits of the Watershed Program may be found in Chapter 5 in the Implementation Plan.

IPF 5.4.7-8

The Watershed Program is based at the local level. As such, one of the main components of the Watershed Program is to provide financial assistance to community-based watershed programs. Funding could be used for many different activities, including pollution prevention and water conservation, which were mentioned in this comment.

IPF 5.4.7-9

CALFED does not agree with this comment. In fact, integration with other Program elements is called out as one of the primary elements of the Watershed Program. The specific actions in the Watershed Program will be determined by local communities, working together with CALFED. Cost estimates for the Watershed Program could change based on these priorities. For more information on Watershed Program cost estimates, please see response WSH 3.5-4.

5.4.8 CALFED Ecosystem Restoration Program

IPF 5.4.8-1

Ecosystem quality is one of the primary objectives of the CALFED Program. CALFED agrees that adequate funding, including state and federal money, is necessary to successfully meet all of the four primary objectives (ecosystem quality, water supply reliability, water quality, and levee system integrity) of the Program.

Significant public funds already have been allocated to Bay-Delta ecosystem restoration through state Proposition 204 funds and through federal agency budget appropriations. The Financing Plan also discusses the possibility of proposing user fees to provide a reliable source of funding for ecosystem actions.

For information regarding funding for recreation, please refer to response IA-7.7.11-3.

IPF 5.4.8-2

To the extent that dredged materials are reused by the Ecosystem Restoration or Levee Programs, Bay Area dredgers could benefit from decreased disposal costs. In cases as described in your comment, CALFED agrees that Bay Area dredgers should share in the costs of projects where dredged materials are used.

IPF 5.4.8-3

CALFED does not agree with this comment. CALFED agrees that conversion of Delta land use from agriculture to wetlands and marshes under the Ecosystem Restoration Program could result in increased water use and

potential negative impacts on agricultural and urban water supply reliability. However, these potential consequences may be reduced or eliminated by several strategies included in the Preferred Program Alternative. Implementation of an EWA may allow for more efficient use of water for environmental purposes and decrease the conflict in uses of Bay-Delta water supplies. Optimizing the use of alternative water management tools, including water use efficiency measures, water recycling, and water transfers, may improve the availability and economic utility of water supplies. Implementing water quality improvement actions may enhance the quality of source water supplies, thereby providing additional operational flexibility to meet water supply reliability and quality goals. Conveyance improvements may also increase the flexibility of water project operations and improve water supply reliability. Finally, completing an Integrated Storage Investigation will help to determine the proper role of storage in the context of a comprehensive water management framework. New storage could provide improved water management capability and enhanced water supply reliability.

The cumulative beneficial effect of all actions under the Preferred Program Alternative, including the Water Quality Program, Water Use Efficiency Program, Water Transfer Program, conveyance improvements, and potential new water storage facilities, is expected to significantly outweigh this potential loss of water supply, resulting in no potentially significant adverse impacts.

IPF 5.4.8-4

The purpose of the restoration coordination program is to allow implementation of ecosystem restoration actions while the programmatic environmental documents, including the long-term ecosystem restoration plan, are being revised and finalized. To date, funding decisions have not been made solely on geographic criteria (for example, each region receives a certain percentage of the funds available.) Projects are funded based on the criteria outlined in the proposal solicitation package, which includes the ability to show the connection between the project and the goals of the Ecosystem Restoration Program. Generally, those projects that most closely meet the outlined criteria and goals are recommended for funding.

5.5 Funding Sources and Finance Mechanisms

IPF 5.5-1

Some commentors are concerned that CALFED will be subsidizing water development projects for agricultural and urban water users. During implementation of the Program, taxpayer dollars will not be used to fund projects where the sole beneficiaries are agricultural or urban water users. CALFED has chosen a benefits-based approach to allocate the costs of the Program. Simply put, those who benefit from the Program will help pay for it. Most projects that will be implemented by the CALFED agencies, however, will have multiple beneficiaries, including the public. This means that a combination of both public and user funds will be needed.

The public will be expected to help pay for the Ecosystem Restoration Program actions, for example, since the public largely benefits from these actions. Significant public funds have already been allocated to Bay-Delta ecosystem restoration through state Proposition 204 funds and through federal agency budget appropriations. Public funds may also be used for the planning and evaluation of storage projects to ensure a comprehensive and fair comparison of storage options. However, should a storage project proceed to construction, then the public funds used for planning and evaluation will be reimbursed by the project beneficiaries.

IPF 5.5-2

CALFED agrees with the statement that many projects will be implemented by the CALFED agencies with public benefits, and that the CALFED Program elements are interrelated. This does not mean, however, that the Program will be funded entirely with public funds. The inter-relationship among CALFED Program elements is not a rationale for 100% public funding. It has long been the practice of federal and state agencies to allocate the costs of multi-purpose water projects among beneficiaries. CALFED expects that many beneficiaries of the Program, including water users and all groups of beneficiaries, will be asked to pay. For more information on the "beneficiaries pay" principle, please refer to common response 9.

IFP 5.5-3

CALFED recognizes the need for a balanced and reliable funding package for the life of the Program. Unfortunately, not all of the available funding sources are reliable, especially federal and state appropriations. In addition to seeking funding from these sources, the Financing Plan raises the possibility of implementing user fees as a source of funding for the Program. One of the advantages of a broad-based user fee, for example, would be the reliability of this funding once the fee is in place. State bonds are also reliable sources of funding. Proposition 13, approved by the voters in March 2000, also will provide reliable funding for the CALFED Program.

It is important to have a balanced funding package, as well as a reliable one. One goal of the Financing Plan is to develop principles for funding the Program that are balanced and fair, as well as sufficient for successful implementation of the Program. CALFED will seek funding from a variety of sources, including state and federal appropriations and general obligation bonds. Other funding sources considered in the Implementation Plan include water and power revenue bonds; user (water district) funding; and user fees, including a broad-based user fee, based on diversions.

CALFED will not target one beneficiary group because they have "deep pockets," as some comments suggest. Some comments suggest that the Program should be funded entirely with public funding, while others suggest that the Program should include no public funding and should seek all of the funding from water users. CALFED rejects both of these proposals because neither one is balanced or consistent with the "beneficiaries pay" principle. There will be multiple beneficiaries from the CALFED Program, including both the public and water users; therefore, both groups of beneficiaries will be expected to contribute funding during implementation of the Program.

At least one comment references concerns with a Watershed Program example. For information regarding the Watershed Program, please see response WSH 3.5-1.

IPF 5.5-4

CALFED has adopted a "beneficiaries pay" approach to allocating costs of the Program. This principle will guide the Program during implementation, when beneficiaries are identified for site-specific projects. CALFED expects that all Californians, including those living in the northern parts of the state, will benefit from aspects of the CALFED Program, such as ecosystem restoration projects that will create broad public benefits. State funding, as well as federal funding and possibly broad-based user fees from users, will be used to fund these kinds of projects. Where possible, specific beneficiaries will be identified during implementation and will share in the costs of site-specific projects. This might include groups of beneficiaries from all regions of the state, including northern California.

IPF 5.5-5

Some comments have suggested that using state and federal money for Program funding would create new subsidies and encourage inefficient water use. CALFED disagrees with this statement. CALFED has adopted a "beneficiaries pay" approach to funding the Program; therefore, public funding would be used for projects with broad public benefits. This principle should prevent inefficient water use, because beneficiaries paying for public programs encourages them to more carefully review their water and power needs and the costs of proposed programs (including mitigation costs) in relation to the benefits they receive. Such a policy also encourages examination of a fuller range of alternatives, including locally funded measures, to ensure that public funds are spent in the most cost-effective way to in order to meet Program goals.

Other comments suggest that the Financing Plan is in violation of NEPA/CEQA because the law requires CALFED to provide specifics surrounding financing for the Program prior to its implementation. This statement is inaccurate. NEPA/CEQA requires that alternatives be evaluated based on the potentially significant adverse environmental impacts that may result from implementation of the Program. Financing mechanisms, in and of themselves, do not cause environmental damages; therefore, CALFED is not required to evaluate specific financing mechanisms prior to the implementation phase of the Program. Further, the Financing Plan does evaluate the advantages and disadvantages of different funding sources, and principles that are established in the Financing Plan will serve as the foundation for funding decisions during Program implementation. These general principles are outlined in the Financing Plan.

Specific financing proposals, based on the guidelines of the Financing Plan, will be made during Program implementation. Any site-specific projects will require further environmental review under NEPA/CEQA; and specific proposals regarding cost allocation, financing, and cost sharing will be appropriate at that time.

IPF 5.5-6

CALFED does not agree with this comment. The advantages and disadvantages of various funding sources are already discussed in the Financing Plan, and the presentation of this information is consistent with "beneficiaries pay." CALFED believes that the level of detail contained in the plan is sufficient for a programmatic document. For more information on the "beneficiaries pay" principle, please refer to common response 9.

IPF 5.5-7

CALFED finance team staff have reviewed page xxiii of the Western Water Policy Review Advisory Commission document published in 1998. The range of options for financing storage and water use efficiency measures, included in the Financing Plan, are consistent with the recommendations in the Western Water Policy Review Advisory Commission document.

IPF 5.5-8

Legislative and voter approval will not be avoided, as the comment suggests. CALFED will seek funding from a variety of sources, including state and federal appropriations and state bonds.

IPF 5.5-9

CALFED agrees that if urban water users can find solutions for their problems that are more cost effective than CALFED, water users would seek their own alternative solutions. The CALFED agencies believe that the

Preferred Program Alternative will be cost effective and to the benefit of all the various stakeholders. The adoption of adaptive management to form decisions during implementation should lead to more cost-effective solutions. It is not up to CALFED, however, to compare the costs and benefits of the CALFED Program with the many possible alternative solutions claimed by urban agencies. CALFED assumes that urban agencies will make these comparisons themselves and decide whether or not to "buy into" CALFED.

Some comments go on to say that while CALFED may raise the price of water to influence water use behaviors, water agencies cannot do this as a matter of law. Some of the actions in the CALFED Program may result in increased prices for water, but this would more closely reflect market prices than artificially increased prices. Second, mitigation costs (i.e., future environmental mitigation costs) are part of water project costs. Third, if laws or regulations require different mitigation or impose additional fees (for example, the CVPIA Restoration Fund), water agencies can legitimately recover these costs. For example, many agencies are already paying fees levied by the CVPIA and are recovering these costs through their rates.

IPF 5.5-10

The CALFED agencies believe that your concern could be addressed by a broad-based user fee. Such a fee would work in a similar fashion to the "pooled funds" category the comment describes, where a funding source is created to fund projects with broad public benefits, as well as broad benefits to water users. This mix of federal, state, and user funding should provide balance and encourage projects that serve multiple benefits.

IPF 5.5-11

CALFED agrees with the comment. CALFED is already working on scenarios to develop an EWA. Federal and state funding, as well as user funding, will be needed to successfully fund implementation of the Program. The Financing Plan supports a balanced funding package with funding from different sources.

IPF 5.5-12

"Ability to pay" as a principle for the Program has not been fully explored. Your comment will be taken into consideration, and CALFED agrees that if this principle is proposed in the future, the proposal should also include the criteria by which it can be applied.

IPF 5.5-13

CALFED agrees that federal and state funding is not a reliable source of funding for the Program. This is why the Financing Plan includes a table showing the advantages and disadvantages of various funding sources to highlight this issue. CALFED proposes that a mix of funding will be needed for successful implementation, including federal, state, and user funding. The Financing Plan also includes information surrounding possible user fees that would provide more funding for the Program.

CALFED contends that while federal and state appropriations are not reliable sources of money, this does not mean that no federal or state money should be sought. That appropriations of public money are unreliable is a fact CALFED does not dispute; this is a problem that cannot be solved by CALFED. The Financing Plan, combined with a Governance Plan, will provide the necessary discussions regarding the assurances of Program funding.

IPF 5.5-14

The conditions your comment mentions seem to be cases where both water users and the environment would benefit. CALFED agrees that a mix of funding is appropriate for implementation of the Program elements that provide both public and user benefits.

IPF 5.5-15

Any local match requirements will depend on the specific projects that are implemented. The cost sharing for specific projects will be determined during implementation of the Program.

IPF 5.5-16

The Financing Plan (Chapter 5 in the Implementation Plan) does include a discussion on various funding sources for the Program, including the availability of Proposition 204 funds after the signing of the ROD. For example, the section on financing the Ecosystem Restoration Program (Section 5.4.8) includes a discussion regarding multiple funding sources for the Ecosystem Restoration Program, including Proposition 204. This section includes the requirements that must be met by the CALFED agencies in order to expend these funds.

IPF 5.5-17

CALFED has already begun the process of coordinating with federal and state agencies regarding programs and projects that contribute to the same goals and objectives of the CALFED Program. To move this process forward, CALFED completed a cross-cut budget for federal FY 2000/ state FY 99-00 that identifies some of these programs and budgets. To successfully implement the Program, CALFED will need to cooperate with all of the federal and state agencies involved in the Delta in order to educate, share information, and coordinate work efforts. This does not necessarily mean, however, that funding from these other programs would be redirected to CALFED.

One commentor worries that the CVPIA Restoration Fund would be used to fund non-CVPIA actions. The CVPIA, as well as many other federal and state programs, has funding to meet specific objectives. While close coordination with CALFED may lead to different levels of funding for some actions, actions that do not fall under the objectives of CVPIA would not be funded with CVPIA Restoration Fund dollars.

Program elements providing broad public benefits will be paid for by beneficiaries. This funding will include federal and state funds, as well as user funding.

IPF 5.5-18

CALFED expects that all Californians, including those living in the southern parts of the state, will benefit from aspects of the CALFED Program. Southern Californians would benefit from increased water supply reliability, water quality improvements, and ecosystem restoration contained in the CALFED Program. A mix of funding will be needed for implementation, including state and federal funding and possibly broad-based user fees.

IPF 5.5-19

CALFED has adopted a "beneficiaries pay" approach to allocating the costs of the Program. Clearly, agricultural water users will benefit from increased water quality and water supply reliability as a result of implementation of the Program. Agricultural and urban water users will be expected to pay, as well as the public. A balanced mix

of funding will be needed for implementation, including contributions from all beneficiary groups. This will require state and federal funding and possibly broad-based user fees.

IPF 5.5-20

CALFED will comply with Proposition 204 requirements for balanced implementation as specified in Section 78684.12 of the California Water Code, which sets conditions on the dispursement of $390 million for ecosystem restoration actions.

5.6 Broad-Based Bay-Delta System User Fee

IPF 5.6-1

The Financing Plan raises the possibility of using a broad-based user fee to help fund implementation of the Program. This does not mean, however, that it will be the only source of funding for implementing the Program, as some comments suggest. CALFED recognizes the need for a mix of funding sources, which might include appropriations of federal and state funds, creation of special funds, imposition of fees to support those funds, and approval of bond acts. Some other comments argue that only public funding should be used for projects with broad public benefits. CALFED agrees that public funding should be used for projects providing broad benefits, but public funding is not the only source of funding that is appropriate. A broad-based fee, in addition to public funding, could also be used to fund a portion of those Program elements with broad public benefits, such as the Ecosystem Restoration Program and portions of the Watershed Management and Water Quality Program elements.

The idea behind a broad-based fee is to provide a reliable source of funding for projects with identifiable, but broad-based, benefits. Some stakeholders have suggested that broad-based user fees are inequitable and not consistent with a "beneficiaries pay" principle unless they are linked to quantified benefits. CALFED does not agree with this statement. The principle that beneficiaries should pay does not require that all benefits be quantified. Some projects have benefits that can be quantified, and these projects lend themselves to traditional means of allocating costs to project beneficiaries. Many other projects in the CALFED Program, however, have benefits that are difficult to quantify, particularly the non-market benefits. In some cases, these projects will be funded with public money. In other cases, benefits can be linked to broad groups of beneficiaries, even if the benefits are difficult to quantify. A broad-based user fee, combined with federal and state funding, is one way to pay for these kinds of projects under a "beneficiaries pay" policy. The CALFED agencies believe that this approach is one that is balanced and consistent with the "beneficiaries pay" principle.

As noted in the Financing Plan, one rationale for a user fee based on diversions is that impacts on the Delta are related to water use, whether the use be upstream of the Delta or by Delta exports. More generally, it is in the interest of all diverters of water from the Delta and its main tributaries to achieve security in the level of long-term water deliveries. Such security can be achieved only if environmental goals of the CALFED Program are met. Broad-based user fees are one way in which water users can contribute to the long-term stability and security of their water supplies.

The Financing Plan outlines different possibilities for how a broad-based fee might be structured. In addition, some projects have benefits that can be quantified; in these cases, cost sharing will be sought from specific beneficiaries during the site-specific planning phase of these projects. Detailed information regarding which users would be expected to pay a user fee will not be included in the Financing Plan but will be determined during implementation of the Program.

IPF 5.6-2

The Financing Plan will discuss broad-based fees in more detail, but the specifics will need to be worked out during implementation of the Program. General responses to these comments are provided, however.

First, broad-based user fees would most likely be used for Program elements with broad public benefits, such as ecosystem restoration or watershed actions. Such fees could also be used for water use efficiency measures that result in additional protected in-stream flows. If broad-based fees are used for conservation, CALFED would not be asking water users to pay for projects where only the state would benefit, as is suggested in your comment. As discussed in the Financing Plan, water conservation actions that are not locally cost effective may be cost effective from a statewide perspective. Broad fees collected from water users to fund these actions would not be inconsistent with "beneficiaries pay," as long as water users as a group collectively benefit from water conservation actions. Water users would not be "paying themselves to make measures cost effective," because water users would not be asked to fund the measures unless they were already cost effective to water users on a broader level.

Some comments also suggest that the government should be subject to the same broad-based fees as water users, for any water taken for the environment or dedicated to the EWA. No decisions have been made regarding this issue, and specifics will be worked out during implementation. CALFED agrees at least in principle that federal and state money are appropriate to help fund water flows from any water transfers, water use efficiency, or storage projects where the flows are protected and dedicated to the environment. The CVPIA formula, for example, involves dedication of water, user fees, and public funds. CALFED agrees that a mix of water user fees and public money will be needed to solve these difficult problems.

IPF 5.6-3

The specific details surrounding crediting will be worked out during implementation, but the Financing Plan already includes a discussion on crediting. The CALFED Program has established the principle that financial contributions would be credited toward the ultimate obligations for the CALFED Program. For example, CVPIA Restoration Fund payments for programs that meet the objectives of the CALFED Program could receive credit toward funding obligations for the Program.

IPF 5.6-4

Some comments suggest that other specific fees should be considered for Program implementation. One comment suggests that commercial and recreational fishermen, for example, should be subject to fees to help fund the Ecosystem Restoration Program. CALFED agrees that all beneficiaries should contribute funding to implementation of the Program; this could include fishermen, boaters, dredgers, and others. The fact that fishermen were mentioned by CALFED as beneficiaries of the Ecosystem Restoration Program means that cost sharing from fishermen will be considered during implementation of the Program. The details surrounding user contributions to the Program will be finalized during implementation of the Program. Please refer to response IPF 5.6-1 for more information on user fees.

IPF 5.6-5

CALFED agrees that the Business Leaders' report specifically states on page vii that the fee would be an option only in the absence of GO bonds. The report also notes, however, that funding through GO bonds is not secure. As Chapter 5 in the Implementation Plan points out, user fees once enacted can be a more stable source of revenues. This is one reason why user fees are being considered by CALFED.

The broad-based user fee that is described in the Financing Plan would not simply assess the fees without linking the fee to benefits on a broad scale. User fees would be assessed to water users, based on the benefits they receive from the Program. It is in the interest of all diverters of water from the Delta and its main tributaries to achieve security in the level of long-term water deliveries. Such security can be achieved only if the environmental goals of the CALFED Program are met. Broad-based user fees are one way in which water users can contribute to the long-term stability and security of their water supplies.

Because it would be difficult to determine how much each individual water user benefits from the Program, it would be appropriate to assess fees on all diverters, based on their collective benefits from the Program. In addition, all Delta diverters would benefit from more reliable supplies of water. It would be impossible to exclude individual users from the future benefits of a more reliable system; therefore, all of them should have to pay. This approach is consistent with what the commentor describes as the appropriate use of user fees for "common property" benefits, as both the comment and the 1996 Business Leaders' Report define them.

It is probably safe to say that most economists define public goods and common property goods in a similar matter and view a gradation of goods from pure public goods (like national defense); to goods where exclusion is relatively difficult (like bird-watching on a flyway); to goods where, with some creativity, groups of users can become identified and charged. In addition, the ability to charge may change over time and because of technological and institutional change (for example, tollways and authorities to monitor fishing and hunting licenses).

Many of the environmental benefits that would be provided by the Ecosystem Restoration Program fall within the range of common property and public goods—goods for which it is difficult to precisely identify beneficiaries, exclude those that enjoy the resource, and charge accordingly. Examples include maintenance of endangered species, general recovery of fish populations, maintenance of bird populations using wetlands along the Pacific flyway, and better wetland habitat. The existence of many of these environmental resources can be enjoyed by individuals in and around the Bay-Delta area; and exclusion is possible only for some activities, such as consumptive recreational fishing and entrance at wildlife areas.

Note: The particular definition of "common property" goods used by the report is a bit confused. The definition indicates that a common property resource is one from which "individuals cannot be excluded" (page 6), but then indicates that costs can be recovered with access fees or user charges. The ability to recover fees for financing would generally depend on the ability to exclude users, or at least to penalize those that do not pay the fees. The examples of common property resources given in the Business Roundtable report are parking, camping, and other recreation fees. Camping and parking fees typically involve the ability to exclude users. Fishing license fees involve an ability to exclude nonpaying users through license enforcement, although perhaps with less reliability and efficiency than fenced parking areas or numbered camping spots.

IPF 5.6-6

CALFED will take this comment into consideration when developing the details surrounding broad-based user fees. The details surrounding such fees will be determined during implementation of the Program.

IPF 5.6-7

The SWP and CVP may lose flexibility because of new laws and regulations, as well as increased demand for water. The loss of flexibility due to new laws and regulations (for example, the ESA) is not necessarily a cost that the public should pay for. Water rights are subject to regulation, and project water rights (CVP and SWP) are junior to many other water rights.

The CVPIA involves dedication of water and water user payments to the Restoration Fund. It also involves cost sharing by the federal government and the state. CALFED agrees with this policy, and similar principles will be part of the CALFED solution. The CALFED agencies believe that a mix of public money and user funding will be needed to solve these difficult problems.

5.7 Program Element Cost Estimates

IPF 5.7-1

CALFED's Financing Plan is not based on equalizing budgets for each program component. Instead, the Financing Plan is designed to find ways to adequately fund the Program in order to meet the goals and objectives of the Program while still meeting the Program solution principles that any solution must be affordable, equitable, implementable, and durable; reduce conflicts in the system; and pose no significant redirected impacts.

The cost estimates for Stage 1 are based on the funds that would be necessary to adequately fund each component of the CALFED Program during the first 7 years of implementation. Some Program elements have more capital costs initially than others. It would be irresponsible and inefficient to commit more funding than necessary to a program element in Stage 1 just because another program element costs more initially.

IPF 5.7-2

CALFED will not be able to accommodate all of the requests of your comment. For example, until it is known which projects will be implemented, it is impossible to determine the O&M costs. Revised cost estimates are included in the Financing Plan. All of the items you mention would be part of the cost estimates of site-specific projects during implementation of the Program.

CALFED has already included a discussion on the relative unreliability of state and federal funds. It is impossible to analyze specifically how much money the federal or state government would have available for CALFED in future years, because state and federal appropriations depend on many factors that cannot be predicted. CALFED has proposed to deal with this problem by seeking a balanced funding package that involves contributions from numerous sources, including federal, state, and user money.

IPF 5.7-3

Estimating costs for the CALFED Program is an ongoing process. The Financing Plan contains updated cost estimates for each of the Program elements over Stage 1. These cost estimates will be developed and refined over time as more information becomes available about projects during Program implementation.

IPF 5.7-4

It is expected that stakeholders would compare the costs and benefits of the Preferred Program Alternative, which would in some cases include their own treatment costs. Regulatory water quality standards are outside the scope of the Program. Local treatment costs to meet standards would occur with or without CALFED. Because these costs are not based on implementation of the CALFED Program, they will not be included in the cost estimates for the Program.

Levee System Integrity Program Plan

Responses to Comments

C-028122

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.

C—028134

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Multi-Species Conservation Strategy

Responses to Comments

MULTI-SPECIES CONSERVATION STRATEGY
RESPONSES TO COMMENTS

Multi-Species Conservation Strategy
Overview of Responses to Comments

Many comments reveal confusion about the purpose of the Multi-Species Conservation Strategy (MSCS) and its relationship to the Programmatic Environmental Impact Statement/Environmental Impact Report (EIS/EIR). Other comments question how conservation measures identified in the MSCS would be implemented. The following text provides a general clarification of these points but is not intended as a specific response to an individual comment.

Multi-Species Conservation Strategy

The MSCS for the CALFED Bay-Delta Program (CALFED Program) is an approach to fulfilling the requirements of the federal and state Endangered Species Acts (ESAs) and the Natural Community Conservation Planning Act (NCCPA) that may be triggered by entities implementing CALFED Program actions. The MSCS provides a two-tiered approach to compliance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The MSCS provides a program-level evaluation of the CALFED Program under the federal ESA and the NCCPA. As the Programmatic EIS/EIR provides a program-level evaluation review under NEPA and CEQA, so the MSCS provides for the preparation of action-specific implementation plans (ASIPs) for a second-tier, action-specific, level of review under the federal ESA and the NCCPA. In this second-tier environmental review under NEPA, CEQA, the federal ESA and the NCCPA, the impacts of specific actions will be assessed. In addition, appropriate mitigation measures will be defined and implemented. The MSCS two-tiered compliance strategy will strengthen and simplify compliance with the state and federal ESA and the NCCPA for CALFED Program actions, by ensuring that both the aggregate impacts of the CALFED Program and the specific impacts of the individual CALFED actions are addressed consistently and adequately.

Because it is a comprehensive regulatory compliance strategy and is integrated with the Programmatic EIS/EIR, the MSCS helps to assure that CALFED Program actions can be completed in accordance with the state and federal ESAs and the NCCPA—and that the compliance process will be systematic, efficient, and predictable. The MSCS will not provide the CALFED Program with general authority to take endangered or threatened species. However, the MSCS compliance process provides the means by which CALFED implementing entities may obtain authorizations under the federal ESA and the NCCPA to allow incidental take of endangered or threatened covered species that may be caused by specific CALFED Program actions or groups of actions.

Relationship with Programmatic EIS/EIR

The MSCS does not supplant or compete with the Programmatic EIS/EIR. Information and analyses contained in the Programmatic EIS/EIR are used in the MSCS to prepare analyses and reach conclusions about the CALFED Program's potential effects on 244 evaluated species and 18 Natural Community Conservation Plan communities (NCCP communities) for the state and federal ESAs and NCCPA purposes. The MSCS conclusions regarding CALFED Program effects are consistent with the conclusions in the Programmatic EIS/EIR. However, the MSCS analyses and conclusions are presented in a manner intended to assist the U.S. Fish and Wildlife Service

National Marine Fisheries Service (NMFS), and California Department of Fish and Game (DFG) in making necessary regulatory determinations under the federal ESA and the NCCPA.

The MSCS impact analysis is more focused than the impact analysis in the Programmatic EIS/EIR. Only proposed CALFED Program actions that may affect NCCP communities and evaluated species are evaluated in the MSCS. CALFED Program actions were reviewed to determine which of the proposed actions may affect NCCP communities and evaluated species. Actions without the potential to affect NCCP communities and evaluated species are not included. Similarly, projects or activities that are not part of the CALFED Program are not included in the MSCS impact analysis. For example, the impacts of thermal pollution from irrigation return flows are not assessed in the MSCS because the cultivation of farmland in the Delta is not a CALFED Program action.

Conservation Measures

The MSCS contains two types of conservation measures to achieve the NCCP community and evaluated species prescriptions:

- Measures to avoid, minimize, and compensate for CALFED's adverse effects on NCCP communities and evaluated species.

- Measures to enhance NCCP communities and evaluated species that are not directly linked to CALFED's adverse effects.

The first type of conservation measure is designed to offset the adverse effects of CALFED Program actions and will be undertaken by entities implementing CALFED actions. The second type of conservation measure generally represents refinements to portions of the Ecosystem Restoration Program; Water Quality Program; Levee System Integrity Program; and Comprehensive Monitoring, Assessment, and Research Program (CMARP) elements of CALFED that will benefit NCCP communities and evaluated species. These enhancement measures will be undertaken by many different entities, including CALFED agencies. Progress on implementing CALFED actions that adversely affect NCCP communities and evaluated species (for example, facilities construction) may be linked to progress on implementing conservation measures to enhance the condition of these species and habitats (for example, habitat restoration).

The MSCS includes tables that identify avoidance, minimization, and compensation measures for each evaluated species. These tables identify the types of measures that may be necessary to offset the adverse effects of CALFED actions. The precise conservation measures that will apply to avoid, minimize, and compensate for a specific action's adverse effects will depend on the location and timing of the action—as well as the current status, distribution, and needs of the affected species and habitats. To the extent practicable, the priority for implementing these types of conservation measures is first to implement conservation measures to avoid adverse effects, then to implement measures to minimize adverse effects, and then to implement measures to compensate for adverse effects. The appropriate conservation measures will be developed and incorporated into an ASIP for specific CALFED actions.

Ecosystem Restoration Program actions to restore or enhance habitats that are implemented concurrently and in proximity to one another will be considered together when assessing their impacts on species and habitats and imposing compensatory measures. If the restoration and enhancement actions culminate in an increase or improvement in a particular NCCP community, compensatory measures may not be required even if a temporary or limited adverse modification of the community or habitat type would result from the actions. Ultimately, the

need for compensatory conservation measures for CALFED restoration and enhancement actions will depend on the type, location, timing, and success of the related actions.

The MSCS conservation measures do not comprise all actions that will be credited toward, or required for, compliance with the state and federal ESAs and the NCCPA. USFWS, NMFS, and DFG will consider all proposed CALFED actions that would benefit or harm the NCCP communities and evaluated species in the MSCS to determine whether CALFED complies with the state and federal ESAs and the NCCPA. CALFED actions, including Ecosystem Restoration Program actions, that are not emphasized or refined in the MSCS may nonetheless be important for compliance with the state and federal ESAs and the NCCPA.

0. General Responses

MS 1.0-1

The CALFED Program mission is to develop a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system. This mission is supported by several solution principles, one of which is to pose no significant redirected impacts. Therefore, if in the course of meeting an objective through groundwater pumping an impact on valley oak habitat resulted, that action would be reevaluated to avoid or compensate for that impact.

Chapter 6.2 in the Programmatic EIS/EIR describes the impacts of the Water Transfer Program, the Water Use Efficiency Program, and the Conveyance element on terrestrial species and habitats. Section 6.2.11 includes mitigation strategies that will reduce any potential impacts to valley oaks to a less-than-significant level. The MSCS provides additional analysis of the Program's impacts on valley/foothill woodland and forest, and offers measures in more detail than in the Programmatic EIS/EIR that will offset impacts for purposes of compliance with the endangered species laws. (See Attachment 4, Table O in the June 1999 MSCS.)

MS 1.0-2

The MSCS provides the necessary information for 18 habitat types, referred to as the NCCP habitats and defined in Chapter 2 in the MSCS. The 18 NCCP habitats are broad habitat categories, each of which includes a number of habitat or vegetation types recognized in frequently used classification systems. The habitat types were also selected so that comparisons could be made with Ecosystem Restoration Program habitat targets. For most of the 18 NCCP habitats, the Ecosystem Restoration Program targets constitute the MSCS habitat conservation goals, and the Ecosystem Restoration Program actions necessary to meet the targets are embodied in the conservation measures necessary to meet the MSCS habitat goals. In this manner, the Ecosystem Restoration Program and the MSCS are fully integrated.

MS 1.0-4

The MSCS evaluates the impact to, and recommends conservation measures for, 244 species—not only fish. The conservation measures ensure that the CALFED Program provides improvement to all of the evaluated species that might be negatively affected by construction or other actions. Most of the conservation measures will require some enhancement or restoration of the species' habitat or avoidance of disturbance. Relocating species is a last resort as relocation tends to be more detrimental to the species than improving existing conditions.

MS 1.0-5

As explained throughout the responses to comments on the MSCS, the MSCS is legally adequate to serve as a biological assessment for the federal ESA and as a programmatic plan under the NCCPA. The MSCS will be

revised to reflect these comments and responses, and will be circulated to the public as part of the Final Programmatic EIS/EIR as required under NEPA.

MS 1.0-6

The MSCS has been revised to clarify that these two efforts are integrated through integration of the MSCS and the Ecosystem Restoration Program. The MSCS contains two types of conservation measures: (1) measures to avoid, minimize, and compensate for adverse effects on NCCP communities and evaluated species caused by individual CALFED Program actions; and (2) measures not linked to the direct adverse effects of individual CALFED Program actions, which are intended to ensure that the CALFED Program achieves the overall species conservation goals. The avoidance, minimization, and compensation measures are intended to counteract the adverse environmental effects of CALFED Program actions and will be funded and implemented primarily, if not exclusively, by the entity implementing the action or group of actions. The MSCS generally prescribes measures that apply to CALFED Program actions. However, the precise measures necessary to avoid, minimize, and compensate for the adverse effects of individual CALFED Program actions or groups of actions will depend on the scope, location, and timing of the action(s)—as well as on the current status, distribution, and needs of the affected species and habitats.

MS 1.0-7

The MSCS measures to help achieve the overall species conservation goals, for the most part, refine or elaborate the Ecosystem Restoration Program, CMARP, or other CALFED Program actions and will be funded and implemented as part of these actions.

The ESA does not illegally discriminate against people or private property rights. In implementing the Program in compliance with the state and federal ESAs, CALFED will work with willing sellers and cooperating landowners.

1.2 Relationship of the MSCS to the Ecosystem Restoration Program

MS 1.2-1

The MSCS has been revised to clarify that the species recovery aspect of the MSCS will be implemented through the Ecosystem Restoration Program, the CMARP, and other CALFED Programs. The Ecosystem Restoration Program has been refined to reflect the MSCS species goals and to incorporate appropriate MSCS species prescriptions.

2.2 Species Evaluated by the MSCS

MS 2.2-1

The CALFED ecosystem restoration objective is to improve and increase aquatic and terrestrial habitats, and to improve ecological functions in the Bay-Delta in order to support sustainable populations of diverse and valuable plants and animal species. The MSCS team, consisting of staff from CALFED, USFWS, NMFS, DFG, the U.S. Department of the Interior's solicitors office, and the State Attorney General's office, developed a list of special-status species known to occur or with the potential to occur within the MSCS focus area. The MSCS focus area includes the area within the Ecosystem Restoration Program focus study area (which includes the solution area) and the 12 potential reservoir sites. To be considered a special-status species, a species needed to meet at least one of the 10 criteria listed on pages 2-6 in the June 1999 MSCS.

The DFG, USFWS, and NMFS (wildlife agencies), when assessing CALFED's impact on special-status species, must consider all actions undertaken by CALFED within the project's geographical scope (see pages 1-10 in the June 1999 Draft Programmatic EIS/EIR). Providing each species with a conservation goal (recovery [R], contribute to recovery [r], or maintain [m]) and a prescription as to how the goals will be attained, ensures that the CALFED ecosystem restoration goal mentioned above is met.

MS 2.2-2

The American white pelican was included on the list of species considered for inclusion in the MSCS but not evaluated (Attachment 1). The pelican was not included on the evaluated species list because it failed to meet the two criteria as follows:

- Has no legal protection under federal or California ESAs or other California Fish and Game Code sections, and is not likely to become federally or California listed as threatened or endangered during the term of CALFED implementation; and

- Would not be substantially affected by CALFED actions and is not rare or limited in distribution.

MS 2.2-3

An EIS or an EIR must include a description of the environment in the project or program area as it exists before the project or program commences. The description of the existing conditions provides the base from which the lead agency can assess whether or how a project or program will result in a significant adverse effect on the environment. Historical data on species populations trends, the extent and distribution of habitat, and how species and habitats have benefitted from prior projects is valuable information but is not required.

The "Affected Environment/Existing Conditions" discussion for biological resources was based on the existing conditions in the Program area in 1995, when the supporting technical reports were initially prepared. The technical reports have been updated during development of the June 1999 Draft Programmatic EIS/EIR, but most data dates to 1995. The "Affected Environment/Existing Conditions" discussion in Sections 6.1 and 6.2 in the Programmatic EIS/EIR provides general information on species and habitats by region. The existing conditions generally incorporate any benefits to species and habitats derived from ecosystem enhancement projects prior to 1995. The level of information in the Programmatic EIS/EIR is sufficient for a programmatic-level understanding of the significant effects of the CALFED Program and its alternatives on species and habitats.

The supporting technical reports for fisheries/aquatic resources and vegetation/wildlife provide additional detail about current habitat and species conditions and a historical perspective. The technical reports are referenced in the June 1999 Draft Programmatic EIS/EIR on page 12-1. More detailed information on the 244 species evaluated in the MSCS is contained in the MSCS, Chapter 2, and in the MSCS technical report entitled "Species Accounts for MSCS Evaluated Species." The species accounts contain detailed ecological and status information on the 244 evaluated species. Neither NEPA nor CEQA requires that specific improvements to certain species due to ecosystem investment be documented separately in the discussion of existing conditions.

3.1 Species Goals

MS 3.1-1

See response MS 7.0-4, which explains how the MSCS incorporates recovery actions from all existing recovery plans for the MSCS evaluated species. The USFWS and NMFS have an independent legal obligation to develop recovery plans for federally listed species. For federally listed species that do not yet have recovery plans, the USFWS and NMFS fully intend to utilize the MSCS, including its biological data and conservation measures, in development of such plans. The MSCS will serve as a "blueprint" for recovery of listed species, even if the USFWS and NMFS have not adopted the MSCS as the recovery plan for all ESA-listed species.

3.2 Prescriptions for Reaching Species Goals

MS 3.2-1

The prescription for recovery of the Central Valley steelhead (*Oncorhynchus mykiss*) has been changed in the final MSCS and the Ecosystem Restoration Program Plan, Volume 1. The prescription now reads:

> The Central Valley steelhead ESU will be regarded as restored when the ESU meets specific viability criteria to be established in the NMFS recovery plan for Central Valley salmonids. Viability of the Central Valley steelhead ESU will be assessed according to the VSP framework developed by NMFS (NMFS, in review). The framework deals with four population characteristics:
>
> - *Abundance:* Populations are large enough to resist extinction due to random environmental, demographic and genetic variation.
> - *Productivity:* Populations have enough reproductive capacity to ensure resistance to episodes of poor freshwater or ocean conditions and the ability to rebound rapidly during favorable periods, without the aid of artificial propagation.
> - *Spatial Distribution:* Populations are distributed widely and with sufficient connectivity such that catastrophic events do not deplete all populations and stronger populations can rescue depleted populations.
> - *Diversity:* Populations have enough genetic and life history diversity to enable adaptation to long-term changes in the environment. Populations achieve sufficient expression of historical life history strategies (migration timing, spawning distribution), are not negatively impacted by outbreeding depression resulting from straying of domesticated hatchery fish, and are not negatively impacted by inbreeding depression due to small population size and inadequate connectivity between populations.
>
> The NMFS recovery planning for Central Valley salmonids will proceed in two phases. The first phase will be conducted by a TRT that will produce numeric recovery criteria for populations and the ESU following the VSP framework, factors for decline, early actions for recovery, and provide plans for monitoring and evaluation. The TRT will review existing salmonid population recovery goals and management programs being implemented by federal and State agencies and will coordinate with agency scientists, CALFED staff and Central Valley science/restoration teams

such as the Interagency Ecological Program work teams during this first phase. TRT products will be peer-reviewed and made available for public comment.

The second phase will be identification of recovery measures and estimates of cost and time required to achieve recovery. The second phase will involve participation by agency and CALFED staff as well as involvement by a broad range of stakeholders, including local and private entities, with the TRT providing technical guidance on biological issues.

This change has been made in Attachment E, Table 1, page 15, in the final MSCS.

MS 3.2-2

Ocean harvest management is undoubtedly an important component in the recovery of Central Valley chinook salmon. Under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), regulation of commercial fisheries in the U.S. Exclusive Economic Zone of the western coast of the United States (where much of the commercial salmon harvest occurs) is the responsibility of NMFS and the Pacific Fishery Management Council (PFMC). In ocean waters under the jurisdiction of the State of California (areas from 0 to 3 miles offshore), the Fish and Game Commission manages recreational fisheries (as well as the inland salmon harvest) and the DFG manages commercial fisheries under the authority delegated by the State Legislature (Fish and Game Code Section 7600 et seq.). The PFMC is composed of representatives of NMFS, other federal agencies, state agencies (California, Washington, Oregon, and Idaho), tribes, and individuals with pertinent expertise; the PFMC is not a CALFED agency. The Magnuson-Stevens Act directs the PFMC to work in conjunction with NMFS and other interested and affected parties to develop fishery management plans (FMPs), including those affecting salmonids, for submittal to the Secretary of Commerce for approval. An FMP, in turn, establishes an independent technical process for development of annual harvest guidelines and fishery specifications. This process, mandated by the FMP, does not fall within the ambit of the regulatory framework of the CALFED Program; therefore, ocean harvest affecting salmonids is not within the purview of CALFED. Like all agencies participating in the CALFED process, NMFS will continue to independently implement its regulatory responsibilities that are outside the scope of the CALFED Program. With respect to ocean harvest issues in particular, NMFS will continue to work closely with the PFMC to promote the goals of the CALFED Program regarding anadromous salmonids.

MS 3.2-3

The CALFED agencies may not be able to fully recover salmonids through implementation of the CALFED Program. The complicated life history of salmonids causes them to spend part of their lives in the ocean, outside the CALFED solution area. See response MS 3.2-2, describing the legal framework for regulating ocean harvest of anadromous fish. Nevertheless, water agencies that are implementing CALFED Program actions to assist with recovery of the "R" anadromous fish species will receive some level of assurances.

MS 3.2-4

The measures identified in the MSCS are consistent with CALFED's stated mission and objectives, and with requirements placed on state and federal agencies under the endangered species laws . See response MS 5.1.2-2, describing how an ecosystem approach to conserving species is consistent with the federal and state ESAs and the NCCP Act.

The USFWS and NMFS are required by the ESA to prepare recovery plans for federally listed species. The CALFED Program does not replace the requirement of the USFWS and NMFS to prepare these plans. CALFED

species goals and conservation measures are based on existing recovery plans, when possible. Actions that are necessary to "recover" or "contribute to the recovery of" species not currently listed are included in the MSCS for two reasons: (1) to avoid future listings; and (2) to ensure that if any of the unlisted covered species addressed in the MSCS and programmatic decisions are subsequently listed pursuant to the federal and state ESAs, the programmatic decisions can authorize the take of the species based on the conservation measures already contained therein.

It is the intent of the Program to reduce or avoid impacts on productive agricultural lands through the following strategies:

- Focus habitat restoration efforts on developing new habitat on public lands before converting agricultural land.
- Restore existing degraded habitat as a priority before converting agricultural land to nonagricultural habitat uses.
- Use farmer-initiated and -developed restoration and conservation projects as a means of reaching Program goals.

Some Program goals may be met without taking agricultural lands out of production, such as flooding croplands in winter to provide seasonal wetlands or acquiring easements for agricultural practices that benefit wildlife. For agricultural lands required after considering these strategies, the Program proposes to acquire land only from willing sellers.

3.4 Goals for NCCP Habitats and Fish Groups

MS 3.4-1

The USFWS and NMFS expect to have completed a programmatic biological opinion at the time of the Record of Decision (ROD), based on the project description and analysis in the CALFED Programmatic EIS/EIR. Similarly, DFG is expected to make its NCCP determination at the time of the Notice of Determination (NOD) for the Programmatic EIS/EIR. As to the inclusion of actions and strategies that support the habitat needs of wetland species other than the focus fish species, the MSCS incorporated the Ecosystem Restoration Program goals for 18 habitats found within its geographical scope. Of the 18 habitats, 8 habitats—ranging from tidal perennial aquatic to seasonally flooded agricultural lands—serve the habitat needs of waterfowl, shorebirds, amphibians, and mammals. As implementation of the protection and/or restoration of these habitats moves forward in a more project-specific manner, models provided by documents such as the Baylands Ecosystem Habitat Goals (March 1999) and the San Francisco Bay Joint Venture's Restoring the Estuary: An Implementation Strategy for the SFBJV, as well as close coordination with organizations such as the San Francisco Bay Joint Venture, will assist CALFED in ensuring that all the species and habitat goals are realized.

MS 3.4-2

The commentor's assumption that it will require 1.2 million acres of agricultural land to reach the goals for the NCCP habitats in the MSCS is erroneous. Specifically, the 388,000 acres of seasonally flooded agricultural land and upland cropland are the same acres, not additive. It is unclear where the rest of the 1.2 million acres came from, although it is assumed to have been compiled from other habitat goals, such as managed seasonal wetlands. Adding these numbers together and assuming that they reflect newly created habitat is misleading. The managed seasonal wetlands figures, for the most part, account for existing wetlands that will be improved and are not now

in agricultural use. The upland cropland/seasonally flooded agricultural land number (388,000 acres) will affect but will not convert agricultural lands. See also response ERP 0.2-1.

See response MS 3.2-4, which describes the mitigation strategies for minimizing the impacts to agricultural lands that may result from implementation of habitat restoration activities. Because these strategies will be funded through implementation of the Ecosystem Restoration Program and through mitigation for Program impacts, they will not fall on the private landowner. The CALFED Program and its participating agencies have accepted the responsibility of recovering the focus species of the CALFED Program.

MS 3.4-3

The purpose of the MSCS is to provide the biological analysis and data for the Program's compliance with the endangered species laws. Accordingly, the conservation measures contained in the MSCS are intended to improve the health of species and habitats within the MSCS focus area. The MSCS recognizes the habitat values provided by upland croplands and seasonally flooded agricultural lands, and specifies conservation measures that maintain the agricultural values of these lands while also enhancing their value for species.

One of the stated purposes of the CALFED Program is to improve water supply reliability to all users of Bay-Delta water. Given the variability in California's climate, the many sources used for irrigation water, and the wide variances in cost and willingness-to-pay, CALFED cannot guarantee a set amount of water to agriculture in general, or to any other sector. CALFED has proposed programs that will, if fully implemented, result in more reliable water supplies to users. These programs include not only the MSCS, which will strive to avoid future endangered species listings and attendant water diversions, but the Levee System Integrity Program and Storage and Conveyance. It would be infeasible and outside the scope of the Program, however, to state that a certain number of acre-feet of water are guaranteed to agriculture statewide.

The Program intends to reduce or avoid impacts on productive agricultural lands through implementation of the following strategies:

- Focusing habitat restoration efforts on developing new habitat on public lands before converting agricultural land.
- Restoring existing degraded habitat as a priority before converting agricultural land to non-agricultural habitat uses.
- Using farmer-initiated and -developed restoration and conservation projects as a means of reaching Program goals.

Some Program goals may be met without taking agricultural lands out of production, such as flooding croplands in winter to provide seasonal wetlands or acquiring easements for agricultural practices that benefit wildlife. For agricultural lands required after considering these strategies, the Program proposes to acquire land only from willing sellers.

MS 3.4-4

The acreages for all NCCP habitats have been checked and corrected to be consistent with the Programmatic EIS/EIR and the Ecosystem Restoration Program Plan.

4.1.8 Conveyance

MS 4.1.8-1

The action referred to by the commentor is one of the actions proposed to be taken during implementation of the Preferred Program Alternative. Locations and feasibility of levee setbacks will be evaluated in the action-specific implementation plan (ASIP) for that specific project.

5.1.2 Determining the Likelihood That CALFED Program Actions Will Affect Evaluated Species

MS 5.1.2-1

Actions in the Water Use Efficiency Program and other parts of the CALFED Program that may result in potential adverse impacts on the giant garter snake will be required to incorporate appropriate mitigation as part of project-specific NEPA/CEQA review. The text in Section 6.2 in the Programmatic EIS/EIR has been revised to indicate that biological impacts from the Water Use Efficiency Program can be mitigated to a less-than-significant level. Further, MSCS conservation measures will be incorporated into such projects through the ASIP process during project-specific compliance with the endangered species laws. Giant garter snakes will also benefit from Ecosystem Restoration Program actions, including measures to enhance, restore, and protect natural and managed seasonal wetlands, nontidal freshwater permanent emergent wetlands, and seasonally flooded agricultural lands.

MS 5.1.2-2

Although the consultation process tends to focus on one or a few listed species, the purpose of the federal ESA is to recover listed species by restoring the ecosystems on which they depend (Section 2 in the federal ESA). The California ESA has a similar purpose. The NCCP Act contains an even more pronounced ecosystem focus in that it promotes enhancement of the condition of both listed and non-listed species in the area for which a project proponent is preparing an NCCP Plan. Accordingly, the mandates of the federal and state ESAs and the NCCP Act complement CALFED's focus on ecosystem restoration. Where individual actions inevitably benefit one species to the detriment of another, it is critical to consider the effects of the whole Program and its overall benefits to individual species. CALFED's goals for species management are to recover, contribute to recovery or, at a minimum, maintain the baseline of individual species affected by the CALFED Program.

5.1.4 Impact Analysis

MS 5.1.4-1

The two GIS databases discussed in the MSCS were used to determine the extent of the NCCP habitats within the MSCS focus area and not for habitat quality or restoration. The use of higher resolution along with the necessary field surveys will take place at the project-specific level, as will the discussion on the type and seral stage of the restored habitat.

5.2 Conservation Measures

MS 5.2-1

CALFED is currently working with a panel of scientists and biologists to ensure that restoration of the key habitats and functions proceeds in the most scientifically correct manner possible. Staff from the CMARP and

the Ecosystem Restoration Program are jointly working on developing "white papers" to identify data needs for major ecological processes, habitats, species, and stressors that are the focus of the Ecosystem Restoration Program. These white papers will provide guidance on the most critical and appropriate restoration actions to take within geographical areas, research to be conducted to address uncertainties, and monitoring to assess baseline conditions and changes to the conditions as a result of restoration actions.

In response to this comment and several others, the text of the Ecosystem Restoration Program has been revised to clarify the consistency between the measures discussed in the Ecosystem Restoration Program and the conservation measures discussed in the MSCS for endangered species purposes. See also responses MS 5.2.2-1; MS 1.0-2; and ERP 0.2-1.

5.2.2 Conservation Measures for Evaluated Species

MS 5.2.2-1

The MSCS is a part of the CALFED Program. The conservation measures in the MSCS serve two distinct purposes. One set of measures sets forth what is required to avoid, minimize, or compensate for the impacts of the Program on endangered species and habitats. These conservation measures fall within the parameters of the mitigation strategies set forth in the Programmatic EIS/EIR. A second set of measures sets forth what is required for the Program to meet the species goals. These measures are comprised of existing elements of the CALFED Program, particularly the Ecosystem Restoration Program, but at a higher level of detail to satisfy the requirements of the endangered species laws. Accordingly, the MSCS conservation measures are not additive to the Program actions and mitigation strategies analyzed in the Programmatic EIS/EIR. The MSCS therefore does not create new or additional impacts, either to agricultural resources or any other resources, beyond the impacts disclosed in the Programmatic EIS/EIR. See also response ERP 0.2-1.

MS 5.2.2-2

The MSCS serves as an ESA biological assessment for federal law compliance, and a programmatic NCCP for state law compliance. The Programmatic EIS/EIR describes the broad range of environmental consequences of implementing all elements of the CALFED Program, including the MSCS, and describes appropriate mitigation strategies in each resource area. Socioeconomic effects on agricultural resources are described in Sections 7.2 and 7.3 in the Programmatic EIS/EIR. The specific locations for habitat restoration efforts have not been identified at the programmatic level.

During the implementation phase of the Program, second-tier or site-specific environmental documents will be prepared for individual projects. These documents will identify specific locations for Program actions and the specific conservation measures that will be required to minimize or compensate for the impacts of the actions. Site-specific environmental documents will identify the existing land uses in the project area and will evaluate the socioeconomic effects of implementing the Program action, where appropriate.

The MSCS is a part of the CALFED Program. The MSCS conservation measures are not additive to the Program actions and mitigation strategies analyzed in the Programmatic EIS/EIR but rather serve as more specific guidance for mitigating Program impacts on endangered species. Each conservation measure in the MSCS falls within the general parameters of a Program action or mitigation strategy discussed in the Programmatic EIS/EIR. Accordingly, the MSCS does not create new or additional impacts on agricultural resources beyond the impacts disclosed in the Programmatic EIS/EIR.

The Program strategies, and therefore the MSCS strategies, for addressing potential impacts on agricultural lands can be found in response MS 3.4-2 .

6.1.1 Habitat Conservation Plans

MS 6.1.1-1

The text on page 6-1 in the June 1999 MSCS has been modified to acknowledge that the Solano County Water Agency has commenced preparation of a Habitat Conservation Plan.

6.1.4 FERC Hydropower Relicensing

MS 6.1.4-1

FERC's relicensing effort on the Mokelumne River may affect CALFED ecosystem restoration efforts on the Mokelumne River but is otherwise beyond the scope of the MSCS and would be more properly addressed with FERC directly. FERC must take into account the health of the aquatic ecosystem on any waterway where they are engaged in the (re)licensing process. As a result, any action by FERC on the Project No. 137 relicensing effort most likely would not be contrary to CALFED objectives.

7. ESA, CESA, and NCCP Act Compliance

MS 7.0-1

In their roles as lead agencies under the CALFED Program, the USFWS and NMFS have been engaged in informal consultation with other CALFED agencies since CALFED's inception. During informal discussions, the USFWS, NMFS, and other CALFED agencies have discussed the consultation process at length. CALFED agencies initiated formal consultation with the USFWS and NMFS in spring 2000. At the completion of formal consultation, the USFWS and NMFS have stated that they will issue programmatic biological opinions on the CALFED Program. The USFWS and NMFS have completed numerous programmatic biological opinions, and this mechanism is appropriate here. The CALFED Program and programmatic biological opinions will identify the framework and informational needs for initiating and completing subsequent formal consultations during Phase III of the CALFED Program. The ASIPs contribute to streamlining the process and will be completed as part of Phase III of the CALFED Program.

MS 7.0-2

The MSCS will serve as the framework for the Central Valley Project (CVP) and the State Water Project (SWP) operational changes, resulting from CALFED Program actions, to comply with the endangered species laws. Specific regulatory requirements pertaining to CVP and SWP operational changes from CALFED Program actions will be developed when the CALFED agencies develop more detailed information about specific CVP and SWP operational scenarios during Stage 1. The level of certainty and assurances for CVP and SWP operations will increase as the health of the ecosystem increases.

CALFED has not taken into account the likelihood of third-party lawsuits by those who believe that mitigation is inadequate or that a crucial piece of scientific information was not used during the consultation process.

MS 7.0-3

Ongoing projects that are in compliance with federal and State ESA may legally continue operations. The 1999 delta smelt "crisis" occurred under an existing USFWS biological opinion. Presently, CALFED is developing new operational mechanisms and criteria in an attempt to minimize the likelihood of future conflicts between sensitive fish, including delta smelt, and operations at the Banks and Tracy diversions. One such measure, an Environmental Water Account (EWA), would allow greater flexibility in operations at the Banks and Tracy diversions by authorizing increased pumping during less fisheries-sensitive parts of the year to offset decreased pumping during more sensitive periods.

During consultation, the consulting agencies are required to use the best scientific and commercial data available (50 CFR 402.12). If, after issuance of a biological opinion, new information reveals effects of an action in a manner or to an extent not considered in the biological opinion, reinitiation of consultation is required (50 CFR 402.16). The CALFED Program has been structured in anticipation of new informational developments. CALFED has incorporated the principles of adaptive management throughout its Program to develop new information and modify the CALFED Program accordingly. This adaptive management approach is not jeopardized by the consultation process. The USFWS and NMFS routinely incorporate adaptive management into the consultation process and recommended its inclusion in the CALFED Program. Adaptive management should help to conserve sensitive species and improve the reliability of water supplies.

CALFED can address the potential for third-party lawsuits only by adhering to existing legal requirements and processes.

MS 7.0-4

The MSCS is designed to achieve programmatic compliance for the CALFED Program with the federal and state ESAs and the NCCP Act. The CALFED Program is coordinated with recovery plans for federally and state-listed species in two ways. First, the Ecosystem Restoration Program has incorporated all recovery actions from existing recovery plans for federally and state-listed species. Second, the MSCS includes all recovery actions from existing recovery plans as mandatory conservation measures. The MSCS also bases its species prescriptions on the recovery plans for federally and state-listed species (see Chapter 3 in the June 1999 MSCS).

MS 7.0-5

The ASIPs for Program actions will be subject to public review during the NEPA and/or CEQA processes for individual Program actions.

MS 7.0-6

The MSCS provides an appropriate framework for compliance with the endangered species laws at both a programmatic and project-specific level. The commentor is correct in stating that water users may obtain the best assurances against increased limitations on export pumping by improving the health of the Bay-Delta ecosystem. To that end, the MSCS specifies conservation measures that must be implemented for the Program to achieve the species goals. These measures will be implemented throughout the duration of the CALFED Program, however, and will not necessarily be implemented in full during Stage 1.

CALFED disagrees that the MSCS is insufficient for a programmatic ESA biological assessment. The MSCS provides a level of detail about Program actions and their impacts on species that is commensurate with a programmatic document. Commitments to implement the MSCS, including its conservation measures, will

become part of an agreement that will be executed at the time the CALFED agencies issue the ROD and adopt findings of fact for the CALFED Program (see Section 7.4.4 in the June 1999 MSCS). As described in Section 7.4.6 in the June 1999 MSCS, funding for implementation of CALFED Program actions, including the conservation measures in the MSCS, generally will come from a variety of sources. Specific funding for implementing the conservation measures in the MSCS will be developed through the ASIP process for individual Program actions or groups of actions.

MS 7.0-7

The change has been made.

7.1 Programmatic ESA, CESA, and NCCP Act Compliance for the CALFED Program

MS 7.1-2

The agencies that administer the state and federal ESAs, including DFG, USFWS, and NMFS, are contributing members of CALFED and share principal responsibility for approving the project. Their role, in part, has been to conduct informal consultation with CALFED to develop a Preferred Program Alternative in the Programmatic EIS/EIR that achieves their agencies' requirements, provides appropriate regulatory certainty, and is fully enforceable under existing environmental law. Coverage for species that are presently listed under the federal and state ESAs, and for those with the potential to be listed during the term of the Program, has been provided in the MSCS through the development of conservation goals and the conservation measures necessary to meet those goals. Should a species be listed that is fully covered by the MSCS during the term of the CALFED Program, there should be no need for the agencies to require additional conservation measures, unless new scientific information available at the time of listing indicates that additional measures are necessary.

CALFED does not have the authority to write recovery plans, as defined in the federal ESA. NMFS and the USFWS have statutory and institutional responsibilities related to the development and adoption of recovery plans for species listed under the federal ESA. Development of these plans is guided by federal regulations. Ecosystem Restoration Program development to date has not fully met all necessary steps, including the opportunity for public comment on the document as a recovery plan (although it has received extensive scientific and public review as an ecosystem restoration plan for the Delta), the use of best available independent scientific expertise on the listed species, and disqualification of parties to plan development who have a conflict of interest. Implementation of recovery plans is not mandatory; these plans are intended to assist federal agencies in using their authorities to further the purposes of the federal ESA. The federal ESA does direct federal agencies, in consultation with and with the assistance of the USFWS and NMFS, to further the purposes of the ESA by carrying out conservation programs for listed species.

CALFED developed the MSCS, in consultation with and assisted by the USFWS and NMFS, with the explicit goal of achieving recovery for "big R" species. Although the MSCS does not constitute a recovery plan as defined by the federal ESA, it does constitute a plan to achieve ("R") or contribute to the recovery of ("r") those species affected by the CALFED Program. The Ecosystem Restoration Program has incorporated all recovery actions from existing recovery plans for federally and state-listed species, and the MSCS includes all recovery actions from existing recovery plans as mandatory conservation measures. The MSCS also bases its species prescriptions on the recovery plans for federally and state-listed species.

7.2.1 Streamlined Compliance Process

MS 7.2.1-1

The Ecosystem Restoration Program identifies programmatic actions at a greater level of detail than other common programs. The level of detail provided in programmatic action descriptions also varies among the other common program elements. Consequently, the level of analysis varies among common programs according to the level of detail provided in programmatic action descriptions. For some Program elements, specific programmatic actions have not been identified; but the likely environmental effects on MSCS-evaluated species and NCCP habitats of constructing storage facilities and affecting water transfers, for example, can be and are reasonably addressed at a programmatic level in the MSCS.

Initially, streamlining benefits will accrue to those Program actions that were fairly well defined at a programmatic level. For these actions, the programmatic MSCS included substantial biological data and analysis that will form the basis for ASIPs. The wildlife agencies will use these ASIPs to determine project-specific compliance with the ESA and NCCP Act. For other Program actions that were defined much more generally at a programmatic level, additional biological data and analysis will be required for ASIPs, and project-specific regulatory compliance will be less streamlined. Nevertheless, all CALFED Program actions will benefit from regulatory streamlining for compliance with the endangered species laws.

7.2.2 Action-Specific Implementation Plans

MS 7.2.2-1

An operating agreement governing changes resulting from CALFED actions will comply with the federal ESA and the NCCP Act in the same manner as other Program actions. A proposed operating agreement will be the subject of an ASIP for endangered species compliance. The ASIP for an operating agreement will include, among other things, a detailed project description; a list of species in the action area, drawn from the MSCS; an analysis of the operating agreement's impacts on the species and any designated critical habitat; conservation measures in the MSCS to minimize and mitigate impacts and the funding to accomplish them; conservation measures in the MSCS to achieve the species goals and the funding to accomplish them; and measures to provide assurances to cooperating landowners (see Section 7.2.2 in the June 1999 MSCS). The wildlife agencies will use the ASIP as the basis for determining compliance with federal and state ESAs and the NCCP Act, authorizing incidental take of covered species, and providing any assurances.

MS 7.2.2-2

The MSCS provides a programmatic level of discussion of CALFED Program actions. Because many Program actions are defined only generally at the programmatic level, additional biological data and analysis may be required beyond what is contained in the MSCS. The need for specific additional information, such as site-specific population surveys, will depend on the type and location of the Program action. Due to the sheer number of actions in the CALFED Program, the MSCS does not attempt to state which programmatic actions will or will not require additional data and analysis.

MS 7.2.2-3

The MSCS is intended to provide a broad evaluation of how the entire CALFED Program will affect species and habitats and an overall strategy for ensuring that the Program meets the species goals. The array of biological information and analysis in the MSCS will assist entities implementing Program actions by forming the basis for

the ASIPs. In this sense, agencies and entities implementing CALFED Program actions will not need to "start from scratch" with endangered species compliance. Nevertheless, as the MSCS acknowledges, additional information will be required in many ASIPs to allow the wildlife agencies to ascertain how a Program action affects species and habitats (see page 7-2 in the June 1999 MSCS). Some Program actions will require a lesser degree of additional information and analysis because they are relatively well defined at the programmatic level. For example, some actions in the Ecosystem Restoration Program may be sufficiently detailed so that the information and analysis in the MSCS constitutes the majority of what will be required in an ASIP (see Chapter 7 in the June 1999 MSCS).

MS 7.2.2-4

The MSCS does not contain an adequate level of detail to provide compliance with federal and state ESAs or the NCCPA for individual Program actions, particularly considering that the location and scope of most individual Program actions remains only partially defined at the programmatic level. Agencies and other entities implementing Program actions will develop the ASIP as the project-level blueprint for project-level compliance with the endangered species laws. The likelihood that the wildlife agencies will impose conservation measures on project proponents beyond those delineated in the MSCS has been reduced by the comprehensive and programmatic nature of the MSCS. In addition, the MSCS creates a preference for measures that do not require additional commitments of either land or water in the event that additional conservation measures are required to comply with federal and state ESAs or the NCCPA. Thus, while the wildlife agencies cannot eliminate the possibility that additional biologically necessary measures may be required through the ASIP process, the MSCS protects the water user benefits that may accrue from implementation of Stage 1 actions to the maximum extent allowed by the endangered species laws.

MS 7.2.2-5

CALFED has acknowledged the need for an increase in staffing for the variety of permits that may be necessary to implement the Program. A proposal is in development for a streamlined permit review process that would include an inter-agency task force.

MS 7.2.2-6

The coordination of environmental review and permitting for CALFED actions is in development. The public will be informed when the process is complete.

7.3 Covered Species

MS 7.3-1

Under the MSCS, each covered species must be adequately conserved. Any of the 244 evaluated species that are not adequately conserved by the CALFED Program will not be covered species for purposes of compliance with the federal and state ESAs and the NCCPA. Therefore, the list of covered species may not include all of the evaluated species. This does not mean that the "adequately conserved" standard in the MSCS is inconsistent with the species goals in the MSCS. The goals of "recovery" or "contribute to recovery" are clearly consistent with the "adequately conserved" standard for any species because the Program includes measures that will protect and perpetuate these species. The goal of "maintain" may be consistent with an "adequately conserved" standard, depending on the condition of the species and the extent to which the species may incidentally benefit from Program actions. For example, preservation of existing populations of certain "m" species may allow the species

to exist in perpetuity. The species would be "adequately conserved" under the MSCS and therefore could be included in the covered species list.

MS 7.3-2

As the majority of the commentor's letter addresses impacts on anadromous fish species, specifically salmon and steelhead, it is assumed that the concern is with the potential listing of those species. CALFED has addressed the need to recover all the anadromous fish species found within the focus area of the Program regardless of their legal status (i.e., federally or state-listed, or not listed).

The MSCS has provided for the potential of non-listed at-risk native fish species becoming listed during the term of the Program by including them as covered species. All covered species have been given a conservation goal of recovery, contribute to recovery, or maintain—with corresponding conservation measures ensuring that those goals can be met.

7.3.1 Incidental Take Authorization for Covered Species

MS 7.3.1-1

As stated in Chapter 7 in the June 1999 MSCS, neither the programmatic biological opinions nor the programmatic NCCPA determination will authorize take of the species covered in the MSCS. The wildlife agencies may authorize the incidental take of covered species based on the programmatic MSCS and an ASIP. ASIPs will be developed for individual Program actions or groups of actions when information is available in sufficient detail to allow the wildlife agencies to fully evaluate the impacts on covered species and habitats. This approach includes system operations resulting from CALFED Program actions.

MS 7.3.1-2

The MSCS serves two main purposes. First, the MSCS will ensure that CALFED Program actions comply with the endangered species laws, avoid jeopardy, and adequately conserve the MSCS evaluated species. The MSCS prescribes a process for individual project proponents to follow in order to comply with endangered species laws during project implementation. The compliance process will ensure that project proponents implement measures to avoid, minimize, and compensate for adverse effects to NCCP communities and evaluated species that are caused by individual Program actions. Second, the MSCS will ensure that implementation of the Program includes implementation of all measures necessary to meet the goals for the species evaluated in the MSCS: recovery, contribute to recovery, or maintain (pages 3-1 and 3-2 in the June 1999 MSCS). Implementation of many actions contained in the Ecosystem Restoration Program is a fundamental step toward ensuring recovery of the ecosystem, including listed and unlisted species.

MS 7.3.1-3

Contrary to the assertion in the comment, Fish and Game Code Section 2835 provides DFG with authority to permit the incidental take of species addressed in an NCCP, independent and apart from DFG's authority to issue incidental take permits under the state ESA. If Section 2835 were interpreted to mean only that DFG may or may not be able to permit the take of species identified in an NCCP, depending on whether it is authorized to do so elsewhere in the Fish and Game Code, Section 2835 would not in any way expand, limit, or clarify DFG's authority. Section 2835 establishes in DFG the authority to permit the take of species, including an endangered species or a threatened species, if the species is conserved through an NCCP.

The case cited in the comment is a Superior Court decision, not an opinion of the Court of Appeal, and does not provide binding authority on this issue. Nor does Fish and Game Code Section 2825(c) support the interpretation advanced in the comment. Section 2825(c) requires DFG to implement an NCCP through the California ESA "if appropriate." This simply means that NCCPs may be used as the basis for issuing incidental take permits. It does not mean that state ESA incidental take permits are the only means by which take may be authorized under an NCCP.

7.3.3 Modifications to Covered Species List

MS 7.3.3-1

The MSCS does not propose to limit the wildlife agencies from requiring additional biologically necessary measures when a species is added to the covered species list. If it is necessary to increase measures in order to meet the conservation standard for a species added to the covered species list, the wildlife agencies will require the additional measures. The wildlife agencies have contributed to the content of the MSCS, however, and have provided input on the conservation measures for all 244 evaluated species. The MSCS therefore reduces the likelihood that additional measures will be necessary to cover an unlisted evaluated species if it becomes listed as threatened or endangered. Among biologically adequate measures, it is appropriate for the wildlife agencies to prefer measures that are already developed and included in the Program and that do not require additional obligations of land or water (see Chapter 7 in the June 1999 MSCS).

7.4 Implementation

MS 7.4-1

The CALFED agencies will enter into an agreement for the implementation of the programmatic MSCS. The agreement will include a commitment that the agencies will implement the MSCS, including those conservation measures designed to ensure that the Program meets the species goals (see Chapter 7 in the June 1999 MSCS). Thus, the agreement will ensure that those portions of the CALFED Program that are necessary to meet the species goals, including certain parts of the Ecosystem Restoration Program, will be implemented. If certain key Program actions (such as Ecosystem Restoration Program actions) are not implemented as planned, incidental take authorization issued in reliance on the actions may be modified or revoked.

7.4.1 Entities That Will Implement CALFED Program Actions and the MSCS

MS 7.4.1-1

The MSCS discloses that Program actions may be implemented by federal, state, and local agencies, and private organizations and individuals, which is sufficient for programmatic analysis. The specific entities implementing individual Program actions will be identified in ASIPs; their potential for success can be evaluated at that time.

7.4.3 Linking Program Actions for Implementation and the Impact of Linkage on Take Authorization

MS 7.4.3-1

The wildlife agencies will analyze the individual effects of each Program action through the ASIP process, which will tier off the information and analysis in the MSCS. In characterizing the impacts of individual Program actions on species and habitats, however, the wildlife agencies will look at the collective adverse and beneficial

effects of those actions proceeding together. Characterizing the collective adverse and beneficial effects of actions will not nullify recovery objectives in the Ecosystem Restoration Program and the MSCS because each Program action must avoid, minimize, or compensate for its adverse effects on biological resources.

7.4.5 Assurances

MS 7.4.5-1

The wildlife agencies will provide assurances under the federal and state ESAs and the NCCPA to agencies and other entities that will implement Program actions. The scope and duration of the assurances will depend on the type of action being implemented and the condition of the species at issue. The general types of assurances are described in Section 7.4.5 in the June 1999 MSCS.

The wildlife agencies will provide assurances for changes in water operations resulting from CALFED actions that are commensurate with the level of protection that any proposed operations scenarios provide for the listed fish species. The wildlife agencies' programmatic decisions will address short-term assurances for operational changes that will be proposed for the first few years of the Program. Longer term assurances will be developed as the CALFED agencies make decisions about the Water Management Strategy and how an EWA may be handled.

The Northern California Water Association (NCWA) proposal on MSCS assurances (June 8, 1999) was specifically considered in development of the programmatic assurances described in the MSCS. Many suggestions in the NCWA proposal were incorporated. Other suggestions were not incorporated because they were inappropriate at a programmatic level; however, these suggestions may be included in ASIPs, depending on the type of Program action involved.

MS 7.4.5-2

The wildlife agencies are participants in the CALFED Program and will share in the responsibility for implementing the Program after completion of the Programmatic EIS/EIR process. The wildlife agencies have consulted with CALFED Program staff and have contributed to the development of a Preferred Program Alternative that will meet the requirements under the endangered species laws and provide appropriate regulatory certainty. The MSCS provides the framework for the various elements of the Preferred Program Alternative to comply with the endangered species laws. At the same time, the MSCS provides the framework for the CALFED Program to meet its species conservation goals and to provide assurances for implementation of the entire Program. See response MS 7.4.5-1, describing assurances for water users and cooperating landowners during implementation of the various elements of the CALFED Program.

MS 7.4.5-3

The wildlife agencies will provide assurances under the federal and state ESAs and the NCCPA to agencies and other entities that will implement Program actions. The scope and duration of the assurances will depend on the type of action being implemented and the condition of the species at issue. See response MS 7.4.5-4, describing assurances for cooperating landowners. See response MS 5.2.2-1, describing how the actions in the MSCS are not additive to CALFED Program actions and mitigation strategies in the MSCS. The safety impacts of implementing CALFED Program actions are described in Section 7.12 in the Programmatic EIS/EIR.

MS 7.4.5-4

The wildlife agencies will provide appropriate assurances regarding each CALFED Program action directly to the CALFED agency or other entity carrying out the action. The assurances will be based on the ASIP developed for the Program action in the MSCS streamlined permitting process. Assurances will limit new or different conservation measures that would require additional commitments of land or water, or additional restrictions on the use of land, water, or other natural resources beyond what is required in the ASIP for covered species. The specific scope and duration of the wildlife agencies' assurances will vary, depending on the scope and duration of each Program action's impacts on covered species and whether the impacts will recur or continue over an extended time.

Cooperating landowner programs will include, where appropriate:

- Protections for farmers and ranchers who neighbor land preserved by CALFED agencies for wildlife conservation purposes under the CALFED Program.
- Protections for landowners or local public entities who maintain levees on which wildlife habitat will be created or enhanced under the CALFED Program.
- Protections for landowners or local public entities who use or divert water from streams or rivers newly opened to anadromous fish under the CALFED Program.
- Protections for landowners or local public entities who operate and maintain water diversions in which fish screens will be installed under the CALFED Program.

The CALFED Program is developing a coordinated environmental review and permitting process for Program actions. The wildlife agencies are currently developing methods to streamline their own agency review of Program actions for different permit requirements.

MS 7.4.5-5

The MSCS does not circumscribe federal and state agencies' general obligations under the respective ESAs to use their authority to conserve species. The intent of the MSCS is to explain how agencies and other entities implementing CALFED Program actions can receive assurances and that they will not be subject to increasing or shifting obligations to provide mitigation for impacts caused by specific project actions.

MS 7.4.5-6

The wildlife agencies will not provide assurances that will compromise their ability to respond to changed circumstances and declines in species health. The programmatic and comprehensive nature of the MSCS helps to ensure, however, that the necessity for additional measures will be reduced.

MS 7.4.5-7

The justification for providing regulatory assurances to federal and state agencies is that such assurances allow for improved project planning and budgeting. Local public agencies and private entities that depend on the actions of federal and state agencies will benefit from these improvements. Assurances will also facilitate progress on all parts of the CALFED Program by assisting in enabling different Program elements to move forward together.

MS 7.4.5-8

The CALFED agencies and other implementing entities can authorize limited incidental take by cooperating landowners "as necessary or appropriate to protect compatible existing uses of land and water that could be affected by the Program action or associated conservation measures" (Chapter 6 in the MSCS). Cooperating landowner assurances will extend only to those activities that are compatible with the MSCS and the CALFED Program. As stated in the MSCS, compatible activities are limited to those that will not degrade the existing environmental conditions for covered species and will not prevent the CALFED Program from preserving or improving such conditions (Chapter 7 in the June 1999 MSCS). Accordingly, no cooperating landowner assurances will be offered that will undermine the benefits of the Ecosystem Restoration Program or will reduce the existing health of a species. In addition, cooperating landowner assurances are intended to apply primarily to local public agencies, which are not otherwise obligated to contribute to the recovery of listed species.

For example, a CALFED agency may fund, build, and install a fish screen on a publicly or privately owned water diversion and pay for its maintenance. To obtain cooperating landowner assurances, the owner of the water diversion may need to agree to operate the diversion and fish screen in a manner prescribed by the CALFED agency as being consistent with the Program. The cooperating landowner assurances would potentially allow for the operation of the water diversion and fish screen in a manner that will enhance the conditions for fish species, not maintain the status quo.

MS 7.4.5-9

The comment incorrectly states that the sole limiting factor on cooperating landowner assurances is that they be provided only to uses that do not degrade existing conditions for covered species. The MSCS also limits cooperating landowner assurances to those uses that do not prevent the CALFED Program from preserving or improving conditions for species (see page 7-22 in the June 1999 MSCS. Where appropriate, the wildlife agencies can require that measures necessary to protect cooperating landowners include measures that will further achievement of ESA and MSCS species goals.

MS 7.4.5-10

The wildlife agencies will offer "safe-harbor" type assurances to cooperating individuals and entities. The intent of these assurances is to preserve compatible land uses within the MSCS focus area, even as the number of threatened and endangered species increases. The June 1999 MSCS describes the potential scope of this type of assurance in Section 7.4.5. Notably, the term "safe harbor" refers to a specific regulatory program under the federal ESA, Section 10(a)(1)(a). The wildlife agencies will be offering safe-harbor type assurances, although the assurances will not necessarily fall within federal ESA Section 10(a)(1)(a).

MS 7.4.5-11

The wildlife agencies cannot make determinations regarding assurances or compliance with the federal or state ESAs or the NCCPA for individual CALFED Program actions without sufficiently detailed biological information and analyses. Therefore, specific assurances regarding individual CALFED Program actions or groups of actions will not be provided until an ASIP has been prepared for such actions or group of actions. ASIPs will also serve as project-level biological assessments and will provide the basis for project-level fact findings. In short, assurances, biological assessments, and fact findings for CALFED Program actions will be created or established only when sufficient information and analyses are available to support them.

For the same reason that it is necessary and appropriate for CALFED to address governance and financing at a programmatic level, however, it is necessary and appropriate to address assurances and compliance with federal and state ESAs and the NCCPA at a programmatic level. For this purpose, it is not necessary to know the precise nature and extent of potential development facilities or other specific CALFED Program actions, provided that the MSCS provides an appropriate framework for addressing the impacts of such actions once their nature and extent are better defined. The wildlife agencies can determine generally, or programmatically, whether the CALFED Program provides an appropriate framework for compliance or assurances based on more general, programmatic biological information and analyses. Consequently, the MSCS meets the requirements of federal ESA regulations 50 CFR §402.12 for a program action.

The MSCS has been revised to clarify funding responsibilities. Funding for implementation of measures required to mitigate the adverse affects of a CALFED Program action or group of actions will be provided as part of the action or group of actions. For example, measures to mitigate the impacts of a development facility will be funded largely, if not exclusively, as part of the development facility action. Measures that are not directly linked to the adverse affects of CALFED actions will generally be funded as part of the Ecosystem Restoration Program, the CMARP, or the Water Management Strategy. In this sense, the discussion of Ecosystem Restoration Program financing issues pertain directly to the MSCS.

MS 7.4.5-12

The Ecosystem Restoration Program and the MSCS include an adaptive management strategy designed to incorporate new information, and to respond to unforeseen successes and failures in their implementation. For further discussion of assurances, please see response MS 7.4.5-11.

MS 7.4.5-13

As stated in Chapter 7 in the June 1999 MSCS, neither the programmatic biological opinions nor the programmatic NCCPAG1

determination will authorize take of the species covered in the MSCS. The wildlife agencies may authorize the incidental take of covered species based on the programmatic MSCS and an ASIP. ASIPs will be developed for individual Program actions or groups of actions when information is available in sufficient detail to allow the wildlife agencies to fully evaluate the impacts on covered species and habitats. This approach includes any changes to existing system operations resulting from CALFED actions.

The wildlife agencies will provide assurances for operational changes that are commensurate with the level of protection that any proposed operations scenarios provide for the listed fish species. The wildlife agencies' programmatic decisions will address short-term assurances for operational changes that will be proposed for the first few years of the Program. Longer term assurances will be developed as the CALFED agencies make decisions about the Water Management Strategy and how an EWA may be handled.

7.4.6 Funding

MS 7.4.6-1

The MSCS is a programmatic compliance document and provides a general description of financing that will be used to implement conservation measures and monitor compliance. Financing will occur in two ways. The MSCS conservation measures that will avoid, minimize, or compensate for impacts of implementing Program

actions will be financed by project proponents and addressed through the ASIPs. (See page 7-23 in the June 1999 MSCS.) Funding must be identified in ASIPs before the wildlife agencies will provide incidental take authorization. The MSCS conservation measures to ensure that the Program meets its species goals may be financed through: (1) ecosystem restoration funding designated in California Proposition 204 and in the Federal Bay-Delta Act, (2) other existing public funding sources, (3) a broad-based user fee, or (4) a combination of the foregoing sources. (See Chapter 7 in the MSCS.)

8. Monitoring

MS 8.0-1

The CMARP is the integrated monitoring program that will be used to monitor implementation of MSCS and Ecosystem Restoration Program measures. In addition, the MSCS and Ecosystem Restoration Program will each be implemented according to an adaptive management program that will be informed by the results of the monitoring and research conducted by or through the CMARP. The MSCS has been revised to clarify that conservation measures that are not linked to the direct impacts of CALFED Program actions will be implemented as part of the Ecosystem Restoration Program, the CMARP, or other appropriate CALFED programs. The MSCS, Ecosystem Restoration Program, and the CMARP provide an integrated adaptive management program for such actions. Measures specifically intended to mitigate the impacts of individual CALFED Program actions, and monitoring of the implementation and effectiveness of such measures, will ordinarily be carried out by the entity implementing such actions. However, CALFED anticipates that action-specific monitoring will be conducted in coordination with the CMARP.

MS 8.0-2

The entity implementing the CMARP will be the authority that oversees and coordinates the monitoring of implementation and the success of CALFED's conservation measures, including ecosystem restoration actions.

8.1 Purpose of Monitoring

MS 8.1-1

The text has been modified to read "assesses the status of species."

11. Attachments

MS 11.0-1

Education and public outreach programs are important elements of CALFED's Ecosystem Restoration Coordination Program. Monitoring programs for compliance with specific conservation measures such as this one will be part of the ASIPs developed at the project-specific level and will include discussion for the necessary funding.

MS 11.0-2

The change has been made in the MSCS and in the Ecosystem Restoration Program Plan.

MS 11.0-3

Through CALFED's monitoring and adaptive management programs, we will continue to evaluate the applicability of implementing certain management actions such as fine sediment control.

MS 11.0-4

The applicability of implementing actions such as this one will continue to be evaluated through monitoring and adaptive management.

MS 11.0-5

Ecosystem-based educational and public outreach programs are important elements of the Ecosystem Restoration Coordination Program.

MS 11.0-6

The text has been corrected.

Phase II Report

Responses to Comments

PHASE II REPORT
RESPONSES TO COMMENTS

0. General Responses

PH2:0-1

The CALFED Bay-Delta Program (CALFED Program) is committed to the application of sound economic principles in the selection, refinement, and implementation of the Preferred Program Alternative.

PH2:0-2

This comment enumerates tasks that will be essential before implementation of actions but not necessarily by the time of the Record of Decision (ROD). CALFED will develop a Water Management Strategy at the programmatic level by the time of the ROD and, of course, documents pertaining to the ROD will be completed when a ROD is issued. Site-specific environmental documentation, including details of monitoring plans, will be completed after the ROD in conjunction with planning for site-specific actions. Continuing refinement of the Water Management Strategy also will take place during the CALFED implementation phase.

PH2:0-3

CALFED conducted consistency reviews and considered public comments to correct inconsistencies in Program documents.

PH2:0-4

Please see common response 13.

PH2:0-5

Flood control outside the CALFED problem area is not a primary responsibility of CALFED. CALFED actions will be carried out in a manner mindful of the need to prevent flooding and limit flood damage. Where CALFED actions would exacerbate flood risk, this risk will be avoided or mitigated. Where CALFED objectives can be met in concert with flood control objectives, CALFED will work to coordinate efforts in order to produce synergistic multiple benefits. CALFED actions are being coordinated with the San Joaquin and Sacramento River Basins Comprehensive Study. The mission of this study is to develop a systemwide, comprehensive flood management plan for the Central Valley in order to reduce flood damage and integrate ecosystem restoration. The comprehensive study is being conducted by the U.S. Army Corps of Engineers (Corps) and the California Department of Water Resources (DWR) Reclamation Board. Both the Corps and DWR are CALFED agencies.

PH2:0-6

It would be a simplistic misrepresentation of the CALFED Program to assert that it aims to improve the ecosystem and acquire water supplies by converting agricultural resources. The Program will provide many benefits to agriculture. The Water Transfer Program element will improve the current situation by helping to

disclose impacts on agricultural resources from proposed transfers, so that these impacts can be avoided or mitigated. The Ecosystem Restoration Program element will improve the current approach to restoration—first by explicitly examining restoration opportunities on public lands, then through conservation easements, and only then through acquisition of lands that may currently be used for agriculture. The Water Management Strategy, including Storage and Conveyance, will improve water supply reliability for all beneficial uses, including agriculture. The primary resource protected by the Levee System Integrity Program is agriculture. Finally, water acquired for ecosystem restoration beyond regulatory requirements will be acquired through means such as willing-seller transfers.

PH2:0-7

CALFED has designed programs that rely, whenever possible, on voluntary, cooperative, cost-effective actions. This effort to maintain private ownership and productivity will continue as detailed implementation planning commences.

PH2:0-8

This comment is contradicted by the elements of the CALFED Program. CALFED agencies have worked to secure substantial funding for local conservation and recycling projects through California Propositions 204 and 13. DWR and the U.S. Bureau of Reclamation (Reclamation) have committed to sharp increases in the levels of technical assistance and planning assistance that they provide with respect to water conservation and water recycling. The CALFED approach to programmatic compliance with Clean Water Act (CWA) Section 404 is expected to result in commitments for water conservation, water recycling, water transfers, and other alternatives before project-specific permits could be sought for new or expanded surface water storage. Please also see common response 10.

PH2:0-9

Water supplies for northern California are protected by area-of-origin statutes. To the extent that dollars for water conservation and water recycling can be spent cost effectively in southern California, CALFED programs are intended to help assure that such funding is available. Please also see common response 13.

PH2:0-10

Each of the three CALFED alternatives includes total or partial maintenance of the common Delta pool. The dual-Delta conveyance approach would involve reduced, but not eliminated, reliance on a common Delta pool. The Preferred Program Alternative relies entirely on a common Delta pool, with all export supplies drawn from Delta channels.

PH2:0-11

California water policy has been fraught with disagreement and decision-making gridlock for decades. Decisions that are not based on broad consensus are blocked by those who believe that their interests will be harmed. The CALFED consensus-based decision process is slower than some previous attempts to chart California water policy, but may ultimately be more successful if consensus can be built around a CALFED plan.

PH2:0-12

This is outside the scope of CALFED.

PH2:0-13

CALFED actions are intended to improve water supply reliability, including reliability for export areas—not create an impact that must be mitigated. This includes increasing flexibility so that it is possible to meet export needs and also comply with endangered species protections. This increased flexibility may also help provide alternative water supplies for the 800,000 acre-feet (800 TAF) per year designated for environmental purposes under the Central Valley Project Improvement Act (CVPIA). However, it is not the responsibility or purpose of CALFED to identify specific water sources to replace Delta water that cannot be exported due to compliance with the state and federal Endangered Species Acts (ESAs) or the CVPIA.

PH2:0-14

Elements of the CALFED Program are described at a programmatic level. Some parts of the program, such as governance and finance, will require action by other entities such as the California Legislature or Congress; these actions therefore will not be finalized at the time of a Final Programmatic Environmental Impact Statement/Environmental Impact Report (EIS/EIR). Please see common response 1.

PH2:0-15

One CALFED Program element, the Ecosystem Restoration Program, includes a Strategic Plan for Ecosystem Restoration (Strategic Plan) bound as a separate document. For other Program elements, strategic planning is imbedded in the program plans. CALFED is continuing to develop its Water Management Strategy, which will serve as a strategic plan for water management.

PH2:0-16

Please see common response 10.

PH2:0-17

Several linkages and parts of the CALFED Program will assure comparable progress in all Program resource areas. First, CALFED was created out of the recognition that the diverse problems of the Bay-Delta system cannot be solved individually because they are interrelated; this recognition will be carried forward into a comprehensive and integrated implementation plan. Implementation during Stage 1a includes progress on all CALFED problem areas. An integrated CALFED governance structure is being developed that will help assure integrated implementation; balanced implementation will be a key function for this oversight entity. This governance structure is expected to include a commission that includes representatives of state and federal agencies as well as stakeholders, providing diverse viewpoints. Finally, the CALFED Program includes a Multi-Species Conservation Strategy (MSCS) that identified measures to compensate for CALFED Program impacts and to benefit species and habitats.

1. Introduction

PH2:1-1

One of CALFED's solution principles states that solutions will not solve problems in the Bay-Delta system by redirecting negative impacts, when viewed in their entirety. Although impacts to the ecosystem will result from implementing certain actions, impacts will be mitigated. Further, when viewed in its entirety, the Program will provide ecosystem benefits.

PH2:1-2

CALFED has produced an unprecedented level of cooperation and coordination among state and federal agencies. However, certain CALFED agencies continue to have independent regulatory responsibilities that cannot be abrogated.

PH2:1-3

These principles closely match the process CALFED is taking, guided by its solution principles and implementation plan.

PH2:1-4

Please see common response 20.

PH2:1-5

Please see common response 12. One of CALFED's solution principles states that solutions will not solve problems in the Bay-Delta system by redirecting negative impacts, when viewed in their entirety. Although impacts on agriculture will result from implementing certain actions, impacts will be mitigated. Further, when viewed in its entirety, the Program will provide benefits to agriculture. Among the most important are major improvements in water supply dependability due to the Program's actions to improve the status of endangered species; reduce the likelihood of new ESA listings; and increase water management flexibility through improved operations, such as the joint point of diversion (JPD) for the State Water Project (SWP) and the Central Valley Project (CVP). New surface and groundwater storage could provide additional water for agriculture, urban uses, and the environment. Levee stability actions will protect Delta agricultural land from flooding due to levee failures and protect irrigation water exports from saltwater intrusion. Improved water quality and reliability for export will allow greater crop flexibility, shifting to higher value crops, increased yields, and lower production costs. A more flexible water transfer market will provide farmers the ability to receive cash to expand operations or to receive water to produce higher value crops. The Program also will provide financial and technical assistance to assure efficient agricultural water use. A substantial proportion of the Ecosystem Restoration Program will include long-term conservation easements that will allow farmers to continue farming, thus paying farmers to keep agricultural land from being converted for urban development or other incompatible uses. Finally, the Program is not proposing a wholesale reallocation of water rights or the use of regulatory authority to meet Program purposes. Instead, the Program uses increased efficiency, improved coordination, and willing seller transactions to accomplish its objectives.

PH2:1-6

A variety of Delta interests are well represented in the CALFED process. The South Delta Water Agency and the Delta Protection Commission both are represented on the Bay-Delta Advisory Council (BDAC). Delta interests have participated in many BDAC subcommittees and CALFED technical advisory bodies. CALFED has conducted numerous informal workshops and formal public hearings in Delta communities.

PH2:1-7

CALFED has produced an unprecedented level of cooperation and coordination among state and federal agencies. However, certain CALFED agencies continue to have independent regulatory responsibilities that cannot be abrogated. All CALFED agencies make independent decisions regarding their own responsibilities and authorities, whether related to CALFED or any other matter.

PH2:1-8

Through the U.S. Environmental Protection Agency, one of the CALFED agencies, CALFED has an existing structure in place to encourage partnerships between environmental justice groups and other entities, and can help provide funding to support such partnerships. In addition, CALFED has already initiated activities to heighten and strengthen urban environmental justice activities in the Watershed Program. The Watershed Program has made a commitment to embrace urban watershed issues into its overall program activities.

PH2:1-9

Chapter 1 in the Programmatic EIS/EIR provides CALFED objectives in summary form, stating that one objective for water supply reliability is to "improve export water supplies to help meet beneficial use needs." The full objective was published in a CALFED document entitled Draft Problem/Objective Definition, March 1996. The full text of the objective states, "Improve Bay-Delta system export water supplies and timing to help meet reasonable existing and future short-term and long-term needs."

PH2:1-10

The proposed revision to the CALFED mission statement is a more detailed aspect of improvement in water management, which is already included generally in the mission. The more detailed aspect is included in the water management goals described in the Phase II Report.

PH2:2.1-13

The commentor refers to a general discussion of water supply reliability problems that led to creation of the CALFED Program. This overview paragraph is not intended to describe every problem related to water supply reliability. For a more complete enumeration of problems, see Problem/Objective Definition, CALFED Bay-Delta Program, March 1996.

PH2:2.1-14

The Program's mission statement and water supply reliability objective, which focus on beneficial uses, meet the commentor's suggestion to focus on benefits of water supply reliability.

2.1 Bay-Delta Problems/Objectives

PH2:2.1-1

The CALFED agencies believe that they have developed a Preferred Program Alternative that meets Program solution principles and achieves Program mission and goals, including those for water quality, water supply reliability, ecosystem restoration, and levee and channel system integrity.

PH2:2.1-2

The CALFED goal of improved water supply reliability is not limited to export areas, but includes all areas of the state that can receive improved water supply reliability through changes in water management in the Bay-Delta system. Please also see common response 13.

PH2:2.1-3

The CALFED goal for water supply reliability is to reduce the mismatch between Bay-Delta water supplies and current and other beneficial uses dependent on the Bay-Delta system. Supply needs of Delta exporters will be met from a variety of sources and strategies, not just Delta exports.

PH2:2.1-4

CALFED established objectives during Phase I of the Program, consistent with the programmatic nature of the Program. Primary objectives are included in the Phase II Report.

PH2:2.1-5

During Phase I of the Program, CALFED developed extensive statements of problems in the Bay-Delta system, and from these problems developed Program objectives and a geographic scope for the solution area. Northern California is part of the solution area because some of the problems of the Bay-Delta system occur in northern California: water diversions that entrain fish and alter flow patterns, uses of land and water that impair water quality, dams and land uses that reduce the amount or quality of spawning and rearing habitat for fish species—to name a few. For these reasons, northern California is appropriately included as part of the solution area.

PH2:2.1-6

CALFED's water supply reliability goal is broadly worded in recognition that many tools are available to carry out a water management strategy. In some cases, a particular tool may not be appropriate, such as when a transfer would result in adverse third-party impacts or a water conservation measure would deprive a downstream user of a water source. CALFED has recognized these types of cases in its Program documentation. However, in many cases, water transfers and water conservation are appropriate tools to be used along with potential new surface water storage. It would be inappropriate to prematurely remove any potential tool from consideration.

PH2:2.1-7

CALFED has developed a goal and objectives for water supply reliability that are not quantified, for several reasons. First, it is not necessary to set a single acre-foot target in order to begin making improvements in water supply reliability. Second, any quantification would be widely disputed and would lead to more divisiveness rather

than consensus. Third, a quantification would rely on many assumptions that would be subjective or open to dispute. CALFED is developing an approach based on programmatic compliance with the CWA Section 404 that will guide and enable a demonstration of need for new surface water storage.

PH2:2.1-8

The Program will provide improvements in water supply reliability and water quality. It will not provide all the improvement that every interest might want. In a Bay-Delta system with finite limits, the CALFED plan provides equitable improvement for each sector but probably less than any sector might desire.

PH2:2.1-9

It is implicit in the CALFED mission statement that CALFED will attempt to determine how much water is available from the Bay-Delta system. This will not be done by specifying a quantity but by specifying actions needed to restore ecosystem health, including flow-related actions, and by specifying broad operating conditions that would constrain any new water development project. Fair distribution of the water is governed by California water rights law and is therefore under the jurisdiction of the SWRCB, which issues water rights permits.

PH2:2.1-10

During Phase I of the Program, CALFED developed extensive statements of problems in the Bay-Delta system, and from these problems developed Program objectives and a geographic scope for the solution area. Southern California is part of the solution area because some of the solutions to Bay-Delta system problems can occur in southern California: water conservation can reduce demand, and water recycling can offer a new water supply. For these reasons, southern California is appropriately included as part of the solution area.

PH2:2.1-11

The CALFED objective for water supply reliability is to reduce the mismatch between Bay-Delta water supplies and current and projected beneficial uses dependent on the Bay-Delta system. CALFED has identified several water management tools to help achieve this objective, including water use efficiency, recycling, transfers, conjunctive use, and surface storage. Among these, water conservation and water recycling may create "new" water, that is, water that would otherwise have been discharged to a salt sink and been unavailable for any other beneficial use. New or expanded surface storage upstream from the Delta would change the timing of flow in the system, reducing Delta outflow at times when the impact would be low and making water available at other times for flow augmentation or diversion from the system.

PH2:2.1-12

The Trinity River watershed, from which flows are diverted into the Bay-Delta system, is a part of the CALFED solution area because actions in this watershed could help solve Bay-Delta problems without redirecting impacts. For example, changes in watershed management in the Trinity River basin could augment base flows in the Trinity River without making equivalent reductions in diversions to the Sacramento River system.

PH2:2.1-15

The State Water Resources Control Board (SWRCB) is responsible for setting in-stream flow requirements. CALFED will follow these requirements. Please also see common response 8.

2.2 Fundamental Program Concepts

PH2:2.2-1

Adaptive management is a fundamental concept of the Program. The principle of adaptive management, and a programmatic level of detail regarding its application, are described in the Phase II Report and in the Strategic Plan.

PH2:2.2-2

Adaptive management involves more than simple trial and error. It includes implementation of actions for which certainty exists and formulation of testable hypotheses, followed by structured pilot-scale implementation or research to meet other objectives where certainty of action does not exist.

PH2:2.2-3

The fraction of Delta inflow that is diverted varies according to water-year type and amount of inflow, as depicted in the figures entitled "Water Management in California" (pages 20 and 21 in the June 1999 Revised Phase II Report). CALFED actions are expected to allow more water to remain in streams during critical periods, reducing the fraction of water diverted during these periods.

PH2:2.2-4

A governance structure is still being developed, as described in the Phase II Report. The structure is expected to include a chief scientist and a governing body, including representation by state and federal agencies as well as stakeholders.

PH2:2.2-5

The concept of time value of water is reflected in many aspects of water management in the Bay-Delta system, such as existing reservoir operations and varying flow standards at different times of the year. Time value will remain a concept that is fundamental to CALFED and many other aspects of Bay-Delta water management.

PH2:2.2-6

CALFED recognizes that the statements oversimplify and has modified the text to reference more details as provided in the Water Transfer Program Plan.

3.1 Overview of the Preferred Program Alternative

PH2:3.1-1

The Preferred Program Alternative does not include any action to divert Eel River water for any Program purpose. Furthermore, the Eel River is outside the Program solution area.

PH2:3.1-2

The complexity of the CALFED decision process reflects the complexity of the problems that CALFED is charged with solving. There is no simple solution.

PH2:3.1-3

The Preferred Program Alternative does not include an isolated conveyance facility or dual-Delta conveyance. CALFED's strategy is to develop a through-Delta conveyance alternative based on the existing Delta configuration with modifications as needed, evaluate its effectiveness, and add additional conveyance and/or other water management actions if necessary to achieve CALFED goals and objectives. The initial through-Delta conveyance will be continually monitored, analyzed, and improved to maximize the potential of the through-Delta approach to meet CALFED goals and objectives, consistent with the CALFED solution principles. If the through-Delta conveyance fails to meet the CALFED goals and objectives, the reasons and the need for additional Delta conveyance and/or water management actions will be reassessed. Please also see common response 16.

PH2:3.1-4

The Preferred Program Alternative is intended to be general in nature. Greater specificity regarding actions can be found in the Implementation Plan and Phase II Report. Greater specificity regarding impacts will be developed in subsequent project-specific environmental documents. Please also see common response 1.

PH2:3.1-5

CALFED Program elements emphasize the use of incentives. Due to the programmatic nature of the CALFED Program, specific incentives may not be described in Program plans at this time. Examples of the use of incentives may be found in the program plans for water use efficiency, watersheds, and ecosystem restoration.

PH2:3.1-6

CALFED's approach will vary according to the Program element for which property is acquired. The Ecosystem Restoration Program will acquire land only after appropriate opportunities for restoration on public lands and restoration on lands covered by conservation easements are pursued. Then, acquisition will be from willing sellers at fair market value. Other Program elements such as Storage may acquire land through condemnation, also at fair market value.

PH2:3.1-7

There has not been a major shift in Program organization since its inception. CALFED was formed to address four interrelated problem areas: ecosystem quality, water quality, water supply reliability, and levee system integrity. These four problem areas have not changed since the Program was founded. In 1996, the Program prepared objectives for solving problems in these four areas. During Program development, it became clear that many different actions could contribute to the solution of these problems. CALFED refers to each category of actions as a Program element. Originally, there were six Program elements: ecosystem restoration, water quality, levee system integrity, storage, conveyance, and water use efficiency. Subsequently, two additional Program elements were added: watersheds and water transfers. This Program organization, with eight Program elements, was in place prior to the first Phase II Interim Report published in March 1998.

PH2:3.1-8

An isolated Delta conveyance facility is not part of the Preferred Program Alternative; therefore, there is no time line for constructing such a facility. Please also see common response 16.

PH2:3.1-9

Development of the three CALFED programmatic alternatives included extensive work to optimize the alternatives. Please see common response 5.

3.2 A Comprehensive Resource Management Program

PH2:3.2-1

Every CALFED Program element contributes, to some degree, to improved water supply reliability. The Water Management Strategy, Environmental Water Account (EWA), and Integrated Storage Investigation all contribute to improved water supply reliability for Delta exporters.

PH2:3.2-2

The CALFED Watershed Program was established in recognition that planning the solution of problems in the Bay-Delta must include a watershed perspective. However, planning and implementation of solutions must be coordinated with individuals and all levels of government to be most successful.

3.3 Ecosystem Restoration Strategy

PH2:3.3-1

Restoring the timing and magnitude of critical in-stream flows and restoring habitats are both programmatic actions described in the Phase II Report and in the Ecosystem Restoration Program Plan.

PH2:3.3-2

Fish screening received funding under CALFED early implementation. Where screening achieves CALFED objectives and has a sufficient priority to be funded, screening will continue to be a part of CALFED implementation.

PH2:3.3-3

Many Ecosystem Restoration Program actions will improve water quality, resulting in benefit to the environment and also to other water users. Some Ecosystem Restoration Program actions, such as wetland restoration in the Delta, may increase total organic carbon (TOC) in Delta water. Monitoring will document the extent to which this occurs; mitigation will occur on a site-specific basis and may include reducing other sources of TOC. Augmentations in streamflow will be accomplished through water transfers and other cooperative measures, and will therefore usually not reduce reliability for other water users. The EWA is expected to help maintain water supply reliability for Delta water exporters while protecting Delta fish species. Please also see common response 1.

PH2:3.3-4

The specific goals and targets for species recovery are elaborated in the three volumes of the Ecosystem Restoration Program Plan. The process for scientific review and adaptive management is described in the Strategic Plan.

PH2:3.3-5

The general statement in the Phase II Report is correct: reduction in demand may reduce the diversion of water from the Bay-Delta system. Clearly, this is not always the case, but it is not the point of this paragraph to examine every benefit and limitation of water use efficiency. The point here is that an ecosystem benefit may be associated with water use efficiency: a reduction in demand may lead to reduced entrainment of fish.

3.4 Water Quality Improvement Strategy

PH2:3.4-1

Pollution reduction, salinity management, and additional treatment are all identified for action in the Phase II Report and in the Water Quality Program Plan.

PH2:3.4-2

The Phase II Report and Implementation Plan describe a CALFED drinking water quality improvement strategy that will pursue actions to reduce bromide levels, monitor for bromide, and recommend additional actions if necessary. Please also see common response 14.

PH2:3.4-3

Authority to set and enforce Delta water quality standards resides with the SWRCB as a responsibility separate from CALFED.

PH2:3.4-4

CALFED has developed a drinking water quality improvement strategy appropriate for the programmatic nature of the document, to be carried out under the scrutiny of a Delta Drinking Water Council and guided by periodic expert panel review. This strategy will help assure continued focus on water quality improvement.

PH2:3.4-5

CALFED has maintained since the beginning of the Program that it will not pursue resolution of salinity problems in the San Joaquin Valley through an out-of-valley drain since it is outside the scope of the Program (please see common response 1). However, the Water Quality Program does include actions to help reduce salt loads from the San Joaquin Valley. Comments concerning the potential drain would be best taken to Reclamation.

PH2:3.4-6

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 should be lacking from the programmatic document, although broad linkages among Program elements are described. CALFED

recognizes that ecosystem restoration, water quality, water supply reliability, and levee system integrity actions must be closely linked and integrated for the Program to meet its objectives. Because individual projects have not yet been identified or studied, it is not presently possible to establish detailed linkages among Program elements. CALFED is, however, committed to developing and publicly disclosing these linkages as the Program moves into its implementation phase. Watershed activities of many types offer possibilities to prevent, reduce, or control pollution while enhancing ecosystem functions and accomplishing other CALFED objectives. CALFED is committed to thoroughly researching these possibilities and to supporting projects that optimize benefits in all categories of CALFED activity.

CALFED will evaluate a screened diversion facility on the Sacramento River of up to 4,000 cubic feet per second (cfs) determine whether it is needed to improve water quality in the Delta and at the export facilities in order to meet the drinking water quality objectives that are enunciated in the Phase II Report. CALFED's long-term water quality objectives for drinking water 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. 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, and invites active participation of all stakeholders.

PH2:3.4-7

Two responses are consolidated under this response. Please read the entire text of this response for an answer to your comment.

CALFED's primary drinking water goal is public health protection. Meeting current and future drinking water standards, and exceeding those standards where feasible, is the mechanism through which public health protection will be assured. This goal will be met through cooperative efforts among agencies supplying drinking water and CALFED to implement measures that will protect the quality of Delta drinking water sources, provide alternate source waters, and upgrade treatment as required.

The source control actions planned for Stage 1 will certainly reduce pollutants in the Delta waters and will result in continued improvement of water quality as actions proceed. Depending on what new disinfection and disinfection by-product regulations are adopted, and depending on the success of new treatment technologies and CALFED source control actions, it is conceivable that treating Delta waters to affordably produce safe drinking water could prove difficult or impossible in the future in the absence of physical changes to the system. For that reason, CALFED intends to simultaneously evaluate a screened diversion facility on the Sacramento River of up to 4,000 cfs to determine whether this facility is needed in order to improve water quality in the Delta and at the export facilities and whether the facility can be constructed and operated without adverse effects on fish. A simultaneous assessment will be made of the combination of alternative source waters, source control, and treatment technologies and the assessment of facilities to determine whether CALFED is meeting its long-term water quality objectives.

The Phase II Report is a summary document and does not contain the same level of detail as the program plans and other Program documents. Evaluation of organic carbon releases is described in the Implementation Plan. This evaluation, which will increase understanding of the sources, amounts, and characteristics of organic carbon discharges, must precede any pilot programs. Pilot programs are expected later in Stage 1 of implementation, pending the outcome of evaluations. Please also see common response 14.

PH2:3.4-8

Two responses are consolidated under this response. Please read the entire text of this response for an answer to your comment.

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, and 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.

The Implementation Plan and Phase II Report now describe in greater detail many actions scheduled for implementation during Stage 1 that will improve drinking water quality. Additional actions, such as new or expanded surface storage and Delta conveyance modifications, may be constructed—pending additional evaluation and approvals. Please also see common response 14.

PH2:3.4-9

Two responses are consolidated under this response. Please read the entire text of this response for an answer to your comment.

CALFED intends to publish Delta Drinking Water Council findings on drinking water quality improvements. The Phase II Report text has been revised to reflect this intention.

"Veale/Byron Tract Discharge Management" is described in detail in the Implementation Plan.

PH2:3.4-10

A number of different alternative scenarios are being examined to support the Integrated Storage Investigation. Several of the alternative scenarios explicitly include devoting a portion of new facility storage to water quality improvement in the Delta. However, these efforts are still in the process of being completed and will not be ready for incorporation into the Final Programmatic EIS/EIR. CALFED's intent is to demonstrate tradeoffs between storage, water quality, water supply, and export curtailments for fisheries improvements.

3.6.1 Developing a Water Management Strategy

PH2:3.6.1-1

The table in the Phase II Report is intended to show general, not precise, contributions to water supply reliability. The relative contribution of agricultural water conservation to water supply reliability is based on the estimate of water that could be made available for other uses through conservation. Please also see common responses 2 and 11.

PH2:3.6.1-2

Water acquisitions from fallowing or groundwater substitution would be conducted with willing local participants, and CALFED's proposed water transfers clearinghouse would facilitate disclosure and understanding of potential impacts. Water acquisition through land acquisition in the Sacramento Valley is not proposed in any CALFED alternative.

PH2:3.6.1-3

CALFED will continue to refine its Water Management Strategy during Stage 1. There will be opportunities for public comment at forums such as public meetings of the CALFED Policy Group as this process moves forward. Please also see common responses 1 and 5.

PH2:3.6.1-4

Discussion of the Water Management Strategy includes watershed management, reflecting the contribution that watershed management makes to overall water management.

PH2:3.6.1-5

The Water Management Strategy assumes that local and regional water suppliers will take advantage of a range of options to match supply and demand, including local water supply and watershed activities.

PH2:3.6.1-6

Development and refinement of the Water Management Strategy, including examination of new storage, is a public process with many opportunities for advice and comment. Many stakeholders have been involved in CALFED's economic analysis of water management alternatives and refinement of the Water Management Strategy. Proposals for long-term CALFED governance also include representation from outside the state and federal agencies.

PH2:3.6.1-7

Water conservation is only one of the tools that contribute to the Water Management Strategy. Conservation programs will focus on areas where conservation measures have not been fully implemented and additional opportunities exist.

PH2:3.6.1-8

As mentioned in the Phase II Report, CALFED conducted an Economic Evaluation of Water Management Alternatives. This evaluation looks at the array of water management tools available to each region and places them in order from least to most expensive. This analysis acknowledges the uncertainties associated with various tools. In many cases, some amount of water conservation is the most cost-effective tool for a given region. However, not all increments of water conservation are equally cost effective. This information will be presented, along with other evaluation information, as the Integrated Storage Investigation continues. Desalinization (please see common response 18) is included in the evaluation but currently proves to be among the most expensive of the available tools; future technological advancements may make desalting more cost effective. Please also see common responses 4 and 6.

PH2:3.6.1-9

CALFED will continue to refine its Water Management Strategy during Stage 1. However, the overall objective of improving water supply reliability does not include commitments for systemwide water targets or specific water deliveries to any water district or region. CALFED is looking to increase the flexibility of delivering water through the Delta. The Preferred Program Alternative improves water supply reliability compared to the No Action Alternative. CALFED has no regulatory authority. Please also see common responses 1, 4, 16, and 22.

PH2:3.6.1-10

As part of the Ecosystem Restoration Program (and under study in the Integrated Storage Investigation), some obstructions to fish passage (such as small dams) are being considered for modification or removal to restore anadromous fish access to critical spawning habitat.

PH2:3.6.1-11

CALFED must look for a solution that balances all needs of all water users depending on the Delta. Eliminating or significantly reducing Delta diversions would violate CALFED's own purpose, solution principles, and water supply reliability objective. At present, a high level of uncertainty is associated with future environmental water requirements. Therefore, CALFED modeled a range of conditions that could lead to lower or higher Delta exports for the No Action Alternative and the Program alternatives. The Criterion A assumption set (see Attachment A to the Programmatic EIS/EIR) defines the highest environmental water requirements and lowest Delta exports considered in this analysis. For example, modeling using Criterion A without new reservoirs resulted in lower Delta exports than under existing conditions. The impact analysis includes the effects of this reduced Delta export relative to existing conditions.

PH2:3.6.1-12

The SWRCB is in the process of deciding how Delta water quality standards will be met. Please also see common response 22.

PH2:3.6.1-13

CALFED agrees that the amount of willing sellers and cost required to acquire water are uncertain; cost will influence the amount of water available from willing sellers. CALFED conducted an Economic Evaluation of Water Management Alternatives that looks at the array of water management tools available to each region and places them in order from least to most expensive. New storage is one of the water management tools included in the array. Storage is considered necessary to meet Program objectives. The Implementation Plan and the Phase II Report contain additional detail on storage actions CALFED will pursue in Stage 1. Please also see common responses 4 and 16.

PH2:3.6.1-14

The Preferred Program Alternative does not include an isolated facility. Returning the Delta salinity to "pre-dam" conditions is beyond the scope of the CALFED Program and would require changes in standards. Please also see common responses 1, 4, 5, and 16.

PH2:3.6.1-15

CALFED has always had a strong commitment to public involvement and has encouraged partnership. These elements will become even more important as the Program moves into implementation involving storage.

PH2:3.6.1-16

CALFED conducted preliminary investigations of the potential benefits from hydroelectric facility reoperation and found relatively small benefits toward CALFED's objective of water supply reliability. Reoperation likely could provide more local water supply benefits than CALFED systemwide benefits.

PH2:3.6.1-17

An enlargement of Shasta Dam, from 6 to 8 feet and by approximately 300 TAF additional capacity, is one of the surface water storage sites retained by CALFED for additional evaluation and one which will be pursued during Stage 1. See the Phase II Report.

PH2:3.6.1-18

This linkage is evident in the proposed CALFED process for determining a future course of action with respect to a screened diversion facility on the Sacramento River, but the linkage to water quality will be mentioned along with other conveyance linkages.

PH2-3.6.1-19

CALFED is continuing work on the Water Management Strategy and more detailed evaluation criteria for each Program element, including water quality. The Preferred Program Alternative includes an evaluation of how water suppliers can "best" provide a level of public health protection equivalent to Delta source water quality of 50 parts per billion bromide and 3 parts per million TOC. The most important part of CALFED's drinking water strategy is the goal of "continuous" improvement in source water quality to meet public health needs. The Phase II Report, under "Water Management Tools: Storage," points out that cost effectiveness is a necessary part of developing this criteria:

> CALFED's specific target for providing safe, reliable, and affordable drinking water in a cost-effective way is to achieve either: (a) average concentrations at Clifton Court Forebay and other south and central Delta drinking water intakes of 50 μg/L bromide and 3.0 mg/L total organic carbon; or (b) an equivalent level of public health protection using a cost-effective combination of alternative source waters, source control, and treatment technologies. CALFED has not adopted a specific numeric target for salinity (other than meeting existing Delta standards) but does have a preliminary objective of reducing the salinity of Delta supplies.

PH2-3.6.1-20

Both the Integrated Storage Investigation and the Economic Evaluation of Water Management Alternatives will continue into Stage 1. CALFED will continue to coordinate these evaluations as they become more refined.

PH2-3.6.1-21

There is not a single program called "water supply reliability," but there are programs for the various parts of water supply reliability. The programs for water use efficiency (water conservation and recycling), water transfers, conveyance, and storage are all designed to improve water supply reliability. Other programs such as watersheds and water quality also can contribute to water supply reliability. CALFED will continue to refine the Water Management Strategy to determine the best way that these tools can be used together to improve water supply reliability. This work on the Water Management Strategy serves the same purpose as a single program for water supply reliability.

PH2:3.6.1-22

CALFED has no legal authority over the management of groundwater supplies, nor does any CALFED agency exercise the authority over groundwater that exists in California water rights law governing surface water supplies. Therefore, CALFED and the CALFED agencies have taken a different approach, emphasizing voluntary local action such as Assembly Bill 3030 groundwater management plans and focusing on cooperative conjunctive use projects in which CALFED agencies work together with local entities. However, CALFED will support legislation that supports groundwater management at the basin level.

PH2:3.6.1-23

CALFED documents necessarily discuss water operations at a programmatic level of detail because many project-level details will affect water operations and these project-level decisions will be made in the future. Some examples of these decisions include the exact configuration of conveyance modifications in the Delta and the size, location, and nature of water storage projects. CALFED proposes continuation of a process and structure to coordinate operations of the water projects in order to resolve conflicts and maximize benefits to water supply reliability, ecosystem restoration, and water quality objectives. Currently, the CALFED Operations Group (Ops Group) is the coordination group for Delta water operations and includes state and federal agencies with an interest in water operations. The Ops Group, or a similar body, should continue in the long term as the public forum for discussing water operations. The group should include state and federal agency representatives at the highest levels with an interest in water operations. Those operational agencies should include DWR and Reclamation, which operate the projects; the Department of Fish and Game, the National Marine Fisheries Service, and the U.S. Fish and Wildlife Service, which regulate the projects under the ESA requirements; and the SWRCB and the U.S. Environmental Protection Agency, which regulate water quality in the Delta; and the EWA manager responsible for environmental water operations and management. Resolution of operational issues and conflicts should be resolved at the lowest level of the operational agencies but elevated quickly if the issues cannot be resolved.

PH2:3.6.1-24

The statement on page 57 in the June 1999 Revised Phase II Report has been changed to read:

> "...Urban water conservation will directly reduce per capita water use and may reduce the total urban demand for water."

PH2:3.6.1-25

CALFED seeks to achieve its water supply reliability goals in a number of differing ways. None presumes a reallocation of existing water rights or modification of the water rights statutes. The Phase II Report describes CALFED's broad objective for water supply reliability. The report defines the goal of "reduc[ing] the mismatch

between Bay-Delta water supplies and current and projected beneficial uses dependent on the Bay-Delta system" to mean: (1) increasing the utility of available water supplies (making water suitable for more uses and reuses); (2) improving access to existing or new water supplies, in an economically efficient manner, for environmental, urban, and agricultural beneficial uses; and (3) improving flexibility of managing water supply and demand in order to reduce conflicts between beneficial uses, improve access to water supplies, and decrease system vulnerability. None of these goals nor the program elements designed to achieve them presents a conflict with the Delta Protection Act. During implementation of the Program, any project-level proposal will undergo environmental review prior to implementation.

PH2:3.6.1-26

The CALFED Water Management Strategy is intended to be a long-term decision-making framework for evaluating the success of implementation efforts and for selecting additional tools needed to achieve CALFED objectives. Thus, the strategy will not be "completed" prior to Stage 1 of implementation. Rather, the Water Management Strategy will continue to guide the selection of actions for implementation. Adaptive management will help shape future implementation. The Water Management Strategy recognizes that meeting CALFED objectives for water supply reliability will require implementation of many different water management tools that provide different benefits. A commentor suggests excluding major infrastructure projects during Stage 1 of implementa-tion, but there may not be any comparable or suitable alternatives to water management tools that involve significant infrastructure.

PH2:3.6.1-27

CALFED will make additional water supplies available for environmental purposes through a variety of means. The Ecosystem Restoration Program will acquire water from willing sellers to augment streamflow and improve the timing of flows. Some of this water will be available for outflow, and some may be diverted at downstream locations to meet other beneficial uses. Assets available to the EWA will include water developed through improved system flexibility and water acquired from willing sellers for environmental purposes, primarily to protect Delta fish from the impacts of Delta exports. In addition, new or expanded surface storage may be constructed to store water and make it available for beneficial uses, including environmental uses. One CALFED strategy with respect to storage is to divert water at times when flows are high and the impact of diversions is low, and to release water for environmental purposes at times when the net benefit would be higher. Releases might be made at times when temperature control is needed or at low-flow periods when more water is needed to facilitate fish migration. This strategy will allow diversions to be maintained or increased while simultaneously making environmental improvements. Finally, a variety of other water management tools, such as water conservation and water recycling, will be pursued aggressively so that, to the extent practicable, water demands can be met without additional diversions from the Bay-Delta system.

PH2:3.6.1-28

The Water Management Strategy evaluates many different water management tools, each of which offers different benefits. For example, storage offers more flexibility in timing of needed flows than water conservation can provide. Surface storage offers greater flexibility than groundwater storage. A relative comparison of water management tools and their contribution to meeting water supply reliability goals and objectives is found in the Phase II Report.

3.6.2 Water Management Strategy Tools: Water Use Efficiency

PH2:3.6.2-1

The information in the Phase II Report is a summary of the Water Use Efficiency Program. The Water Use Efficiency Program Plan describes institutional, regulatory, cost, and public perception barriers that must be overcome.

PH2:3.6.2-2

These constraints are discussed in the Water Use Efficiency Program Plan. These constraints make it important for state and federal funding that water recycling is included in the plan.

PH2:3.6.2-3

The success of some water agencies in reducing per capita water use demonstrates the significant potential for water conservation. That is why water use efficiency is a major element of the CALFED Program; and why CALFED agencies intend to emphasize their efforts to provide technical, planning, and funding assistance to agencies that can achieve conservation savings.

PH2:3.6.2-4

Concerns over public acceptance and complex regulatory processes can affect the development of water recycling projects, as discussed in the Water Use Efficiency Program Plan.

PH2:3.6.2-5

Water recycling provides an additional supply of water that might not otherwise be available, thereby improving water supply reliability for some users. Recycled water is not suitable for all purposes. CALFED has not proposed any specific requirement or policy regarding the use of recycled water for agricultural irrigation. The Agricultural Water Management Council (AWMC) was formed as a forum for environmental organizations and irrigation districts to reach agreement on appropriate water conservation and management methods for districts. The AWMC could consider the issue of recycled water use if it chooses, although the technical, biochemical, public health, and soil chemistry issues involved might be more appropriately considered by other forums.

PH2:3.6.2-6

California laws, including the California Water Code and the California Constitution, prohibit waste and unreasonable use. However, there is no precise description of beneficial use in the law. Institutions such as the California Urban Water Conservation Council and the AWMC provide forums for various interests to reach consensus on appropriate water use efficiency measures. One reason these groups were created was to provide an alternative to unilateral interpretation of the law by the SWRCB.

PH2:3.6.2-7

CALFED proposes to restrict access to any new water supplies available from CALFED facilities to those who demonstrate that existing supplies are being used efficiently. This is not a control on existing water use but an appropriate condition for access to new water supplies. CALFED has not proposed the adjudication of any groundwater basins that are not presently adjudicated or any permit system for adjudicated basins.

PH2:3.6.2-8

Efficiency measures such as water conservation and water recycling can contribute to ecosystem health by reducing demand for water diverted from the Delta. However, rights to conserved water generally are retained by the water rights holder that implements the efficiency measure. As a result, conserved water may be used to meet other demands south of the Delta and not result in a reduction in Delta diversions. One mechanism for efficiency measures in export areas to translate directly into reduced Delta pumping would be for CALFED to pay for efficiency measures in return for some or all of the yield of the efficiency measure.

PH2:3.6.2-9

The Phase II Report lists several benefits of water use efficiency, including "can reduce demand for Delta exports, and can reduce related entrainment effects on fish when exports are reduced." The text has been revised to state "reduces fish entrainment related to reduced pumping or diversion."

PH2:3.6.2-10

The proposed Water Use Efficiency Program is largely incentive based. Where conservation measures are cost effective from a statewide perspective but not from a local perspective, CALFED proposes partial funding to make these measures feasible.

PH2:3.6.2-11

CALFED does not propose any change in water rights law. The California Constitution and the California Water Code currently prohibit waste and unreasonable use of water. The Water Use Efficiency Program will provide incentives to encourage implementation of efficiency measures that provide benefits, such as improvements in water quality or timing of flows, or measures that leave more water in a stream throughout certain stream reaches. In some cases, this will be accomplished by encouraging improvements in irrigation efficiency. In other cases, improvements in irrigation efficiency may not yield sufficient multiple benefits to merit investment in the necessary irrigation improvements. CALFED will support legislation that supports groundwater management at the basin level.

PH2:3.6.2-12

CALFED recognizes that many of the tools available to carry out a Water Management Strategy are complementary, performing better or differently when used in concert with one another. The importance of new storage is reflected in the CALFED Integrated Storage Investigation and the Preferred Program Alternative.

PH2:3.6.2-13

CALFED has used the term "measurable objective" to refer to technical objectives related to agricultural water conservation or water management. CALFED recognizes the difficulties associated with measuring the results of urban water conservation programs and the impediments associated with implementation of water recycling programs. Urban conservation actions are focused on increased technical and financial incentives and assurances that feasible conservation practices will continue to be implemented. Recycling actions are focused on assistance and removal of impediments. Any objectives in these areas should be related to readily measurable actions, such as installation of conservation devices or provision by state and federal agencies of access to sufficient funds and financing mechanisms for recycling programs to be successfully implemented.

3.6.3 Water Management Strategy Tools: Water Transfers

PH2:3.6.3-1

CALFED has not proposed changes in water rights laws. In fact, CALFED proposes to work with the California Legislature and stakeholders to determine whether additional legislation is necessary to protect water rights, including area-of-origin priorities. CALFED will support legislation that supports groundwater management at the basin level. Also see the Water Transfer Program Plan and common response 13.

PH2:3.6.3-2

CALFED proposes a groundwater assistance program to gather groundwater data.

PH2:3.6.3-3

The Water Transfer Program is intended to facilitate transfers and groundwater substitution where they provide local benefit, and to disclose potential impacts through a water transfers clearinghouse. Please also see common responses 13 and 20.

PH2:3.6.3-4

Water transfers alone cannot achieve the CALFED objective for water supply reliability. The Water Management Strategy includes water transfers and many other water management tools.

PH2:3.6.3-5

CALFED has not proposed any new or stricter environmental regulations related to augmentation of in-stream flows, so no redirected impact would occur from such regulation. Where augmented flows or altered flow timing would benefit aquatic resources and help meet CALFED objectives, CALFED proposes to work cooperatively with landowners and water rights holders to accomplish these actions. CALFED proposes to work with stakeholders to develop appropriate protection provisions for water transferred for in-stream uses, so that water acquired for environmental purposes will stay instream as intended. In some cases, however, environmental water needs in upstream areas may not coincide with water needs or outflow needs in the Delta. At these times, it may be most beneficial for the Ecosystem Restoration Program to arrange for upstream releases and then allow diversion of the water downstream in the Delta.

3.6.4 Water Management Strategy Tools: Conveyance

PH2:3.6.4-1

The CALFED mission is to develop a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system. Many of the conflicts in the Bay-Delta system today are due to incompatibility between ecosystem restoration and water management. The CALFED Program is a group of actions that, taken together, would meet the Program mission even though some of these actions, considered separately, might diminish ecosystem health or impair water management. Although implementation of the CALFED Program could lead to increased diversions from the Delta, the Preferred Program Alternative does not specifically call for an increase in diversions but rather an increase in the capacity to divert water. An increase in permitted pumping capacity at the SWP Banks Pumping Plant is included in the

Preferred Program Alternative. This increase in capacity will increase flexibility, so that diversions can be shifted more to times of low environmental impact.

PH2:3.6.4-2

Please see common response 16.

PH2:3.6.4-3

The description of north Delta channel modification included in the "Program Implementation" chapter in the Phase II Report is slightly different from, and more refined than, the description of this proposed action in the "Draft Implementation Plan" chapter in the December 1998 Revised Phase II Report. The June 1999 report, while retaining language stating that CALFED will "evaluate opportunities," places more emphasis on achieving synergistic benefits from these actions—including resolution of local flood concerns and creation of tidal wetlands and riparian habitats. What has not changed is the intention to proceed only after additional evaluation is conducted.

PH2:3.6.4-4

The CALFED's alternatives analysis evaluated dual-Delta conveyance, including an isolated conveyance channel. Based on the analysis, CALFED selected a Preferred Program Alternative that includes through-Delta conveyance incorporating modifications of existing Delta channels.

PH2:3.6.4-5

CALFED has continued to refine the conveyance strategy since the publication of the December 1998 Revised Phase II Report. A complete discussion of conveyance strategy may be found in common response 16.

PH2:3.6.4-6

For the initial screening leading to the surface storage sites retained for additional CALFED consideration, CALFED did not use economic and water yield criteria. The prospective reservoirs could serve many purposes, of which urban water supply is one. CALFED has prepared draft evaluations to compare prospective reservoir sites as sources for urban water supply but did not use this information for the initial screening. See the storage section in the Phase II Report for projects CALFED will pursue during Stage 1.

PH2:3.6.4-7

The current and earlier versions of the Phase II Report include an isolated facility under Alternative 3. While the isolated facility would provide marked improvements in the quality of water exported from the Delta, it also somewhat improves water quality in some areas of the Delta because of reduced pumping directly from the south Delta channels. The Preferred Program Alternative does not include an isolated facility. However, it does provide for evaluation of up to a 4,000-cfs screened diversion facility on the Sacramento River to move fresher water into the central Delta.

PH2:3.6.4-8

The diversion facility on the Sacramento River would not significantly reduce obstacles to construction and operation of an isolated facility. The historical emphasis has been on a screened diversion at Hood on the

Sacramento River. This and other potential sites will be considered as part of the evaluation. The evaluation of the diversion facility on the Sacramento River was not added to the Preferred Program Alternative as a first step toward an isolated facility but was included to make the system work without an isolated facility. CALFED will consider an isolated facility in the future only if the through-Delta conveyance with the other Program elements cannot meet CALFED goals and objectives. For an isolated facility to be considered in the future, it would need to be the most cost-effective and least environmentally damaging measure to correct this deficiency in meeting the goals and objectives. If an isolated facility is found necessary in the future, it would need to withstand its own rigorous environmental review and permitting, separate from that included in this Programmatic EIS/EIR.

PH2-3.6.4-9

The dual-Delta conveyance would provide additional flexibility. The March 1998 Phase II Interim Report provided a summary of how each alternative would perform against 18 distinguishing characteristics, including operational flexibility. This comparison showed that Alternative 3, the dual-Delta conveyance alternative, would provide the most operational flexibility of all alternatives. Impacts associated with dual-Delta conveyance, both positive and negative, are evaluated in Chapters 5 through 7 in the Programmatic EIS/EIR. The Program has not selected Alternative 3 as the Preferred Program Alternative. The Program complexity, coupled with the broad scope and number of actions needed to implement the Program, the implementation period of 30 or more years, the need to test hypotheses, and resource limitations, make it necessary to implement the Program in stages. Consequently, the Preferred Program Alternative provides for implementation of the Program in a staged manner and establishes mechanisms to obtain the necessary additional information to guide the next stage of decision making. Therefore, the CALFED agencies propose to begin with through-Delta modifications. In the event that the through-Delta conveyance facilities in the Preferred Program Alternative cannot meet the Program objectives—particularly for water quality and fisheries—the Preferred Program Alternative includes a process for determining the conditions under which any future additional conveyance facility actions—including those in Alternative 3—would be taken. Until additional information is available to determine whether water quality objectives and fish recovery goals can be met and which, if any, additional actions will be necessary to achieve the Program goals and objectives, the Preferred Program Alternative is the best alternative to achieve overall project purposes and objectives.

PH2:3.6.4-10

The Preferred Program Alternative describes the process for new conveyance facilities to be considered as part of the CALFED Program and for those that might be considered in the future. Please also see common responses 14 and 16.

PH2:3.6.4-11

CALFED has not decided to construct a screened diversion on the Sacramento River at Hood. As part of the Preferred Program Alternative, CALFED will study and evaluate a screened diversion facility on the Sacramento River, with a range of diversion capacities up to 4,000 cfs, as a measure to improve drinking water quality. The historical emphasis has been on a screened diversion at Hood on the Sacramento River. This and other potential sites will be considered as part of the evaluation. This evaluation will proceed simultaneously with implementation of other Water Quality Program measures, including reoperation of the Delta Cross Channel. Before construction of a diversion facility on the Sacramento River could proceed, project-level environmental analysis under CEQA and NEPA would be conducted, including analysis of a range of alternatives to meet project purposes. Please also see common response 16. Monitoring conducted by CALFED and CALFED agencies during Stage 1 of implementation will provide information on issues such as those listed by the commentor, relating to

entrainment, salvage, predation, and Delta hydraulics. This information will guide future decisions regarding Delta conveyance.

3.6.5 Water Management Strategy Tools: Storage

PH2:3.6.5-1

New or expanded storage, including surface storage and groundwater storage, can increase flexibility and reliability and can reduce conflicts over water at certain times. Therefore, the Preferred Program Alternative includes new storage predicated on complying with all Program linkages. Linkages are listed in the Preferred Program Alternative. Please also see common response 4 and the storage section in the Phase II Report.

PH2:3.6.5-2

The CALFED Integrated Storage Investigation includes examination of the potential of hydropower reoperation to contribute to the CALFED solution. Please also see common response 4.

PH2:3.6.5-3

Decisions regarding new storage will be guided by CALFED's Integrated Storage Investigation, as described in the Phase II Report and the Implementation Plan. Please also see common response 4.

PH2:3.6.5-4

The Program commitments related to new storage are vital assurances that all parts of the Program will be implemented together and that new storage will meet permitting requirements under the CWA Section 404. These commitments are essential to a successful, implementable CALFED Program.

PH2:3.6.5-5

In-Delta storage is one of the storage options that CALFED will pursue during Stage 1 under the Integrated Storage Investigation. Please also see common response 4.

PH2:3.6.5-6

Millerton Lake enlargement is one of the reservoir sites that continues to be considered in the Integrated Storage Investigation. Please also see common response 4.

PH2:3.6.5-7

CALFED recognizes the critical role of local government agencies in protecting and managing groundwater resources and will actively pursue cooperative partnerships with local agencies.

PH2:3.6.5-8

One advantage of groundwater storage or conjunctive use programs is that they facilitate reliance on surface water supplies in wetter years and provide an alternative groundwater source when surface supplies are curtailed.

PH2:3.6.5-9

CALFED agrees that off-stream storage on the west side of the Sacramento Valley could provide indirect flood control benefits and could supply west-side water needs, providing greater flexibility on the river.

PH2:3.6.5-10

The potential for increasing TOC loading is a concern associated with in-Delta storage. Revisions have been made to reflect this concern.

PH2:3.6.5-11

CALFED's approach to conjunctive use projects is to pursue cooperative partnerships with local agencies. CALFED has received expressions of interest regarding eastern San Joaquin County and will continue to evaluate projects in this area.

PH2:3.6.5-12

The comment appears to be referring to urban stormwater management. This topic requires site-specific analysis and is beyond the scope of the Program. On a broader scale, however, the Integrated Storage Investigation will consider natural and artificial recharge of groundwater on a regional basis. Please also see common response 1.

PH2:3.6.5-13

Generally, the capacity of a pumping plant and the accompanying canal system are designed for a specific capacity; if the pumps are enlarged, the canal must be enlarged. However, the SWP system has a physical capacity larger than the permitted capacity. CALFED is working toward increasing the permitted pumping capacity of the SWP Banks Pumping Plant together with the JPD. This has a similar effect of increasing the capacity of the federal pumps.

PH2:3.6.5-14

CALFED's Integrated Storage Investigation (please see common response 4) is currently looking at the role of surface water and groundwater in an overall Water Management Strategy. As stated in the Phase II Report under "Water Management Tools: Storage," CALFED is developing guiding principles for conjunctive use programs to ensure that local concerns and potential impacts are fully addressed. Formal agreements will be required and prepared for the implementation of each conjunctive use/groundwater banking development. In addition, site-specific environmental documentation will be required for each project. Please also see common responses 6, 13, and 19.

PH2:3.6.5-15

As stated in the Phase II Report under "Water Management Tools: Storage," CALFED is developing guiding principles for conjunctive use programs to ensure that local concerns and potential impacts are fully addressed. Formal agreements will be required and prepared for the implementation of each conjunctive use/groundwater banking development.

PH2:3.6.5-16

By its nature, new surface storage development takes considerable time and funding. The $70,000,000 shown in the June 1999 Revised Phase II Report for the Integrated Storage Investigation is an initial amount primarily for planning and feasibility work related to both groundwater and surface water storage. Development of facilities will require more funding. Since the June 1999 Revised Phase II Report, CALFED has revised budgets to reflect a more aggressive Program schedule. For example, the budget for storage now includes facility construction in Stage 1. See the Phase II Report for revised budgets. Please also see common response 4.

PH2:3.6.5-17

The Phase II Report includes a list of surface reservoir sites that are retained for additional CALFED consideration. This list includes Los Vaqueros Reservoir expansion with local partners as part of a Bay Area water quality and water supply initiative. CALFED acknowledges the Contra Costa Water District (CCWD) principles and will carefully consider them as evaluations are refined in the future.

PH2-3.6.5-18

CALFED began an initial screening of 52 potential surface reservoir sites. The initial screening was conducted to reduce the number of sites to a more manageable number for additional future screening. The screening eliminated sites that clearly violated CALFED's solution principles or objectives and those that were under 200 TAF capacity. CALFED has prepared draft documentation (December 22, 1999 *Draft Initial Surface Water Storage Screening*) on this initial screening that led to the 12 potential sites in the Phase II Report. CALFED expects that many of the 12 remaining sites will also be eliminated when more detailed screening is completed. The Phase II Report and the Implementation Plan explain how CALFED will proceed with site-specific evaluation of surface and groundwater projects. CALFED will continue to compile available information on environmental concerns, land use restrictions, and other information for project-specific analyses.

PH2:3.6.5-19

Because specific reservoir sites are not identified in the Programmatic EIS/EIR, the impact analysis used representative sites and sizes to bracket the potential range of impacts for surface storage projects. The impact analysis in the Programmatic EIS/EIR (please see Section 2.1.2) evaluates up to 6 million acre-feet (MAF) of surface water and groundwater storage. This amount was thought to be near an upper limit of storage potential for the Program based on modeling results. The CALFED agencies consider the impact analysis to be legally satisfactory. More detailed information, with ample opportunity for public review and comment, will be developed as CALFED proceeds with the actions in Stage 1—including site-specific environmental review. Please see common response 1.

PH2:3.6.5-20

CALFED prepared an inventory of potential storage in the March 7, 1997 report, *CALFED Bay-Delta Program Storage and Conveyance Component Inventories*. The inventory was based on information in reports prepared over the last 40 years by federal, state, and local agencies. The inventory included facilities with the potential to significantly contribute to the Program's objective of improving water supply reliability in the Bay-Delta system by increasing water supply and/or improving operational flexibility. Smaller reservoirs (less than 100 TAF) were not included in the inventory. Later screening eliminated those sites less than 200 TAF since these smaller reservoirs do not significantly contribute to meeting CALFED objectives. CALFED staff believes that the smaller reservoirs are best left as candidates for potential development by local entities to meet specific local needs. Three

San Joaquin County reservoir sites were on the initial inventory: Duck Creek Reservoir, Farmington Reservoir enlargement, and South Gulch Reservoir. The sites were all eliminated due to their small sizes.

PH2:3.6.5-21

In using up to 3 MAF of new Sacramento River surface storage and up to 2 MAF of off-aqueduct surface storage in its impact analysis, CALFED was setting an upper limit for evaluation purposes and not as a statement of water demands. Future site-specific evaluations, environmental review processes, and permit applications will be coordinated under CALFED's Integrated Storage Investigation. Storage may provide some secondary benefits for flood control along the downstream river segments. However, flood control beyond the Delta itself is not part of the CALFED purpose.

PH2:3.6.5-22

CALFED will continue working on the Water Management Strategy to guide future decisions on the use of various water management tools. However, CALFED has identified linkages and conditions for surface water and groundwater storage that include a need for a demonstrated commitment to finance by the beneficiaries. Please see common responses 4 and 22.

PH2:3.6.5-23

DWR will not progress with an EIR before the CALFED ROD. An initial draft DWR work plan may have anticipated an earlier optimistic start date, but that assumption was not correct.

PH2:3.6.5-24

The existing reservoirs operated by DWR, Reclamation, and others serve many purposes and operate under many constraints. In general, water can be stored if adequate flood control space remains and other downstream environmental, water quality, and water demand needs are met. Depending on the timing of inflows to the reservoirs and the timing of the downstream constraints, the reservoirs do not fill in some years. Please take the earthquake comment to the Corps.

PH2:3.6.5-25

In California Pubic Resources Code Section 5093.542, the Legislature specifically mentions the potential of raising Shasta Dam and provides for the DWR to participate in studies of that potential raise:

> Except for participation by the Department of Water Resources in studies involving the technical and economic feasibility of enlargement of Shasta Dam, no department or agency of the state shall assist or cooperate with, whether by loan, grant, license, or other wise, any agency of the federal, state, or local government in the planning or construction of any dam, reservoir, diversion, or other water impoundment facility that could have an adverse effect on the free-flowing condition of the McCloud River, or on its wild trout fishery.

CALFED agrees that the full Redbank storage project would not be consistent with CALFED goals and objectives. However, of the 12 reservoirs retained for additional CALFED consideration, the Schoenfield Reservoir portion of the Redbank project could provide unique fishery benefits to the Program. While diversion of water to Schoenfield Reservoir would be required, the Dippingvat Reservoir would not be considered. The concept involves using the reservoir early in the irrigation season to serve demands of the Corning and Tehama-

Colusa Canals and, in turn, leaving the gates on the Red Bluff Diversion Dam open (benefitting fish passage) longer since diversions from the Sacramento River would be unnecessary during this period. Studies for the Pinoche project have not progressed far enough to determine whether it should be removed for ESA reasons. These reservoir sites appear to have less potential for providing benefits during Stage 1 or soon thereafter; consequently, CALFED does not anticipate investing substantial resources in these reservoirs during Stage 1. See the storage section in the Phase II Report.

PH2:3.6.5-26

Development of North Coast rivers is beyond the scope of the Program and against the CALFED policy of not developing new on-stream reservoirs.

PH2:3.6.5-27

The $370,000,000 in the June 1999 Revised Phase II Report was an estimate based on the storage-related actions proposed for Stage 1. Not all the $370,000,000 is for the Integrated Storage Investigation. The Integrated Storage Investigation is still under development, and cost estimates will continue to be refined. Since the June 1999 Revised Phase II Report, CALFED has revised budgets to reflect a more aggressive Program schedule. For example, the budget for storage now includes facility construction in Stage 1. See the finance section in the Phase II Report for revised budget amounts.

PH2:3.6.5-28

CALFED has been working to better define river flows necessary to maintain river processes (fluvial geomorphology). Early in the process, CALFED estimated that a flow of 60,000 cfs may be necessary, but work is continuing on defining operational guidance for diversions. No modeling with this daily flow has been conducted since DWRSIM is a monthly model. The modeling with DWRSIM considered a range of river flow limits (up to 20,000 cfs monthly) before diversion to storage can be made. See Attachment A to the Programmatic EIS/EIR.

PH2:3.6.5-29

Preliminary evaluations indicate that in-Delta storage could significantly improve system flexibility, especially for the EWA. In-Delta storage remains on CALFED's list of surface storage sites retained for additional consideration and will be pursued during Stage 1. More detailed evaluations will be required on the potential effects of in-Delta storage on adjoining islands and design measures to protect them. See common response 4.

PH2:3.6.5-30

A physical connection to in-Delta storage and the pumping plants is within the range of potential solutions covered by the programmatic evaluations. In-Delta storage remains one of the 12 potential surface reservoirs for additional CALFED consideration. The continuing work on the development of the EWA recognizes the value of the physical connection. More detailed site-specific work, including the potential of the connection, will be conducted as in-Delta storage is evaluated.

PH2:3.6.5-31

While new storage volume to meet CALFED objectives might be obtained by the combined effect of several small reservoirs, the cumulative costs and environmental impacts of building many smaller dams would be too high.

The smaller reservoirs (less than 200 TAF) are best left as candidates for potential development by local entities to meet specific local needs. In addition, CALFED eliminated on-stream reservoirs as a matter of policy due to environmental impacts and implementability reasons. Other reservoirs were eliminated based on conflict with CALFED solution principles and objectives. The Phase II Report includes information on how CALFED will proceed with evaluation of storage. Please also see common response 4.

PH2:3.6.5-32

Groundwater storage and surface storage are not exactly equivalent and do not provide exactly the same benefits. Groundwater storage is generally more environmentally benign but fills more slowly and can be drawn down more slowly than surface storage. For this reason, groundwater storage is often operated in conjunction with surface storage—where water can be stored quickly until such time as it can be placed in an aquifer. There is also the potential for local water supply and environmental impacts associated with groundwater storage. For this reason, CALFED will proceed with groundwater storage projects only in conjunction with a local project proponent.

PH2-3.6.5-33

CALFED has not computed cost/benefit ratios for potential surface storage. CALFED has conducted an initial screening of potential reservoir sites to eliminate sites providing less than 200 TAF of storage and those that conflicted with CALFED solution principles, objectives, or policies. Development of North Coast rivers is beyond the scope of the Program and against CALFED's policy of not developing new on-stream reservoirs. Due to environmental concerns, CALFED does not propose new on-stream storage (such as the Dos Rios project). CALFED has, however, retained in-Delta island storage as one of the potential surface reservoirs remaining for additional CALFED consideration. Please also see common response 4.

PH2-3.6.5-34

Merced County is the correct location for Montgomery Reservoir. This change has been made in the Phase II Report.

PH2-3.6.5-35

CALFED agrees that off-stream storage can result in serious environmental problems. However, off-stream storage generally results in fewer environmental impacts then new on-stream storage. The off-stream sites, filled primarily by diversion, are generally located on small or intermittent drainages where the impacts on the aquatic environment are much smaller than those associated with on-stream reservoirs located on major rivers or tributaries. Mitigation costs are anticipated to be substantially less with the off-stream reservoirs, which will make the on-stream reservoirs infeasible. CALFED recognizes the need for peak flows and sediment transport to maintain the river channels and recognizes the effect of diversions. This fact has been a key reason that CALFED eliminated some potential reservoir sites from additional consideration in its initial reservoir screening investigations. CALFED is evaluating the effects of diversions on the channel geomorphology and the fish. For its programmatic evaluations, CALFED considered diversions up to 5,000 cfs from the Sacramento River; a smaller diversion may be appropriate. More detailed studies of geomorphology and environmental needs will be conducted as evaluations proceed. Please also see common response 4.

PH2-3.6.5-36

Surface water and groundwater storage are not treated unequally. Each method has different benefits and impacts that must be considered as CALFED makes decisions. A full array of water management tools, including new groundwater and surface storage, needs to be included in the Water Management Strategy. New groundwater and/or surface storage will be developed and constructed, together with aggressive implementation of water conservation, recycling, and a protective water transfer market, as appropriate to meet CALFED Program goals. Due to potentially fewer environmental impacts, groundwater projects could be implemented sooner than surface storage. Future site-specific evaluations, environmental review processes, and permit applications will be coordinated under CALFED's Integrated Storage Investigation.

PH2-3.6.5-37

CALFED will pursue new storage projects that best help meet CALFED goals for water supply reliability and ecosystem restoration. All of the potential new or expanded storage projects will require detailed studies, environmental documentation, and permitting before they can be built. In addition, CALFED has committed to balanced progress in all Program areas, as stated in the Preferred Program Alternative:

> ... CALFED will annually review the status of implementation of all actions, the progress toward achievement of all goals and objectives, and compliance with Program schedules and financing agreements pertaining to the CALFED Program. In all Program areas, funds for implementation of the Program will continue to be available only if implementation of all actions, progress toward achievement of all goals and objectives, and compliance with schedules and financing agreements are occurring in a balanced manner. In the event that either the Governor or the Secretary of the Interior determines that the Program has not substantially adhered to this balanced implementa-tion, then the Governor and the Secretary will develop and approve a revised program schedule and budget to achieve balanced implementation.

In addition, the general principle of "beneficiaries pay" applies to all parts of the Program including new storage. CALFED conducted an Economic Evaluation of Water Management Alternatives that looked at the array of water management tools available to each region and placed them order from least to most expensive. In many cases, some amount of water conservation is the most cost-effective tool to use for a given region. However, not all increments of water conservation are equally cost effective. This information will be presented, along with other evaluation information, as the Integrated Storage Investigation continues. CALFED has evaluated each alternative, including the Preferred Program Alternative, with and without new storage. Please also see common response 4.

PH2-3.6.5-38

CALFED agrees that the Integrated Storage Investigation is only one component of the comprehensive effort required to develop a Water Management Strategy. CALFED will continue to refine its analysis of other water management tools, including water transfers, conservation, recycling, watershed management, and water quality improvement actions. Our ongoing economic evaluations will help characterize the relative implementability of various water management tools under a variety of assumptions. The Integrated Storage Investigation will help to refine the appropriate operational policies, costs, benefits, and impacts.

Responses to specific comments in Attachment 5 to the commentor's letter are included elsewhere in this document. Please see the specific comment of interest in Attachment 5 for the location of the response.

PH2-3.6.5-39

Any new storage will require safeguards to provide adequate protection for fisheries, water temperature, geofluvial process, and downstream flow requirements. CALFED has evaluated each alternative, including the Preferred Program Alternative, with and without new storage. CALFED agrees that the issue of whether or not storage can provide ecosystem benefits remains very controversial. However, work underway by CALFED to explore the potential operation of an EWA has demonstrated the value of storage in shifting the timing of upstream releases and Delta diversions. It appears that real-time monitoring together with utilization of dedicated storage could provide significant protection to fisheries without diminishing water supply reliability. Other CALFED investigations have demonstrated the potential for new storage to provide the pulse flows proposed in the Ecosystem Restoration Program to benefit anadromous fish. Ultimately, these potential benefits must be weighed against the costs of storage and considered in the context of other environmental impacts. The Integrated Storage Investigation will continue to further define the potential environmental impacts and benefits to assist in guiding these broad decisions. However, a thorough evaluation of the environmental impacts and benefits can be conducted on a site-specific basis.

PH2-3.6.5-40

All work under the Integrated Storage Investigation is intended to facilitate programmatic decisions. It is impossible to develop the economic, financing, and environmental information without some measure of site-specific investigation. In fact, a thorough evaluation of the environmental impacts and benefits can be conducted on a site-specific basis. Future site-specific evaluations, environmental review processes, and permit applications will be coordinated under CALFED's Integrated Storage Investigation.

PH2-3.6.5-41

CALFED agrees with the observations regarding the ROD and programmatic findings. A Water Management Strategy with a full array of tools is an important part of the solution.

PH2-3.6.5-42

CALFED disagrees with the statement that the Program has confused quantity with water reliability. CALFED, together with stakeholders, has set broad goals for water supply reliability. None of these goals mentions water quantity. Goal A is to increase the utility of available water supplies (making water suitable for more uses and reuses). Goal B is to improve access to existing or new water supplies, in an economically efficient manner, for environmental, urban, and agricultural beneficial uses. Goal C is to improve flexibility of managing water supply and demand in order to reduce conflicts between beneficial uses, improve access to water supplies, and decrease system vulnerability. Continuing work on the Water Management Strategy will better define measurable performance measures and how the array of water management tools can work together to improve water supply reliability for all water users, including the environment.

PH2-3.6.5-43

The requirements for environmental water, such as in-stream flows, temperature control, and Delta standards, are current considerations in reservoir carryover storage targets for water use in subsequent years. In addition, CALFED's evaluations for the EWA include carryover of environmental water assets between years. CALFED's development of a long-term water acquisition strategy for environmental water acquisitions for the Ecosystem Restoration Program and the EWA can further facilitate making ecosystem water available in different water-year

types. Environmental participation in new storage, if any, could make additional environmental water available for carryover from year to year.

PH2-3.6.5-44

CALFED has continued to work on refining the Program since originally receiving the November 8, 1998, Blueprint for an Environmentally and Economically Sound CALFED Water Supply Reliability Program. The essence of many of the "Blueprint" concepts currently are included in the Program. This is evidenced, for example, by the wide variety of water management tools included in the Preferred Program Alternative. CALFED has recommended several improvements to the existing water market structure that would enable water transfers to play an integral role in statewide water management. In addition, CALFED has included an aggressive Water Use Efficiency Program directed at incentives and assurance mechanisms for more efficient use of existing water supplies. 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, CALFED staff believe their conservation estimates to be reasonable. The Summary Report by the Independent Review Panel on Agricultural Water Conservation Potential (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." Please see common response 10 for discussion on the water supply baseline.

CALFED, together with stakeholders, has set broad goals for water supply reliability for all water users. None of these goals mentions water quantity. Goal A is to increase the utility of available water supplies (making water suitable for more uses and reuses). Goal B is to improve access to existing or new water supplies, in an economically efficient manner, for environmental, urban and agricultural beneficial uses. Goal C is to improve flexibility of managing water supply and demand in order to reduce conflicts between beneficial uses, improve access to water supplies, and decrease system vulnerability. Continuing work on the Water Management Strategy will better define measurable performance measures and how the array of water management tools can work together to improve water supply reliability for all water users, including the environment.

CALFED will pursue new storage projects that best help meet CALFED goals for water supply reliability and ecosystem restoration. All of the potential new or expanded storage projects will require detailed studies, environmental documentation, and permitting before they can be built. In addition, CALFED has committed to balanced progress in all Program areas, as stated in the Preferred Program Alternative:

> ... CALFED will annually review the status of implementation of all actions, the progress toward achievement of all goals and objectives, and compliance with Program schedules and financing agreements pertaining to the CALFED Program. In all Program areas, funds for implementation of the Program will continue to be available only if implementation of all actions, progress toward achievement of all goals and objectives, and compliance with schedules and financing agreements are occurring in a balanced manner. In the event that either the Governor or the Secretary of the Interior determines that the Program has not substantially adhered to this balanced implementa-tion, then the Governor and the Secretary will develop and approve a revised program schedule and budget to achieve balanced implementation.

In addition, the general principle of "beneficiaries pay" applies to all parts of the Program including new storage. CALFED conducted an Economic Evaluation of Water Management Alternatives that looked at the array of water management tools available to each region and placed them order from least to most expensive. In many cases, some amount of water conservation is the most cost-effective tool to use for a given region. However, not all increments of water conservation are equally cost effective. This information will be presented, along with

other evaluation information, as the Integrated Storage Investigation continues. CALFED has evaluated each alternative, including the Preferred Program Alternative, with and without new storage. Please also see common response 4.

CALFED recognizes that estimates of water demand can vary widely. Therefore, its modeling assumptions do not use a single water demand (DWR or others) but uses a range from 1995 demands to estimated 2020 demands. The modeling using the 1995 demands assumes that water demands do not increase over existing levels, even in year 2020. Using the 1995 water demands requires assuming that any increase in water demands will be met from other non-Delta sources such as water conservation and water recycling. This is not a policy decision but is for the purpose of modeling a range of potential conditions. Using one estimate of water demands or the other does not change CALFED's conclusion on the Preferred Program Alternative. Due to uncertainty, the modeling assumptions also included a range of environmental assumptions that would lead to different flow requirements. While the Ecosystem Restoration Program estimated flows required for environmental restoration, work continues to define how the EWA can best be used for environmental enhancement/protection in a balanced way with other water uses.

Another recommendation of the "Blueprint" is for a water pricing structure that reflects the economic and environmental value of water. While CALFED has no authority to set water pricing structure nor change Reclamation law (water pricing for the SWP is more cost based than for the CVP), the Program does include actions and policies that move closer to a market-based pricing of water. Improvements to the existing water market structure will enable water transfers to play an integral role in statewide water management and encourage the efficient use of water. An aggressive Water Use Efficiency Program directed at incentives and assurance mechanisms will encourage more efficient use of existing water supplies. Financing, including broad-based diversion or user fees, could help account for some of the environmental costs. In addition, CALFED's general principle of "beneficiaries pay" provides for water users to pay the full cost of construction, mitigation, and operation of new facilities.

PH2:3.6.5-45

Two responses are consolidated under this response. Please read the entire text of this response for an answer to your comment.

The Integrated Storage Investigation consists of a number of coordinated elements with a variety of time frames. The Integrated Storage Investigation includes site-specific studies of surface water storage, groundwater storage, and power facility reoperation; and a comprehensive assessment of the potential for removing or modifying critical fish migration barriers. In addition, assistance will be provided to local agencies for study and implementation of groundwater conjunctive use programs. Some of these efforts will be completed during the first years of implementation. Other efforts, such as the ongoing investigations of new surface storage, will require several more years to complete the necessary engineering and environmental analyses and the required environmental review and permit application processes. All information derived from these Integrated Storage Investigation investigations, along with updated information from other CALFED Program elements addressing water use efficiency, water recycling, and water transfers, will be considered as CALFED refines its Water Management Strategy. Surface water or groundwater storage opportunities that can contribute to CALFED Program objectives and solution principles and are consistent with the Water Management Strategy will be recommended for implementation. Construction of some recommended projects will begin by the end of Stage 1 when willing project participants are identified, site-specific environmental documentation is completed, and required permits are obtained.

The concern related to water quality impacts is noted in the Phase II Report as suggested. There is uncertainty regarding the amount and type of organic carbon that might be discharged from such storage, and uncertainty regarding potential water quality impacts of storage versus potential benefits related to new operational flexibility provided by the storage. Detailed analysis and disclosure of potential water quality impacts related to in-Delta storage atop peat soils are most appropriately discussed in the context of a project-specific environmental document.

PH2:3.6.5-46

The Phase II Report explains how CALFED will proceed with evaluation of storage projects in Stage 1. CALFED will address assurances during the project-specific stage.

PH2:3.6.5-47

CALFED has carried out a reservoir screening effort, narrowing the range of reservoir sites under consideration from 52 to 12. Enlargement of Lake Shasta remains on the list of 12 sites still under consideration. No technical or planning information was available to CALFED on the enlargement of Lake Oroville. Because there was no existing basis for analysis, the site was not considered during reservoir screening. The configuration of the existing Oroville Dam would appear to be difficult and expensive to enlarge.

3.6.6 Water Management Strategy Tools in Action: The Environmental Water Account

Responses PH2:3.6.6-1 through PH2:3.6.6-100 have been consolidated into the following text. This text also can be found in the "Common Responses" section of Volume I, under common response 21.

The EWA is part of CALFED's Water Management Strategy, designed to improve fisheries protection and recovery while providing improvements in water quality and water supply reliability. The EWA will rely on more flexible management of water based on real-time needs of the fishery resources. The EWA functions primarily by changing the timing of some flow releases from storage and the timing of water exports from the south Delta pumping plants to coincide with periods of greater or lessor vulnerability of various fish to Delta conditions. The EWA will be established to provide water for protection and recovery of fish beyond water available through existing regulatory actions related to project operations.

EWA Versus Prescriptive Standards. The EWA is based on the concept that flexible management of water will achieve fishery and ecosystem benefits more efficiently than a completely prescriptive regulatory approach. By managing EWA "assets" (such as water, storage, money, and operation rights) on a real-time basis, the overall cost of environmental protection can be lower than under a purely prescriptive approach. This would help to attain water supply reliability objectives for other water users and improve fisheries conditions. In addition, by managing the EWA in close coordination with other parts of the Water Management Strategy, multiple benefits may sometimes be achieved from the use of EWA assets. For example, the EWA may at times release water to achieve both fishery enhancement and water quality benefits.

The EWA concept and traditional prescriptive standards represent fundamentally different approaches to natural resource protection, and both have strengths and weaknesses. Compared to prescriptive standards, an EWA allows for more creative, flexible, and adaptive responses to real-time developments in the environment. In addition, by requiring EWA managers to budget EWA assets, the EWA encourages a more efficient use of environmental water supplies. At the same time, however, the EWA must have adequate assets and must rely on a functional water market to effectively translate EWA assets into environmental protection measures. Inefficiencies in the water

market can translate into an inefficient EWA. In addition, the EWA's reliance on real-time information about resource responses requires an extensive, and expensive, monitoring program.

Compared to an EWA, prescriptive standards have certain advantages. Whereas the EWA approach focuses on protecting targeted species, prescriptive standards can provide broad ecosystem protection to a wider range of species. Prescriptive standards generally provide a greater assurance of the intended protection, in that they do not rely on real-time decisions by asset managers. Nevertheless, prescriptive standards can be rigid and inefficient; they can be overly broad, in which case they are an inefficient use of natural resources (water); or they can be overly narrow, in which case they do not adequately protect the natural resources.

These considerations suggest that the optimum approach would include a combination of prescriptive standards and an EWA. The prescriptive standards would be used to provide the broad baseline level of ecosystem protection, and to address specific species needs that are well established and predictable. The EWA can then be used to "fine-tune" ecological protection, reallocating EWA assets to provide additional protection to targeted species as indicated by real-time events.

EWA Development. To gain insight into whether and how an EWA could improve fish conditions while protecting water quality and water supply benefits, a group including CALFED agency staff and stakeholders have simulated numerous EWA/CVPIA operations scenarios. These EWA gaming exercises allowed project operators, fishery agency biologists, and stakeholders to work together to simulate operational decisions to react to the changing hydrological and biological conditions typical of the Sacramento-San Joaquin watersheds and the Delta. The gaming allowed them to see how the system may respond to potential configurations and applications of EWA assets.

The group conducted a number of gaming simulations to better understand how an EWA might have been operated in "real time" if it had existed during the 1981 through 1994 water years. This period included a variable hydrologic sequence of wet years and dry years to test the EWA but does not reflect all the variation that EWA management could encounter. In each simulation, the EWA had access to a different collection of facilities, contracts, rights, and income. Differing assumptions also were made about the application of water under CVPIA Section 3406 b(1) and b(2). For example, one game was run solely to determine how much water would be required to achieve "adequate" biological protection from the point of view of the fishery agencies. In some games, the EWA had access to new storage and/or new export pumping capacity. In all games the EWA had access to unused project capacity and the right to allow variances in application of the export/inflow standard in order to generate environmental water. In some games, the EWA had a budget for water purchases.

Changes in operations were simulated using a set of assumed EWA and historical hydrology and fish salvage records, starting from a model representation of project operations with current regulatory conditions. The group then could evaluate the effects of their decisions on fish resources, water quality, water supply reliability, and the EWA account.

EWA Structure. During Stage 1, the EWA would work from a foundation of the existing regulatory regime. The EWA would not be a substitute for existing prescriptive standards but would supplant potential new standards. The EWA will be established to provide water for the protection and recovery of fish beyond water available through existing regulatory actions related to project operations. The EWA will benefit water users by providing additional water for fish without the need to reduce project deliveries. The EWA will be authorized to acquire, bank, transfer, and borrow water and to arrange for its conveyance. EWA assets will be managed by the state and federal fishery agencies (USFWS, NMFS, and DFG) in coordination with project operators and stakeholders, through the CALFED Operations Group. Initial acquisition of assets for the EWA will be made and funded by federal and state agencies (Reclamation and DWR). Subsequently, it is anticipated that acquisitions

and cost allocations among beneficiaries will be made pursuant to a public process that may take advantage of other agencies or third parties to acquire assets.

To provide regulatory stability during the initial period of Stage 1, the CALFED agencies will provide a commitment, subject to legal requirements, that for the first 4 years of Stage 1, there will be no reductions, beyond existing regulatory levels, in CVP or SWP deliveries from the Delta resulting from measures to protect fish under the federal and state ESAs. This commitment will be based on the availability of three tiers of assets. Tier 1 is baseline water, provided by existing regulation and operational flexibility. The regulatory baseline consists of the biological opinions on winter-run chinook salmon and delta smelt, 1995 Delta Water Quality Control Plan, and 800 TAF of CVP Yield pursuant to CVPIA Section 3406(b)(2). See the EWA section in the Phase II Report for more detail on the regulatory baseline.

Tier 2 consists of the assets in the EWA combined with the benefits of the Ecosystem Restoration Program and is an insurance mechanism that will allow water to be provided for fish when needed without reducing deliveries to water users. Tier 1 and Tier 2 are, in effect, a water budget for the environment and will be used to avoid the need for Tier 3 assets. It is unlikely that assets beyond those in Tier 1 and Tier 2 will be needed to meet ESA requirements. However, if further assets are needed in specific circumstances, a third tier will be provided. Tier 3 is based on the commitment and ability of the CALFED agencies to make additional water available should it be needed. In considering the need for Tier 3 assets, the fishery agencies will consider the views of an independent science panel. Tier 3 assets may include additional purchases from willing sellers or consensual "borrowing" of water (beyond assets borrowed in the implementation of the EWA).

The ESA commitment will be in effect for 4 years based on Ecosystem Restoration Program implementation and the assets available in that period. It is anticipated that sufficient assets, either from existing sources or from supply augmentation, will be available for the protection of fish beyond the first 4 years, and that the commitment will be extended. The only exception to this commitment would arise in the extremely unlikely event that, despite the utilization of all measures available in the three tiers, a determination is made that a situation of jeopardy to a listed species nevertheless is likely.

The EWA would need to make use of all of the water management tools as shown. Especially in its first few years of operation, a substantial portion of the assets needed for an EWA will come from access to existing project flexibility, new changes in project flexibility (for example, the joint point of diversion and export/inflow ratio flexibility) and through voluntary purchases (estimated at $50 million annually) on the water transfer market. Given these market-based water transfers, the EWA will affect the cost and availability of water transfer capacity. See the EWA section in the Phase II Report for more detail on EWA assets.

On average, the EWA will cause export timing shifts of approximately 380 TAF annually; somewhat higher amounts are anticipated after the first year. These timing shifts will not reduce the volume of exports except for water under some voluntary market transactions. CALFED's analysis of the EWA shows that the EWA "performance" increases as the EWA's access to surface and groundwater storage increases. Flexibility in project operations and improvements in conveyance facilities can both help deliver environmental water at the desired place and time and can help to create new EWA "assets." This flexibility is essential for the EWA for it must be operated in tandem with [[Section 3406]] b(1), b(2), and b(3) water provided under the CVPIA. Finally, the EWA cannot function without the comprehensive monitoring program envisioned in CALFED's Science Program.

Water quality concerns also must be considered in managing the EWA. Operational changes to enhance the protection of aquatic resources and maintain export supplies have the potential to affect water quality, either positively or negatively. Management of the EWA must be coordinated closely with operation of the state and

federal water projects and the Water Quality Program to assure that EWA operations do not adversely affect the Program's ability to meet its water quality goals.

The EWA will provide fisheries protection and recovery while providing improvements in water supply reliability primarily by changing the timing of some flow releases from storage and the timing of water exports from the south Delta pumping plants. These real-time operational changes will be dependent on assessment of and response to varying conditions. For example, water exports from the Delta may be reduced at times when certain fish species are most vulnerable to this pumping and may be increased when the fish are less vulnerable. The timing of operational changes would vary from year to year depending on many factors such as hydrology and real-time monitoring that shows the movement and presence of fish. Examples of how the EWA may use its assets follows:

- If additional export reductions are needed to protect Delta smelt during late May and June, the EWA could use EWA water already pumped into San Luis Reservoir to provide water to state and federal project water users. If the EWA had not previously stored water in San Luis Reservoir, it would temporarily borrow stored state and/or federal water in San Luis Reservoir to provide water to the state and federal project water users.

- Since the EWA is not allowed to cause any new delivery reductions, it must pay back most or all of the borrowed water to avoid impact on the following year's allocations.

- The EWA would repay the loan using various available assets. It might:

  - Use EWA groundwater supplies in the export area.

  - Invoke water purchase contracts in the export area.

  - Invoke agreements with local agencies in the export area requiring the agencies to rely on local storage rather than San Luis Reservoir water until after the low point is reached.

  - Ask the projects to shift additional water from upstream reservoirs into San Luis Reservoir before the end of August, either using EWA upstream supplies or taking on new upstream debts.

  - Relax the export/import ratio standard to move more water to the export area.

- If the San Luis low point could be passed without the repayment of all the debt, the EWA might carry the debt into the next winter in the hopes that high Delta inflows would allow San Luis Reservoir to refill without additional EWA expenditures. EWA water stored in San Luis Reservoir will help to keep the reservoir higher and avoid water quality problems associated with the San Luis low point.

- Another result of export reductions to protect Delta smelt might be lower releases and higher storage in State and federal reservoirs upstream of the Delta (because Delta outflows can now be sustained with lower Delta inflows). Just as the EWA would be responsible for paying back the reduction in San Luis storage, it would gain control over the increased upstream storage. Releases from this upstream storage could be used to improve in-stream conditions below the reservoir in fall, and then either pumped into the export system to pay off the debt in San Luis Reservoir or left in the river to increase Delta outflow.

For the interim, the CALFED Program will coordinate with EWA implementing agencies (DFG, USFWS, and NMFS) to ensure CALFED objectives are being met and are balanced between ecosystem and water management objectives. Policy and funding decisions regarding the EWA will need to be reviewed by the CALFED Policy Group. Coordination and consultation efforts among the CALFED Operations Group, project operations, ESA management agencies, the program manager for the Ecosystem Restoration Program, and stakeholder groups are intended to ensure that the environmental water acquisitions are consistent with the CALFED Program goals and objectives, and that conflicts with ESA requirements and project operations are minimized or avoided.

The long-term management of the EWA has not been determined at this time. CALFED expects that the regulatory assurances provided during the first 4 years of Stage 1 will be extended throughout Stage 1. Early in Stage 1, CALFED will develop rules for storing, conveying, and borrowing EWA water. At the same time, CALFED will develop an accounting process to track EWA water. Like other parts of the CALFED Program, the EWA will be adaptively managed as experience is gained with its use and effectiveness. In the future, the EWA may gain additional assets as new facilities are implemented or operational changes are made. How the EWA will share in these will be determined as these are developed.

3.7 The Preferred Program Alternative

PH2:3.7-1

Many elements of the Preferred Program Alternative offer improvements in water supply and water delivery, including water use efficiency (water conservation and water recycling) and water transfers.

PH2:3.7-2

The Preferred Program Alternative is expected to include an EWA and a decision regarding new or expanded surface storage as well as conjunctive use.

PH2:3.7-3

The nine actions cited by the commentor all continue to be developed, and most will be completed by the time of the ROD.

PH2:3.7-4

Some of the linkages are not appropriate for ecosystem restoration because they apply specifically to storage (conduct an Integrated Storage Investigation, monitor and model groundwater). Other linkages are related to CWA Section 404 permitting for new storage (commitment in pursuing alternatives to new storage). Where linkages are appropriate, they will apply to ecosystem restoration just as they do to storage (comply with environmental review and permitting requirements).

PH2:3.7-5

Please see common response 16. It definitely is not the intent of CALFED to set a water quality constraint for the purpose of ensuring construction of the isolated facility. The bromide and TOC target is to provide a goal for public health protection. CALFED will also investigate providing an equivalent level of public heath protection using a cost-effective combination of alternative sources of water and water operations, source control, and alternative treatment technologies. For example, investigation of ozone as part of the treatment technology may reduce the concern over bromide concentrations. Many questions remain to be answered concerning health effects

of constituents found in Delta waters, effectiveness of source control actions, feasibility and cost effectiveness of advanced treatment technologies, and ability to comply with future drinking water regulations. Consequently, determining whether existing through-Delta conveyance will be an adequate solution to the problems associated with using the Delta as a source of drinking water presently cannot be done. Therefore, CALFED will simultaneously proceed with evaluation of a screened diversion facility on the Sacramento River. The water quality objectives do not predispose toward or against facilities but preserve the option if the problems cannot be solved through other approaches.

PH2:3.7-6

Prescriptive standards, such as those governing X2, are expected to remain a part of Bay-Delta water management, in combination with more flexible operations. A change in the X2 standard would be made only if the same or greater level of protection could be achieved at a lower water cost.

4.1 Stage 1 Actions

PH2:4.1-1

South Delta improvements, including barriers and other actions to maintain water levels and access to water supplies, are included in the first stage of CALFED implementation.

PH2:4.1-2

The Preferred Program Alternative presents actions that will take 30 years or more to implement. The greatest specificity is provided for Stage 1 actions because their implementation is imminent. Subsequent actions will be guided by adaptive management—what we learn from initial implementation.

PH2:4.1-3

CALFED has identified actions to be implemented during Stage 1, the first 7 years of implementation, and a more specific list of actions to be implemented during Stage 1a, the first 2 years of implementation. Additional specificity will be developed with input from public fora, such as meetings of the CALFED Policy Group.

PH2:4.1-4

It is essential that balanced progress be made in all program areas. Actions for Stage 1 of implementation (the first 7 years) and Stage 1a (the first 2 years) provide for balanced implementation. Language in Proposition 204 also provides linkage that progress will occur in all areas. Other linkages may be developed that bind Program elements together, such as agreements among implementing agencies.

PH2:4.1-5

Increasing the permitted Banks pumping capacity is part of the Preferred Program Alternative. Based on existing Delta channel configurations, CALFED staff believes that the permitted capacity could be increased to 8,500 cfs immediately following the ROD. Increasing permitted pumping capacity to the full 10,300 cfs will require modifications to channels, construction of a new screened intake, and other actions (such as flow barriers and dredging and extending diversions) that could take longer than Stage 1 to complete. The main benefit of these actions is increased system flexibility, which can further be increased with the JPD and an intertie between the CVP and SWP. Reclamation already has petitioned the SWRCB to allow the JPD, and determining the feasibility

and conducting an environmental study of interties are priorities of Stage 1 implementation. Increasing the permitted pumping capacity of the SWP does not affect senior upstream water rights. Permit conditions and operational constraints associated with increased pumping capacity will be determined at the time permits are issued. It is expected that operations will need to conform to conditions and constraints that include Corps permit conditions, Delta water quality standards that state and federal water projects bear some responsibility to meet, Delta export/inflow standards, ESA constraints such as take limits, and export curtailments under the Vernalis Adaptive Management Plan.

PH2:4.1-6

The CALFED plan for Stage 1 includes actions that will improve source water quality and water supply reliability. Additional detail is contained in the Implementation Plan.

PH2:4.1-7

South Delta improvements, including establishment of a JPD for the SWP and the CVP, permits to use full SWP pumping capacity of 10,300 cfs, and other actions, are proposed for implementation in Stage 1. Full project-specific evaluation under NEPA and CEQA, including opportunities for public comment, will occur for these and any other CALFED projects as required by law before implementation can proceed.

PH2:4.1-8

Watersheds, water use efficiency, ecosystem restoration, and local water quality improvement are all activities that have already received funding under early implementation or are proposed for early action during Stage 1 implementation.

PH2:4.1-9

CALFED Stage 1 actions provide for an evaluation of this flow circulation. (please see "South Delta Improvements" in the Phase II Report) However, CALFED anticipates that the evaluation will require at least 2 years to complete.

PH2:4.1-10

CALFED Stage 1 actions provide for an evaluation of this flow circulation (please see "South Delta Improvements" in the Phase II Report).

PH2:4.1-11

Please see the Phase II Report for Stage 1 actions during the first 7 years of the Program. Please also see common response 14.

PH2-4.1-12

The Phase II Report discusses CALFED's plan for Stage 1 (approximately the first 7 years of implementation), which includes development of locally managed groundwater and conjunctive use projects with a total of 500 TAF to 1 MAF of additional capacity.

Given that the EIS/EIR is a programmatic document, no specific projects or local participation have yet been identified. This identification will require additional work to develop partnerships with local entities. While CALFED has not identified specific projects, the Phase II Report includes a list that shows local requests for CALFED grants. This list includes potential projects in San Joaquin County. Please also see common response 1.

PH2-4.1-13

The section of the CMARP referred to in the comment is a conceptual model of how monitoring and research could contribute to overall understanding of groundwater. CALFED plans to conduct feasibility studies and to identify local sponsors of groundwater projects in Stage 1A. Please see Section 3.0. in the Implementation Plan. The Phase II Report (please see "Storage") identifies CALFED's plan for baseline monitoring and modeling during Stage 1. In addition, the Financing Plan in the June 1999 Revised Phase II Report identifies plans for $300 million investment in groundwater studies and implementation during Stage 1. See the Phase II Report for revised budget amounts.

PH2-4.1-14

CALFED does not yet know how effective the diversion facility on the Sacramento River will be. The Stage 1 actions for the north Delta include study and evaluation of a screened diversion structure on the Sacramento River. The overall objective of improving water supply reliability does not include commitments for systemwide water targets or specific water deliveries to any water district or region. CALFED is looking to increase the flexibility of delivering water through the Delta. However, the overall objective of improving water supply reliability does not include commitments for systemwide water targets or specific water deliveries to any water district or region. CALFED acknowledges the CCWD principles and will consider them as evaluations are refined in the future. Any site-specific investigations of in-Delta storage will need to include thorough evaluation of potential water impacts, including disinfection by-product precursors and other contaminants. Future site-specific evaluations, environmental review processes, and permit applications will be coordinated under CALFED's Integrated Storage Investigation.

PH2-4.1-15

Based on existing Delta channel configurations, CALFED staff believes that the permitted capacity could be increased to 8,500 cfs immediately following the ROD, but complete operating conditions may take a few years to develop. Increasing permitted pumping capacity to the full 10,300 cfs will require modifications to channels and other actions (such as flow barriers or extensive dredging) that could take longer than Stage 1 to complete. CALFED is in the process of refining its Water Management Strategy. However, the overall objective of improving water supply reliability does not include commitments for systemwide water targets or specific water deliveries to any water district or region. CALFED is looking to increase the flexibility of delivering water through the Delta.

PH2:4.1-16

State and federal officials agreed in December 1999 to extend the 1994 Bay-Delta Accord until state and federal approval of the CALFED Program's Final Programmatic EIS/EIR, but no later than September 15, 2000. The Accord established the primary framework for the CALFED Program. The ROD, certification, and accompanying documents are expected to replace the Accord.

PH2:4.1-17

CALFED has included implementation of the JPD as an initial action for Stage 1 implementation and is committed to this important operational change.

4.2 Governance Plan

PH2:4.2-1

Currently, an Operations Group deliberates on Delta operations. It is expected that this or a similar forum would exist under long-term Program implementation.

PH2:4.2-2

Decisions on some aspects, such as long-term governance, may not be completed by the ROD because decisions will be made by legislative entities, outside the CALFED agencies.

PH2:4.2-3

Balanced implementation is a key function for a CALFED oversight entity. Interim and long-term governance plans include provisions for balanced stakeholder and agency input.

PH2:4.2-4

CALFED is developing a governance plan, including a balanced oversight entity and a chief scientist, that will assure objective and public policy deliberations that are guided by credible science.

PH2:4.2-5

The current proposal for CALFED governance includes an oversight entity, which would help to ensure that all Program elements are properly coordinated.

PH2:4.2-6

A CALFED governance structure, including an oversight entity such as a commission, currently is being developed. An important function of the governance structure and oversight entity will be to maintain continuity of policy through a permanent staff and commission with stable membership.

PH2:4.2-7

CALFED agrees that the public and interested stakeholders should participate in the CALFED decision-making process. Under the current structure, many processes are in place to provide for public involvement in the CALFED Program. In addition to the Federal Advisory Council Act (FACA) advisory group, stakeholders and the general public can participate in decisions through the Ecosystem Roundtable, Drinking Water Council, and numerous other work groups and technical teams. To increase public participation in the decision-making process, CALFED agencies are proposing the creation of a new commission with state, federal, tribal, and public members. This change would require state and federal legislation. Until legislation is passed, final decisions related to CALFED programs will continue to rest with the individual agency in which the program and funding has been

legally assigned. Under the current legal structure, the CALFED agencies as a group do not have authority over programs or funding, or the authority to make final decisions.

PH2:4.2-8

CALFED agrees that the interim structure is inadequate for long-term Program implementation. CALFED agencies are proposing the creation of a new commission with state, federal, tribal, and public members to coordinate and provide Program direction over all CALFED actions. In the interim and under a new commission, It is considered appropriate to rely on existing state and federal agencies to implement many of the CALFED actions where the agency has the necessary program and project management expertise.

4.3 Financing Plan

PH2:4.3-1

CALFED has adopted a principle of "beneficiaries pay." Thus, different parts of the Program will be paid for by different entities. Water users will pay for improvements in water supply reliability, while all Californians will be asked to help pay for ecosystem restoration. Benefits such as flood control also benefit everyone, because flood control protects public as well as private resources. The Program is far more likely to succeed if those asked to pay can recognize benefits for themselves. Please see common response 9.

PH2:4.3-2

Please see common response 9.

PH2:4.3-3

Funding amounts included in the Phase II Report for Program elements such as ecosystem restoration and water use efficiency include substantial implementation of actions. Costs for surface storage include only planning and feasibility as part of the Integrated Storage Investigation. Implementation costs are not included and would be substantially more than the amount shown. Figures in the Phase II Report are thus not comparable to one another.

PH2:4.3-4

A preliminary estimate of costs for Stage 1 implementation is included under "Financing Plan" in the Phase II Report. This cost estimate will be refined over time. CALFED has adopted a principle of "beneficiaries pay" rather than trying to identify responsible parties for all the problems of the Bay-Delta system. It is not always possible to identify the cause of Bay-Delta problems or the responsible parties. Many of the problems in the system can be traced to activity that occurred more than a century ago, as a result of mining practices or other activity. For these problems, there is no longer a responsible party to charge for Program costs.

PH2:4.3-5

Urban users can usually afford to pay more for water than agricultural users, but this does not mean that agriculture will be eliminated. First, since agriculture uses more than 80% of California's developed water supply, it is clear that urban users could not completely displace agricultural users unless the state's population increased five-fold. Second, where agricultural users have water rights, their reasonable and beneficial uses are protected unless they choose to transfer some of their water. In the many situations throughout California where

agricultural water delivery systems have long since been paid for, agricultural users enjoy very low water rates. In the case of new or expanded surface storage, it is appropriate for beneficiaries to pay the full cost of new water supplies. Otherwise, they might demand more water and cause greater environmental degradation. In addition, if beneficiaries do not pay the full cost of the water, they would not be inclined to implement water use efficiency measures that would otherwise be cost effective for them.

PH2:4.3-6

Please also see common response 20.

The CALFED Program has been developed with an unprecedented level of local public input. Every aspect of the CALFED Program will be coordinated closely with elected officials or their appointees. CALFED is guided by a solution principle stating that solutions will not solve problems in the Bay-Delta system by redirecting significant impacts, when viewed in their entirety, within the Bay-Delta or to other regions of California. Some may pay more than others for implementation of the CALFED Program, but only commensurate to the benefits received. The CALFED policy of "beneficiaries pay" and the solution principle of no significant redirected impacts are intended to assure fairness to every region of California, even though some decisions on water and environmental policy must be made through the democratic process at the state or national level.

4.5 Comprehensive Monitoring, Assessment, and Research Program

PH2:4.5-1

The CMARP, including its chief scientist, are intended to guide the Program using sound scientific principles.

PH2:4.5-2

CALFED has developed a CMARP that describes the role of scientific monitoring and adaptive management in CALFED Program implementation.

4.6 Adaptive Management

PH2:4.6-1

The concept of adaptive management is introduced in the Phase II Report. There is a longer discussion of adaptive management in the Strategic Plan. These documents contain an appropriate level of detail for a programmatic document.

PH2:4.6-2

Adaptive management is described in the Phase II Report and in the Strategic Plan. Adaptive management is also inherent in the structure of the CALFED Program. The CMARP will play an integral part in the implementation and adaptive management of each Program element by monitoring the results of program implementation and assessing the program's success and effectiveness. This assessment will form the basis of adaptive management, alerting the public and decision makers of success and failure so that appropriate program modifications can be made throughout implementation. The CALFED Water Management Strategy is intended to be a long-term decision-making framework for evaluating the success of implementation efforts and for selecting additional tools needed to achieve CALFED objectives. Substantial evaluation of alternative water management alternatives, or

tools, has been conducted to help inform implementation decisions. Please see *Economic Evaluation of Water Management Alternatives, Screening Analysis and Scenario Development*, October 1999.

5. Regulatory Compliance

PH2:5-1

Linkages between storage and water use efficiency or transfers should be structured in a way that prompts water use efficiency measures where they are appropriate and feasible, not as universal requirements. Please also see common response 2.

5.1 Multi-Species Conservation Strategy

PH2:5.1-1

CALFED is committed to compliance with the federal and state ESAs and the California Natural Community Conservation Planning Act. Water supply reliability and ecosystem health are not incompatible.

PH2:5.1-2

The MSCS provides a framework for compliance with laws such as the state and federal ESAs. This will provide a measure of certainty that implementation will occur and anticipated program benefits will be provided.

5.3 Clean Water Act Section 404

PH2:5.3-1

The Corps is working with other CALFED agencies to draft a memorandum of understanding (MOU) regarding the CWA Section 404 permitting process. The MOU will provide a mechanism for integrating information developed at the programmatic level into site-specific decisions on Section 404 permits. The MOU will document the commitments to pursuing alternatives (for example, water conservation and recycling) to storage.

PH2:5.3-2

Water management alternatives such as water conservation and recycling will be implemented gradually over time as urban areas expand and new customers for recycled water are identified. It would not be necessary to achieve specific acre-foot targets or implement measures for a specified number of years before planning for storage could proceed. Planning for new or expanded storage will commence immediately. Before a storage project could be permitted, it would be necessary to demonstrate that: (1) institutional mechanisms are in place to support water management alternatives, (2) there are assurances of continued implementation and continued funding, and (3) there is demonstrated willingness for beneficiaries to pay the cost of new supplies. The agreement on programmatic compliance with the CWA Section 404 now being prepared by the CALFED agencies takes this approach.

PH2:5.3-3

The agreement on programmatic compliance with the CWA Section 404 now being prepared by CALFED agencies draws a distinction between new surface storage for water supply reliability and storage for other purposes, such as water quality. If other water management tools such as water conservation cannot achieve the

legitimate water quality purpose of a new reservoir, that reservoir should not be conditioned on achievement of targets for water conservation.

PH2:5.3-4

The Corps must determine that CALFED has selected the least environmentally damaging practicable alternative (LEDPA) that meets project purposes to issue a permit under the CWA Section 404. The CALFED program purpose, as described in the Programmatic EIS/EIR, includes improving water supply reliability. The LEDPA need not include a decrease in Delta exports. CALFED is developing an approach for programmatic compliance with the CWA Section 404 that will also provide commitments to pursue water management tools such as water conservation and water recycling.

PH2:5.3-5

An important aspect of the agreement regarding programmatic compliance with the CWA Section 404 is a provision that requires financing provisions assuring that beneficiaries pay the full cost of any water derived from new or expanded surface storage. Adherence to this "beneficiaries pay" principle, along with provisions for the implementation of alternatives to surface water storage, will ensure that the CALFED plan is the LEPDA and that water users are not seeking to develop additional surface water supplies because a subsidy shelters them from the full cost of the water.

Water Quality Program Plan

Responses to Comments

C-028207

WATER QUALITY PROGRAM PLAN
RESPONSES TO COMMENTS

1. Introduction

WQ 1.0.0-1

Participation in the Water Quality Technical Group and various other working groups is open to the public. Many scientists, regulators, and other interested parties attend these meetings.

WQ 1.0.0-2

The CALFED Bay-Delta Program (CALFED Program) 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.

CALFED's 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.

CALFED has identified target levels for water quality parameters of concern. These targets represent desirable in-stream levels of these parameters that will serve as a measurement of success in evaluating the effectiveness of specific actions. The targets are based on published standards or objectives—either numeric or narrative—endorsed by regulatory agencies that are charged with enforcement of the standard or objective. For CALFED's purposes, these targets are not regulatory but represent levels that the Program is striving to attain through implementation of the Water Quality Program.

Dioxin, dioxin-like compounds, and furans have been listed as constituents that impair many parts of San Francisco Bay, reaching up to the Delta. The U.S. Environmental Protection Agency (EPA) lists these causes as resulting from atmospheric pollution. This and other information will be considered to determine whether these compounds will be added to the Water Quality Program Plan (WQPP). If added, more information would be sought before any CALFED actions are proposed to address source control of these compounds.

Program linkages are carried out between program managers in various fashions. The most significant linkage has been made by transferring those water quality activities that are directed at ecosystem health to the Ecosystem Restoration Program.

WQ 1.0.0-3

The goals specified in the WQPP are the goals for the plan and carry no regulatory weight. The proposal made to protect high-quality waters is contained in the California Water Code, usually termed "anti-degradation." There are no proposals in the Water Quality Program to reduce the quality of any ambient water.

WQ 1.0.0-4

No actions in the WQPP restrict water uses. Controls of wastewater streams are proposed.

WQ 1.0.0-5

Each individual effort to assess and correct the temporal and geographic extent of a contaminant is preceded and followed by monitoring. Baseline monitoring for some constituents may be proposed through the monitoring and assessment branch of CALFED.

WQ 1.0.0-6

Development of numerical standards is the responsibility of regulatory agencies. CALFED has identified target levels for water quality parameters of concern. These targets represent desirable in-stream levels of these parameters that will serve as a measurement of success in evaluating the effectiveness of specific actions. The targets are based on published standards or objectives—either numeric or narrative—endorsed by regulatory agencies that are charged with enforcement of the standard or objective. For CALFED's purposes, these targets are not regulatory, but represent levels that the Program is striving to attain through implementation of the Water Quality Program. Where standards do not exist, or where more restrictive standards are required to meet a goal, the standards may be proposed through a stakeholder process.

WQ 1.0.0-7

While reducing exports will increase water quality in some respects, it will not address the many pollutants that are discharged to our surface waters from various industries and past practices within our state. CALFED has proposed to address source control measures for many pollutant sources. Reducing exports would significantly affect California's economy as other responses to comments will point out.

WQ 1.0.0-8

The "report card" will be obtained and used as a reference for staff. CALFED has often referred to other works in progress to maximize the benefit to environmental water quality. Leveraging efforts of others helps to coordinate effort, prevents duplication of effort, and steers effort in the most effective directions.

WQ 1.0.0-9

Water quality in the Sacramento-San Joaquin Delta is affected by many factors. Without intervention, some of the factors might not be addressed substantially or in a timely manner. Therefore CALFED is proposing to address many forms of water quality degradation in order to protect the beneficial uses of the water in the Delta. The WQPP describes, in various levels of detail, the projects that CALFED is proposing to improve water quality.

1.2 Vision

WQ 1.2-1

The ability to measure the effects of CALFED actions does depend on being able to establish initial conditions. The Drinking Water Quality Constituents Work Group, comprised of technical representatives of stakeholder organizations and CALFED staff, have been assigned the task of helping guide efforts to define baseline conditions for drinking water quality. Data collected under the Information Collection Rule should help substantially in defining conditions for contaminants of potential concern for future action. The product of the work team will be provided to the Delta Drinking Water Council for evaluation and will serve as the basis for recommendations to the Bay-Delta Advisory Council (BDAC) and CALFED management. CALFED plans to implement a comprehensive monitoring and research program to establish water quality baseline conditions in all areas where CALFED activities may produce water quality effects. Thorough assessments will be performed prior to implementing actions.

WQ 1.2-2

Preventing water quality pollution at its source is an important element of a multi-barrier approach to protecting the safety of drinking water supplies from the source to the tap. Seeking continuous improvement in source water quality by eliminating sources of pollution on an ongoing and progressive basis therefore may be entirely supportive of protecting public health—but cannot be an end in itself. Source water quality improvement is only one element of a comprehensive drinking water protection strategy that should also include treatment and alternative sources of supply. The CALFED strategy incorporates this concept. The Delta Drinking Water Council will be asked to provide recommendations for all these areas in fulfilling its mission to advise CALFED on the most appropriate means of assuring safe drinking water for consumers of water from the Delta. Some have suggested that the name of the Council be changed to better reflect its broad role to protect the safety of drinking water supplies taken from the Delta. The Council will be provided the opportunity to consider such suggestions and to propose a name change for CALFED approval, as deemed appropriate by the Council.

WQ 1.2-3

CALFED is committed to achieving continuous improvement in the quality of the waters of the Bay-Delta estuary in order to minimize ecological, drinking water, and other water quality problems. As used by CALFED, "continuous improvement" means a steady, step-wise trend of water quality improvement over the 30-year time horizon of the Program. The WQPP identifies water quality objectives that are consistent with promoting a healthy ecosystem in the Bay-Delta and its tributaries, and identifies types of actions that are likely to be helpful in correcting water quality problems. The CALFED water quality objectives to protect ecosystem beneficial uses were derived through state and federal regulatory processes in which the public has been involved. Key water quality criteria for CALFED will continue to be developed in a broad, scientifically based, public setting with the involvement of the appropriate regulatory agencies, as opposed to more narrowly constituted local decision-making venues.

WQ 1.2-4

The WQPP envisions investment in advanced treatment methods, along with source control and alternative sources of supply as approaches to protecting the health of persons consuming water from the Delta. The level of investment in these activities will depend on available resources and on how these investments are apportioned among the various alternatives. The Delta Drinking Water Council and the BDAC are the primary forums through which stakeholders can affect these determinations. The CALFED water quality objectives for ecosystem

beneficial uses have been primarily derived from water quality criteria established by regulatory agencies that are intended to be sufficiently stringent to fully protect ecological resources. These criteria are evolving as new scientific findings are made and regulatory standards are revised. CALFED will continue to adopt established water quality criteria as appropriate to maintain the highest goals for protecting ecosystem functions and the safety of drinking water supplies taken from the Delta.

WQ 1.2-5

The WQPP includes substantial actions to reduce nonpoint sources of pollution, such as urban stormwater runoff and agricultural drainage. These actions are intended to significantly reduce water quality degradation from such agents as MTBE, petroleum products, toxic metals, animal wastes, and pesticides.

WQ 1.2-6

The goal of the Water Quality Program is continuous improvement, not just maintaining the status quo. 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, compared to the situation that would exist in the absence of the program. Depending on what new disinfection and DBP regulations are adopted, and depending on the success of new treatment technologies and CALFED source control actions, it is conceivable that treating Delta waters to affordably produce safe drinking water could prove difficult or impossible in the future in the absence of physical changes to the system. Whether this situation will occur cannot be predicted at present. For that reason, CALFED intends to apply the principles of adaptive management to take step-wise actions toward the overall goal of providing good quality water for all uses, including drinking water supply. The Delta Drinking Water Council is the primary stakeholder venue through which this adaptive process for drinking water improvement will occur. The Council will be asked to assess the success of water quality improvement actions and to recommend further actions as necessary to adequately address water quality needs.

WQ 1.2-7

Various sources supply drinking water to communities in the Bay-Delta area, with significant variation in water quality. The CALFED Program is intended to apply to all municipal users of Delta waters. Accordingly, local communities experiencing water quality problems will be eligible to apply for funding to improve source water quality, develop alternate sources of supply, or upgrade treatment plant processes. CALFED recognizes that safe and palatable drinking water should be available to all users of Delta waters and is committed to helping achieve this end.

WQ 1.2-8

The Water Quality Program includes actions to address the known water problems of the Bay-Delta estuary. Elements of the program address low dissolved oxygen (DO), drinking water quality, mercury, pesticides, salinity, selenium and other trace elements, turbidity and sedimentation, and toxicity of unknown origin. Actions planned to address these problems are linked, in recognition that all beneficial uses of Delta waters must be improved together if ecosystem, agricultural, recreational, and municipal water supply interests are to be fully addressed. The Water Quality Program, in turn, is linked to the Water Use Efficiency element of the CALFED Program, which can provide additional water quality benefits through water conservation and water recycling projects. Water quality and water use efficiency actions will be implemented, and their success will be evaluated well in advance of decisions to create additional storage and/or conveyance facilities.

WQ 1.2-9

There are a number of successful examples of agricultural operations that are geared to minimize negative impacts on the ecosystem while providing positive ecological benefits such as habitat. Alternative pest management programs, for example, can reduce toxicity in the waters of the Bay-Delta estuary and can be considered eligible for CALFED participation. Other activities, such as reduction of soil erosion and sediment runoff, will generate benefits to the Bay-Delta estuary and may also be eligible for CALFED participation. As a stakeholder-driven process, CALFED places a high priority on developing working partnerships with local interests, such as growers and local environmental and watershed protection groups. This priority is reflected in the guidelines through which projects are selected for CALFED participation.

WQ 1.2-10

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, compared to the situation that would exist in the absence of the Program. Ongoing assessments will be made of the results. Through its adaptive management process, CALFED will identify the need for additional actions, including evaluation of storage and conveyance options, to achieve its long-term water quality objectives. Adaptive management will be accomplished through ongoing participation of interested stakeholders through the Delta Drinking Water Council and technical teams of CALFED staff and stakeholders that will support the Council.

Among the first tasks the Council will be asked to perform is to consider whether interim and/or long-term objectives for salinity should be established and to formulate recommendations for CALFED Policy Group approval.

CALFED has public health protection as its primary drinking water goal. Meeting current and future drinking water standards, and exceeding these standards where feasible, is the mechanism through which public health protection will be assured. This goal will be met through cooperative efforts among agencies supplying drinking water and CALFED to implement measures that will protect the quality of Delta drinking water sources, provide alternate source waters, and upgrade treatment as required.

WQ 1.2-11

CALFED's long-term water quality objectives for drinking water include a total organic carbon (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. This objective was established to meet the CALFED commitment of providing safe drinking water to users of Delta supplies. It is true that some CALFED actions, such as ecosystem restoration projects involving wetland creation, could result in negative impacts on Delta water quality if the impacts were left unmitigated. However, as one of its solution principles, CALFED is committed to avoid significant redirected impacts of its actions. During the implementation phase of the Program, water quality impacts must be identified, quantified, and documented. Pilot-scale testing will be required to verify performance predictions, and water quality impacts must be mitigated to less than significant as a condition of project implementation.

WQ 1.2-12

CALFED is committed to providing good water quality for all beneficial uses, including drinking water. Maintaining, protecting, and improving good quality drinking water sources is a key element of the Water Quality Program, as is reflected in the source prevention and source control actions that are planned under the program.

Together with actions geared toward source replacement and advanced treatment, CALFED source protection actions will help to ensure that drinking water providers will be capable of producing water that meets current and future public health protection standards.

1.3 Geographic Scope

WQ 1.3.0-1

The geographic scope is defined in Section 1.3 in the WQPP. The scope of the problem and solution area incorporate areas that may contribute to the problem and are therefore a part of the solution area, considering source control. In the case of exported water, the solution area is extended to the areas where water is delivered, in consideration of end-of-pipe treatment techniques. The CALFED Program is a cooperative, inter-agency effort of 15 state and federal agencies with management or regulatory responsibilities for the Bay-Delta that was formed to address the tangle of complex issues that surrounds the Delta. The CALFED Program is a collaborative effort including representatives of agricultural, urban, environmental, fishery, business, and rural counties who have contributed to the process. The BDAC, a 34-member federally chartered citizens' advisory committee, provides formal comment and advice to the agencies during regularly scheduled public meetings. In addition, the CALFED process has included members of the public in development of every Program component from ecosystem restoration to financing. Stakeholders participating in the CALFED process have identified significant concerns about virtually every component in the Program. CALFED has encouraged and solicited members of the public to review the material throughout development of the Program.

CALFED does not seek authority above any state or federal agency. 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.

WQ 1.3.0-2

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 is not attempting to change area of origin water rights regulation (see common response 13).

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.

CALFED has identified target levels for water quality parameters of concern. These targets represent desirable in-stream levels of these parameters that will serve as a measurement of success in evaluating the effectiveness of specific actions. The targets are based on published standards or objectives—either numeric or narrative—endorsed by regulatory agencies that are charged with enforcement of the standard or objective. For CALFED's purposes,

these targets are not regulatory, but represent levels that the Program is striving to attain through implementation of the Water Quality Program.

The total maximum daily load (TMDL) process, involving the EPA and the State and Regional Water Quality Control Boards (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.

1.4 Water Quality Program Actions

WQ 1.4.0-1

Impacts from urbanization, industrialization, and agriculture have caused and continue to cause significant degradation of the water quality in the Bay-Delta, which is now listed as an Impaired Water Body. The Water Quality Program proposes to improve the water quality throughout the Delta and its tributaries through an extensive list of projects. We have active projects and proposed projects to reduce pesticide impacts, reduce heavy metals, eliminate toxicity in Bay-Delta waters, eliminate low DO conditions, reduce sediment and nutrient loading, reduce selenium and salinity loading, and improve drinking water quality through source control and improved treatment technology. Elimination or reduction of any industry is proposed as a final source control measure when other measures fail to achieve the goals of the program.

WQ 1.4.0-2

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.

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.

CALFED has identified target levels for water quality parameters of concern. These targets represent desirable in-stream levels of these parameters that will serve as a measurement of success in evaluating the effectiveness of specific actions. The targets are based on published standards or objectives—either numeric or narrative—endorsed by regulatory agencies that are charged with enforcement of the standard or objective. For CALFED's purposes, these targets are not regulatory, but represent levels that the Program is striving to attain through implementation of the Water Quality Program.

WQ 1.4.0-3

While regulatory efforts are a part of the overall CALFED strategy, incentive-based efforts also play significant roles. The state's Nonpoint Source (NPS) Program uses a three-tiered approach: (1) self-determined

implementation of management measures, (2) regulatory-based incentives to implement management practices, and (3) effluent limitations and enforcement actions. The NPS Program recognizes that many NPS problems are best addressed through the self-determined cooperation of stakeholders. However, persistent NPS water quality problems that are not effectively resolved through self-determined actions will be addressed through regulatory programs and authorities. CALFED endorses the state's NPS Program and encourages its implementation, as well as other actions to augment its effectiveness. In some areas, studies are required to determine the most cost-effective method of solution prior to endorsement of an implementation program that includes these methods. Failure to identify cost-effective solutions would result in limited application of the solution.

WQ 1.4.0-4

CALFED is participating with regulatory agencies in the development of TMDLs and the implementation plans associated with the TMDLs. The implementation plans will contain measures by which the TMDL can be incorporated into the industry responsible for a portion of the pollutant reduction. CALFED is not a regulatory agency and does not assume regulatory authority to develop a TMDL. CALFED participates in gathering source identification information and environmental fate data, and investigating source control measures. Schedules for adopting TMDLs and associated source control measures are negotiated with CALFED regulatory agencies.

WQ 1.4.0-5

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 actions in no way usurp the authorities of any regulatory or planning agency.

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.

CALFED has identified target levels for water quality parameters of concern. These targets represent desirable in-stream levels of these parameters that will serve as a measurement of success in evaluating the effectiveness of specific actions. The targets are based on published standards or objectives—either numeric or narrative—endorsed by regulatory agencies that are charged with enforcement of the standard or objective. For CALFED's purposes, these targets are not regulatory but represent levels that the Program is striving to attain through implementation of the Water Quality Program.

WQ 1.4.0-6

CALFED is committed to working with stakeholders in order to develop the most reasonable approaches to problem solution as possible. While source control is a component of the strategy, CALFED is not limited to this solution. Where appropriate, CALFED will recommend consortium solutions that may include regional watershed efforts, pollutant trading, and public education.

WQ 1.4.0-7

Thank you for the contact names. We have worked with some of the contacts you suggest. The RWQCB and the San Francisco Bay Institute have been active in the CALFED process. We will add the remainder of the names to our contact list, and we will send them invitations to participate in stakeholder meetings.

WQ 1.4.0-8

CALFED is producing separate efforts at resolving different water quality problems within the San Joaquin River. The WQPP has addressed each of those problems in its separate chapters, on a programmatic level. More specific actions will be developed with stakeholder groups for individual impairment issues.

WQ 1.4.0-9

Proponents of the new developments will need to meet environmental compliance to prevent degradation of surface waters, among other requirements. CALFED will participate with local agencies to develop and implement management practices that will prevent degradation of surface water from existing and proposed developments. CALFED has already funded some research in pesticide reduction in urban streams.

WQ 1.4.0-10

Typically, water use efficiency measures would reduce the dilution of wastewater coming from homes and industry by small amounts. The net effect is similar to an aggressive inflow and infiltration correction project. The reduced hydraulic load would not affect how well the wastewater is treated. In this case, there should be no change in treatment system, either operation or facility. Changing the standard to which the wastewater is treated to meet a newly imposed standard is a different situation. The question becomes who will benefit from the changes and who is imposing the changes. The imposition of changes from entities other than CALFED should be negotiated with those agencies. CALFED is not a regulatory agency and proposes to make changes through incentives. Participation in the Program is on a voluntary basis.

WQ 1.4.0-11

Much of the changes proposed for the south Delta include permanent, operable barriers to capture water brought in with natural tidal fluctuations. Construction of barriers as a specific project of the CALFED Program will require a project-specific EIS/EIR to be completed before any of the proposed permanent, operable barriers could be built. In this environmental document, the effects of the barriers and the proposed mitigation will need to be spelled out. Individual effects of the project, as well as cumulative effects of the Program, will be studied to determine impacts. If the City of Tracy's discharge requirements are affected, mitigation must be proposed. Your comment has been brought to the attention of the work groups responsible for addressing the barriers.

WQ 1.4.0-12

Change from natural lands or even range lands to urban or industrial land uses has the potential to increase waste loads, from point or nonpoint sources. In many of the urban areas in California, increases are noted in the nonpoint discharge of pesticides, trace metals, nutrients, and turbidity. In the event that urban growth produces such increases, CALFED proposes development and implementation of control programs. These programs are intended to assist agencies that may be required to meet stormwater regulations. Information gathered through such a program may assist municipalities in selecting cost-effective, reasonable solutions to national regulatory

programs. Implementation of the control programs is seen as voluntary or incentive based. CALFED is not a regulatory agency and does not seek to change state or federal regulatory authority.

WQ 1.4.0-13

Pollutant sources are described in more detail in the WQPP. In some cases, it is difficult to sort out the natural and anthropogenic sources of a pollutant. This is true for salinity, turbidity, and other constituents that cause depletion of DO in the San Joaquin River. Further research is being conducted on identifying these sources. It is expected that work will proceed on reducing the effects of these pollutants on the river and uses of the water.

1.4.2 Background

WQ 1.4.2-1

Sufficient data do not exist to enable a complete determination of the effects of imported irrigation supplies on the quality of the San Joaquin River. Based on flow and electrical conductivity (specific conductance) measurements at the intake of the Delta-Mendota Canal (DMC) and on the San Joaquin River near Vernalis, a preliminary estimate is that about 80 percent of the salt load at Vernalis could be accounted for by the salt load entering the DMC, during the period of January 1990 through September 1996. Because this amount was estimated using limited data collected during an unusually dry period, the estimate may not represent normal conditions; however, it seems clear that a substantial portion of the salt load in the San Joaquin River comes from salt in the imported water.

WQ 1.4.2-2

The table has been corrected to indicate low DO, rather than dissolved solids. Mercury in the San Joaquin River is not checked on the table because (1) mercury in the San Joaquin River is not among the list of constituents impairing the quality of San Joaquin River water and the service areas, and (2) no actions to address mercury in the San Joaquin River are currently planned in these areas.

WQ 1.4.2-3

Water quality problems associated with these parameters have been identified by the State in accordance with the federal Clean Water Act (CWA). The Program used existing information from the CWA Section 303(d) list of impaired water bodies for California to identify the locations of beneficial use impairments associated with parameters of concern. The Section 303(d) list identifies water bodies with impaired beneficial uses, the parameters of concern within each water body that are thought to be responsible for the impairment, and the likely sources of the parameters of concern. Appendix B in the WQPP contains a list of the impaired water bodies within the Water Quality Program's geographic focus that were identified by the State in 1998, in accordance with the CWA Section 303(d). In May 1999, EPA made changes to the list that have been incorporated into Appendix B in the WQPP. A list of other documents used to support development of project actions and some drinking water impairment description have been included in Appendix F in the WQPP.

WQ 1.4.2-4

The concern about habitat restoration in areas with known high concentrations of methyl mercury has been brought to the attention of the Ecosystem Restoration Program and its stakeholders. The Ecosystem Restoration Program has multiple studies in development to address this and other issues related to mercury. To date, no habitat has been constructed in zones that have been shown to be high in methyl mercury. Corrective actions

to remove some mercury are proposed in the first few years of the program. Other studies are proposed to address concerns over toxicity and biological impacts of several contaminants of concern.

1.5 Pre-Feasibility Analysis

WQ 1.5-2

The goal of the CALFED Program is to reduce conflicts over water supply reliability, water supply system integrity, water quality, and ecosystem health in the Bay-Delta estuary. Program plans in each of these areas provide a blueprint for actions that will reduce conflict in the system. It is true that the CALFED Program will not resolve all problems associated with quantity, quality, and reliability of water supplies throughout California—especially as the population of the state continues to grow rapidly. The CALFED Program is intended to improve the quality of municipal water supplies taken from the Delta to the extent consistent with ecosystem, agricultural, recreational, and other uses of Delta waters. Because the Program will fall short of solving all drinking water quality problems, it probably will not result in solutions that eliminate the need for any future investments on the part of drinking water utilities to continue protecting public health.

2.1 Summary

WQ 2.1.0-1

The San Joaquin River experiences dissolved oxygen depression (low DO) in late summer and early fall each year. The DO problem is significant and is believed to cause a blockage to migrating salmon. The parties assembled to work on the problem have limited budgets. Therefore, CALFED identified the low DO situation in the San Joaquin River as a significant need and has awarded a grant for source identification. CALFED is working closely with the stakeholders involved in solving the problem

2.2 Problem Statement

WQ 2.2.0-1

The sentence is supposed to read: "Low DO impairs or blocks fish migration; kills aquatic organisms, including fish; creates odors; and impairs fish reproduction and juvenile rearing." The change has been made in Section 2.2 in the WQPP.

WQ 2.2.0-2

The citation is The Central Valley RWQCB Control Board, Water Quality Control Plan, 4th Edition, dated September 1, 1998.

WQ 2.2-1

The recommended changes have been made in the WQPP.

2.4.1 Problem Description

WQ 2.4.1-1

CALFED acknowledges the investments already made by various agencies to resolve problems associated with reduced DO in the lower San Joaquin River. CALFED is committed to continuing support of the San Joaquin River Dissolved Oxygen Steering Committee in development of a TMDL for DO in the river. CALFED also acknowledges that the causes of the DO problem are complex and that no single action is likely to solve the problem. The WQPP has been revised to make this point more accurately. CALFED welcomes stakeholder participation in developing a more complete understanding of the problems and their solutions, which may include combinations of source control, flow enhancement, redirection of flows, and other approaches. CALFED is pleased to participate in working groups such as the Dissolved Oxygen Steering Committee and the committee planning for a barrier at the head of Old River. The participation of interested parties is welcomed by CALFED.

WQ 2.4.1-2

CALFED has performed extensive mathematical modeling to predict the water quality consequences of the CALFED Program, and continues performing this work, with extensive stakeholder involvement, as the Program evolves and additional project detail is developed. The results of completed work are publicly available, and will continue to be made available. Stakeholders will continue to be invited to public workshops and other venues through which they may participate in these developments. If the publicly available information is inadequate to answer technical questions, stakeholders are encouraged to contact the responsible CALFED Program Manager. The CALFED internet site (**http://calfed.ca.gov/**) contains results of completed studies and lists contact information for Program staff.

WQ 2.4.1-3

It is true that low DO conditions are a seasonal problem in some portions of the Delta. Presently, it is believed that the cause for the dramatic shift from acceptable levels of oxygen in the San Joaquin River to very low levels is a number of inter-related factors, including high nutrient loads from multiple sources along the San Joaquin River, algal growth and respiration, channel flows, tides, and channel geometry. Stagnation of flow in the vicinity of Stockton due to the combined effects of tides, low flow, and a sudden expansion of the river channel cross section where it meets the Stockton Deep Water Ship Channel exacerbate the effects of poor water quality on DO. When the temporary barriers in the south Delta are closed (head of Old River and/or three agricultural supply barriers) more flow is shunted down the San Joaquin River. The increased flow improves DO levels in the lower San Joaquin River during low-flow periods. A project-specific EIS/EIR will be completed before any of the proposed permanent operable barriers could be built. In this environmental document, the effects of the permanent operable barriers and the proposed mitigation will need to be spelled out. Your comment has been brought to the attention of the work groups responsible for addressing the barriers.

WQ 2.4.1-4

CALFED is participating in the process by providing funding for source identification and cause determination, funding facilitation for technical group meetings, and participating in steering committee meetings. CALFED is participating as a technical and funding partner. CALFED does not drive any of the decision making. If the activities of the steering committee were to depart from credible fact-finding and implementation methods, CALFED staff would not recommend further funding.

WQ 2.4.1-5

The recommended changes have been made in the WQPP. The tributaries referred to in this paragraph are the tributaries mentioned earlier, Little Johns Creek, Lone Tree Creek, and Temple Creek. These are predominantly urban drainage creeks that receive urban irrigation water and storm flow. A representative of the DeltaKeeper organization has stated that these creeks (and perhaps other as well) have very low DO during various times of the year. The oxygen-depleted water entering the river from these tributaries would exacerbate the current low DO conditions.

2.4.2 Approach to Solution

WQ 2.4.2-1

Section 2.4.2 in the WQPP has been modified under "San Joaquin River near Stockton" to include the most recent information on the progress of the study.

2.5.1 Problem Description

WQ 2.5.1-1

CALFED is not yet participating in the process. The role of CALFED will remain the same as described in response WQ 2.4.1-2.

2.6.1 Problem Description

WQ 2.6.1-1

CALFED is not yet participating in the process. The role of CALFED will remain the same as described in response WQ 2.4.1-2.

2.7.1 Problem Description

WQ 2.7.1-1

The recommended changes have been made in the WQPP.

2.7.2 Approach to Solution

WQ 2.7.2-1

CALFED has invested in a stakeholder group to solve the low DO problem in the San Joaquin River. The group was formed by the RWQCB to prepare a TMDL for constituents that cause the low DO conditions in the river. CALFED has been supportive of the process and intends to coordinate with the RWQCB in devloping the implementation plan for the TMDL.

WQ 2.7.2-2

DO is an essential part of aquatic ecosystems. DO in the San Joaquin River has experienced significant depressions over the years. CALFED has invested in a stakeholder group to solve the low DO problem in the San Joaquin

River. The group was formed by the RWQCB to prepare a TMDL for constituents that cause the low DO conditions in the river. CALFED has been supportive of the process and intends to coordinate with the RWQCB in the development of the implementation plan for the TMDL. While flow plays a role in increasing the DO in the San Joaquin River, it is suspected that flow is not the sole cause. As is the case in salinity, more flow in the river reduces the in-stream problem but does little to correct the actual cause of the problem. Use of barriers and purchase of water for this purpose may result in significant adverse impacts on other parties. The stakeholder group and CALFED are committed to finding sources and causes, after which a corrective action plan will be proposed.

WQ 2.7.2-3

The sentence under "Existing Activities" in Section 2.7.2 in the WQPP inaccurately characterizes the Tuolumne River Technical Advisory Committee work. This sentence has been revised in the WQPP as follows:

"The Tuolumne River Technical Advisory Committee currently is funding work using a field technique that measures inter-substrate permeability."

3. Drinking Water

WQ 3.0-1

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. The Implementation Plan contains similar information. Also see response WQ 12.0.

An evaluation of existing data by a group of technical specialists identified 26 parameters of concern (see Table 5.3.1 on page 5.3-10 in the June 1999 Draft Programmatic EIS/EIR). Dioxin was not considered a parameter of concern.

Both have been addressed in the Programmatic EIS/EIR and in the WQPP. Also see common response 14.

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 currently is treated, and always will need to be treated, before it is supplied to consumers. The value of the Water Quality Program is that it may reduce the mass of contaminants that must be removed at the treatment plant. Also see response WQ 12.0. Also see common response 9.

CALFED has no authority to establish water quality criteria or standards and must rely on entities with regulatory authority to establish and update water quality objectives that will protect ecosystem and other beneficial uses. The water quality objectives adopted by CALFED have been developed with appropriate public participation by those agencies with the necessary statutory responsibility. As these criteria and standards evolve through public processes, CALFED will modify its water quality objectives to be consistent with legally established criteria.

Providing incentive to stop irrigation of land that would leach pollutants is one management measure. In the case of marginal lands that are a source of selenium due to irrigation, CALFED plans to conduct pilot studies of

integrated on-farm management of selenium to develop and implement better source control management measures (see paragraph 2, page 12-5 in the June 1999 WQPP). Also see response WQ 12.0.

WQ 3.0-2

Please see common response 16.

WQ 3.0-3

Please see common response 15.

WQ 3.0-4

Please see common response 9.

WQ 3.0-5

Please see common responses 8 and 15.

WQ 3.0-6

Please see common response 15.

WQ 3.0-7

The Preferred Program Alternative will improve the quality of water supplied to the State Water Project (SWP); therefore, no adverse impacts will result to groundwater bodies recharged with water from the SWP.

WQ 3.0-8

The Preferred Program Alternative will improve the quality of water supplied to the SWP; therefore, no adverse impacts will result to water conservation or water recycling programs.

WQ.3.0-9

The Programmatic EIS/EIR acknowledges that the Ecosystem Restoration Program may result in an increase in dissolved organic carbon (DOC) concentrations in Delta waters. It is expected, however, that the water quality improvements resulting from the conveyance element of the Preferred Program Alternative will more than offset any increase in DOC attributable to the Ecosystem Restoration Program. The conveyance improvements are also expected to reduce bromide concentrations at the export pumps.

3.1 Summary

WQ 3.1-1

The recommended changes have been made in the WQPP.

WQ 3.1-2

The terms "salts," "salinity," and "dissolved salts" were frequently used in preference to the more technically correct "dissolved solids" to enhance readability for persons who are unfamiliar with water quality terminology and would not understand the connection of salts to dissolved solids.

3.2 Drinking Water Focus of the Water Quality Program

WQ 3.2-1

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 3.2-2

Depending on what new disinfection and DBP regulations are adopted, and depending on the success of new treatment technologies and CALFED source control actions, it is conceivable that treating Delta waters to affordably produce safe drinking water could prove difficult or impossible in the future in the absence of physical changes to the system. Whether this situation will occur cannot be predicted at present. For that reason, CALFED intends to apply the principles of adaptive management to take step-wise actions toward the overall goal of providing good quality water for all uses, including drinking water supply. The Delta Drinking Water Council is the primary stakeholder-driven venue through which this adaptive process for drinking water improvement will occur. In the event that safe drinking water could not be affordably produced through other source control and treatment options, the scope of the CALFED Program allows for consideration of facilities to bring about the necessary improvements.

WQ 3.2-3

The recommended changes have been made in the WQPP to clarify that the Section 303(d) list is directed at constituents of ecological importance and does not include all drinking water contaminants of concern. The WQPP uses the Section 303(d) list that was published in 1998 and updated in 1999.

WQ 3.2-4

CALFED recognizes that the willingness of urban water suppliers to contribute to Delta solutions depends on the ability of the CALFED Program to provide water quality and water supply reliability benefits to these

agencies. Consistent with the principle that beneficiaries pay, CALFED intends to provide benefits to the urban water agencies that will increase their willingness to contribute to solving the problems and enable investments to be made to the maximum benefit of the Bay-Delta system.

3.3 Problem Statement

WQ 3.3-1

The recommended change has been made in the WQPP.

3.4 Objective

WQ 3.4.0-1

CALFED proposes to provide good quality water through improving source water quality and other means. Other methods for drinking water improvement might include treatment technologies. References to continuous improvement is directed toward drinking water deliveries. The drinking water considerations have been separated from the ecosystem water quality actions to establish the prominence of drinking water issues and integrate ecosystem water quality issues with other ecosystem actions. Studies are necessary to determine the degree to which activities can contribute to the solution.

WQ 3.4.0-2

Stakeholders have recommended establishment of intermediate water quality milestones for salinity in water diverted from the Delta. Values of 220 mg/L and 150 mg/L total dissolved solids (TDS) have been recommended as salinity targets. The Delta Drinking Water Council will be asked to consider the need for a salinity target and may recommend that a target be established by the CALFED Policy Group. The Delta Drinking Water Council also 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 3.4.0-3

The goal of the Water Quality Program is to provide good-quality water for environmental, agricultural, drinking water, industrial, and recreational beneficial uses of water. Reducing bromide and TOC levels in export water would fall under the drinking water category. While many programmatic actions are recommended in upstream portions of the watershed, not all of these actions are meant to address drinking water quality issues, as your comment suggests. Many environmental and agricultural water quality issues will be addressed in upstream areas in the watershed. Actions to reduce bromide and TOC are largely concentrated within the Delta.

3.5.1 Pathogens

WQ 3.5.1-1

Although existing data suggest that pathogen levels in Delta waters may be relatively low in some circumstances, the available data are very limited, and serious technical weaknesses exist in the methodology that was used to analyze the samples. The statement has been deleted from the WQPP.

3.5.2 Disinfection By-Products

WQ 3.5.2-1

The recommended changes have been made in the WQPP, except the statements about a possible Stage 3, which is too speculative.

WQ 3.5.2-2

While chlorine is known to produce unwanted, and potentially harmful, chemical by-products when it is used for disinfecting drinking water, chlorine is also known to be a very effective agent for protecting against waterborne disease. Newer technologies, such as ozone and ultrafiltration, hold significant promise for improving the safety of drinking water both by improving the quality of disinfection and by reducing production of unwanted chemical by-products. Unfortunately, however, no ideal solution has been developed. While ozone is a strong disinfectant and reduces some types of chemical by-product formation, it also produces chemical by-products—some of which may prove to be at least as harmful as those produced by chlorine. Ultrafiltration and nanofiltration are technologies offering the theoretical possibility of removing harmful constituents while adding nothing, but the technical feasibility and cost effectiveness of these techniques have not yet been fully demonstrated. Because of the need to further develop other technologies, it is not yet feasible to discontinue the use of chlorine. Despite the problems associated with chlorine, it has been used with relative safety since the turn of the last century and has prevented countless cases of disease. No other disinfection technique has been as well demonstrated.

WQ 3.5.2-3

The WQPP has been changed to clarify this point.

WQ 3.5.2-4

The recommended change has been incorporated into the WQPP.

3.5.3 Treatment Control of Disinfection By-Products

WQ 3.5.3-1

The recommended changes have been made in the WQPP.

WQ 3.5.3-2

The recommended changes have been incorporated into the WQPP.

3.5.4 Source Control of Disinfection By-Products

WQ 3.5.4-1

At the current programmatic level of detail, it is not yet clear how all of the various ecosystem restoration actions will be financed. Until specific project plans (including financing plans) can be formulated, it will not be possible to answer all questions concerning funding for mitigation measures. Notwithstanding the present inability to specify how mitigation would be funded, CALFED is committed to adequate investigation of potential negative

impacts of ecosystem restoration measures and to full mitigation of any such impacts as a condition of projects moving forward to implementation.

WQ 3.5.4-2

CALFED ecosystem restoration actions may have the potential for degrading water quality, at least over the near term. The pilot-scale testing, 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 employed 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 treatment of discharges to remove metals, organic carbon, and other undesirable constituents.

Wetlands has been added to the sources of organic matter identified on page 3-9 in the June 1999 WQPP.

WQ 3.5.4-3

Implementation of Ecosystem Restoration Program actions has the potential to change land and water use patterns. The program also could potentially cause impacts such as increased evaporation and increased salinity levels in some areas and at some times and, possibly, some alteration in the ability to control salinity intrusion from the ocean. At the current programmatic level of detail, it is not yet possible to define CALFED ecosystem restoration projects with sufficient clarity to enable a quantitative analysis of salinity effects. Through its adaptive management process, CALFED will develop and apply analytical tools, such as mathematical modeling, to thoroughly assess projects as they are developed, to prepare the necessary environmental impact documentation, and to implement appropriate mitigation measures as a condition of going forward with projects. Examples of possible mitigation measures might include funding alternative water sources and funding treatment and/or prevention measures to reduce water quality impacts to a less-than-significant level.

WQ 3.5.4-4

CALFED is committed to achieving continuous improvement in the quality of the waters of the Bay-Delta estuary in order to minimize ecological, drinking water, and other water quality problems. As used by CALFED, "continuous improvement" means a steady, step-wise trend of water quality improvement over the 30-year time horizon of the Program. Although short-term fluctuations in water quality will be taken into account in project planning and will be avoided where possible, it is not feasible to guarantee that no water quality parameter will be temporarily reduced in quality, as such reductions may prove a necessary sacrifice to secure larger and longer term water quality benefits.

WQ 3.5.4-5

An improvement in water quality at water supply diversions is one of the goals of the CALFED Program. As noted in the Programmatic EIS/EIR, implementation of the Preferred Program Alternative would improve water quality in the Delta, including at the water supply intakes. The improved flow of good-quality water across the Delta from the Sacramento River would be expected to reduce the DOC content of water withdrawn at the intakes. The improvement in DOC content may be supplemented or offset by an alteration in DOC concentration as a consequence of the Ecosystem Restoration Program. (It is not yet known if conversion of irrigated agriculture to wetlands in the Delta will increase or decrease DOC concentrations.)

WQ 3.5.4-6

The Preferred Program Alternative is expected to lower the salinity of water at the south Delta export pumps relative to the No Action Alternative. It is expected that the bromine concentration would also be reduced at that location.

3.5.5 Total Dissolved Solids, Salinity, Turbidity, and Nutrients

WQ 3.5.5-1

The recommended changes have been made in the WQPP.

WQ 3.5.5-2

Stage 1 actions to improve water quality rely primarily on source controls. The CALFED Preferred Program Alternative indicates that if the Stage 1 actions do not achieve drinking water goals, a screened diversion facility on the Sacramento River would be built—provided fishery concerns can be satisfactorily addressed.

WQ 3.5.5-3

The recommended changes have been made in the WQPP.

3.6 Approach to Solution

WQ 3.6-1

The June 1999 WQPP listed Stage 1A ("Early Implementation Actions") and Stage 1 actions in Tables 3 and 4, respectively, along with proposed schedules for completion. These lists were consistent with the water quality actions listed in the Phase II Report and, with minor exceptions, those in the Implementation Plan. The identified discrepancies have been corrected in the Implementation Plan. Tables 3 and 4 have been deleted from the WQPP.

WQ 3.6-2

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 such a level of 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 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 what the schedule for needed changes should be. If meeting these needs requires further actions, these are within the scope of the Program. CALFED's adaptive management approach is designed to be responsive to changing needs and conditions, to arrive at solutions that fit future needs. Through its adaptive management process, the Delta Drinking Water Council will be asked to consider the need for interim water quality milestones and timetables for action.

WQ 3.6-3

Please see common responses 11 and 12.

WQ 3.6-4

Recent research findings have indicated that young animals are particularly prone to infection by the protozoan pathogen *Cryptosporidium* and appear to shed large numbers of organisms into the environment. Adult animals, by contrast, appear to be much less prone to shed *Cryptosporidium*. Further research on wild and domestic animals as sources of pathogens may provide information that can be used to improve source water quality management and is planned as part of the drinking water quality program. This work will be scoped and planned with the assistance of stakeholders through the Delta Drinking Water Council and through the Water Quality Constituents Workgroup, the stakeholder group who provide technical assistance to the Council. The participation of urban, agricultural, and environmental stakeholders is welcomed.

WQ 3.6-5

(i) Text has been changed in the WQPP.

(ii) See response WQ 3.6-1.

(iii) See response WQ 12.7.5-2.

(iv) The text was not meant to imply that the Municipal Water Quality Investigation (MWQI) was conducting all the studies listed. The text has been changed in the WQPP to identify the implementing organizations with each study.

(v) Text has been added that includes a priority action to better manage dairies and other confined animal feeding operations.

(vi) Text has been changed; turbidity has been added to TOC as drinking water constituents of concern at the North Bay Aqueduct (NBA). The Colusa-Tehama reference has been changed to "Tehama-Colusa."

(vii) Text has been changed in the Final WQPP.

WQ 3.6-6

CALFED is committed to developing the drinking water quality program with the continuing assistance and participation of stakeholders, particularly through the Delta Drinking Water Council and its technical support

groups of stakeholders. Water quality actions have not yet been developed to the point of making an absolute commitment to implementation in Stage 1A or Stage 1. Consequently, there is some lack of clarity as to the difference between planned actions, identification of information needs, and assignment of priorities for action. Work on developing the actions will proceed at a high pace, consistent with the need for continual involvement of stakeholders. 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; but it is also the case that much of the needed specificity can occur only when detailed actions are planned during the implementation phase of the Program.

3.6.1 Bay-Delta Region

WQ 3.6.1-1

As part of its implementation strategy, CALFED will conduct field evaluations and pilot-scale testing to evaluate and quantify benefits from actions designed to reduce bromide and TOC prior to making large-scale investments. Also, CALFED is developing analytical tools that enable prediction of the bromide and TOC consequences of implementing CALFED actions. As this information is produced, it is being made publicly available. CALFED extends its invitation for participation of interested technical experts in this ongoing analytical process.

WQ 3.6.1-2

The recommended changes have been made in the WQPP.

WQ 3.6.1-3

At the current programmatic level of analysis, the listed priority actions constitute concepts for further investigation. At this stage of Program development, there has been no attempt to assess the feasibility or cost effectiveness of the listed measures and, indeed, the list was developed to help direct resources toward further needed investigations—including pilot studies. CALFED makes no commitment to attempt to implement any measures that are proven by further investigation to be unworkable, nor does it have any regulatory authority that would allow such measures to be imposed. From the outset, the CALFED Program has emphasized voluntary, cooperative efforts to help reduce conflict in the Bay-Delta estuary system. CALFED welcomes the participation of all stakeholders to identify areas for cooperation in evaluating technical and economic options for making improvements.

WQ 3.6.1-4

The WQPP emphasizes salt problems in the San Joaquin River because the subject is well documented and because salt from this source seriously affects the quality of Delta waters. Salt loadings to the Sacramento River are not documented as well. Salt sources within the Delta, except for the Pacific Ocean, are also less well documented than is the problem in the San Joaquin River watershed. The lack of detail in the WQPP concerning salt sources in the Sacramento River and Delta does not imply a lower commitment to evaluating these sources and taking corrective actions as warranted. One means of reducing salt loading to the Sacramento River will be through the CALFED water quality action to reduce wastewater and stormwater sources of drinking water constituents of concern.

WQ 3.6.1-5

CALFED does not endorse any of the listed existing activities for water quality improvement but intends to support them for further studies to the extent warranted. These activities are being conducted by other agencies and stakeholder groups. CALFED makes no commitment to implement any of these measures until they are proven to be feasible through the stakeholder process.

WQ 3.6.1-6

A treatment system for this proposed action has not been formally proposed. Any treatment system proposed will be evaluated with a project-specific environmental document, which will address this issue. The object of the treatment is to remove the TOC rather than the salt. Removing salts would require a significantly high level of treatment. If salts are removed, mitigation measures must be recommended to prevent salt buildup on Delta islands. Salt can be leached at advantageous times (this is already a practice on Delta islands), or filter reject containing high salts can be disposed of in appropriate receiving waters under appropriate discharge permits.

WQ 3.6.1-7

The Stage 1A actions identified thus far can be augmented by other actions, depending on the availability of resources and assignment of priorities for Water Quality Program actions. Stakeholder involvement has been, and will continue to be, actively sought in the evolution of the Water Quality Program, including selection of projects for high-priority implementation. The Delta Drinking Water Council and the technical teams supporting the Council are primary avenues through which stakeholder assistance is invited.

3.6.2 Sacramento and American Rivers

WQ 3.6.2-1

The recommended changes have been made in the WQPP.

WQ 3.6.2-3

Thank you for the resource and information. Prior to embarking on prioritizing this action, the work group will be given this information. This information may save valuable time and resources.

WQ 3.6.2-4

The comment is based partially on the view that an isolated facility is required to meet target levels for bromide, TOC, and salt in the export water from the Bay-Delta. Target levels being discussed have not been adopted by a regulatory agency and therefore do not have the weight of regulation behind them. Furthermore, the proposal for an isolated facility needs much more study and stakeholder approval before it is readied for construction. In this process, Sacramento County and other affected communities will be included in the impact analysis. Any redirected impacts identified in that process would be subject to mitigation measures. If at that time, additional treatment systems would be required, above and beyond what is required without the project, costs for such treatment would be borne as a project expense.

WQ 3.6.2-5

While, in concept, your suggestion to collect grey water in the Central Valley and transport it to a high-tech treatment system in the Delta would work, it is likely highly impractical. Costs for separating sewage and grey water, installing separate collection systems, buying right-of-way for transmission pipelines, siting and construction of the treatment plant, and operations and maintenance would be prohibitively expensive. Some older municipalities operate combined stormwater and sewage systems. For example, both Sacramento and San Francisco have combined systems. These communities strive to separate the two systems and have been doing so for several years. Costs of such endeavors prevent quick implementation. Further separation of sewage from grey water also would be prohibited by cost, although cities like San Francisco and Sacramento have implemented reclamation systems that produce similar effects. Reclamation of sewage for irrigation displaces fresh water that would normally be used for irrigation purposes. In doing so, river flows and groundwater are not used to meet water needs in the community. River flows remain for use in the environment and groundwater remains as a reserve during drought periods. CALFED's Water Use Efficiency Program is working on methods such as these to maximize the benefit of procured water.

3.6.3 North Bay Aqueduct

WQ 3.6.3-1

The recommended change has been made in the WQPP.

3.6.4 South Bay Aqueduct

WQ 3.6.4-1

CALFED is committed to continued stakeholder involvement in developing plans to address the water quality problems of the Bay-Delta estuary. Of particular importance is prioritizing actions for implementation. Stage 1A and Stage 1 actions have been identified in a preliminary fashion, but considerable evolution of these plans remains to be accomplished. The work in progress represented by Stage 1A and Stage 1 plans is subject to change, consistent with the CALFED adaptive management philosophy, in conjunction with ongoing stakeholder support and involvement. As a programmatic document, the CALFED Programmatic EIS/EIR is intended to establish the basic framework supporting detailed plans that will evolve with appropriate stakeholder input. Accordingly, currently identified Stage 1A and Stage 1 actions reflect progress made to date and are incomplete. Linkages of priority actions described in the WQPP and plans for Stage 1A and Stage 1 are not as yet fully formed, nor is the exact sequence of water quality actions defined. Therefore, the information does not currently exist to enable the WQPP to be amended to include this detail.

At the current programmatic level of analysis, the listed priority actions constitute concepts for further investigation. At this stage of Program development, there has been no attempt to assess the feasibility or cost effectiveness of the listed measures and, indeed, the list was developed to help direct resources toward further needed investigations—including pilot studies. CALFED makes no commitment to attempt to implement any measures that are proven by further investigation to be unworkable, nor does it have any regulatory authority that would allow such measures to be imposed. From the outset, the CALFED Program has emphasized voluntary, cooperative efforts to help reduce conflict in the Bay-Delta estuary system. CALFED welcomes the participation of all stakeholders to identify areas for cooperation in evaluating technical and economic options for making improvements. Existing programs and processes will be used to the extent that such processes are available.

The service areas of the SWP are within the defined geographical scope of the CALFED solution area, meaning that CALFED may undertake actions in these areas that would help to solve the problems of the Bay-Delta estuary. Examples might include fostering water conservation and recycling programs in southern California, and addressing problems that affect the quality of drinking water produced from the Delta source. Because multi-purpose uses of Castaic Lake and Lake Silverwood, and activities in the watershed of these lakes can affect the quality of drinking water supplies diverted from the Delta, water quality actions can be considered through the CALFED Program that would help to resolve these problems.

3.6.6 Contra Costa Water District Intakes

WQ 3.6.6-1

The Phase II Report is intended to disclose the broad framework of the CALFED Program elements and to describe how these elements contribute comprehensively to reducing conflict in the Bay-Delta system. To enhance the readability and reduce the size of this overview document, the decision was made that Program detail would be left to the Program documents, such as the WQPP and Implementation Plan. The lack of a specific commitment in the Phase II Report does not change the commitment to action as specified in the WQPP and Implementation Plan.

3.7 Capacity for Reducing Bromide and Organic Carbon Through Water Quality Program Actions

WQ 3.7-1

CALFED commissioned a panel of nationally recognized independent scientists to consider bromide and organic carbon in relation to meeting CALFED's objective of providing drinking water from the Delta that meets current and future standards for protecting public health. This panel provided information that helped the CALFED Policy Group in establishing the CALFED long-term water quality objective 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. Recognized independent scientists will continue to provide advice and guidance to the CALFED drinking water quality program as it evolves. CALFED is committed to the concept of protecting public health, not necessarily to achieving specific numeric objectives for water quality. CALFED will certainly not achieve the targets for TOC and bromide during the first years of Program implementation and may never achieve these targets if source control, source replacement, and treatment approaches are able to meet the primary objective of adequately protecting public health. Evaluating the feasibility and cost effectiveness of these alternatives will be the primary task of the first 7 years of Program implementation, after which it should be possible to make a determination on the need for construction of Delta facilities.

WQ 3.7-2

The long-term bromide target of 50 μg/L and the TOC target of 3.0 mg/L, or an equivalent level of public health protection, do apply to the NBA intake as well as to the other drinking water diversions in the Delta. The WQPP has been revised to clarify this point.

3.7.1 Bromide

WQ 3.7.1-1

We acknowledge that the information in Figures 7 and 9 in the June 1999 WQPP might be presented in a number of ways, and perhaps a time history plot would be a superior means of illustrating the relationship of bromide loadings at the DMC intake and at Vernalis and of bromide loadings in the San Luis Reservoir area. Other means of presenting the data would not be likely to change the tentative conclusions that most of the bromide found at Vernalis can be accounted for by inputs to the San Joaquin Valley from the DMC, and that most of the bromide in San Luis Reservoir can be accounted for by loadings from the SWP and Central Valley Project (CVP). Further evaluation of non-oceanic sources of bromide is planned for CALFED during the implementation stage of the Program. This additional work will involve various forms of data evaluation and presentation, probably including time history plots. Further investigation of non-oceanic sources of bromide in the system will involve analysis of pumping and precipitation data to conclusively demonstrate whether non-oceanic sources of bromide are important in solving bromide problems in drinking water supplies taken from the Delta.

WQ 3.7.1-2

CALFED needs to further evaluate the sources of bromide and to institute corrective actions where feasible in order to reduce contributions of bromide and to achieve long-term source water quality targets. Bromide is present in sea water, and enters into the Delta drinking water supplies primarily through mixing with waters of San Francisco Bay and the Pacific Ocean. Other sources of bromide may exist. For instance, the average concentration of bromide in Sacramento River water was 18 μg/L. By contrast, San Joaquin River water averaged 310 μg/L, with a standard deviation of 150 μg/L during the same period. Although bromide concentrations in the Sacramento River are variable, this river does not appear to be an important source of bromide. It appears that the San Joaquin River is the most important source of bromide to the Delta system, exclusive of the Bay-ocean. This component of bromide load would be significantly affected by the choice of storage and conveyance alternatives. A question of great importance to the CALFED Program, and one that is directly related to your concern, is "How much of the bromide load in the San Joaquin River is not of Delta or ocean origin (e.g., connate groundwater or ancient sea water) and may then be subject to control by Water Quality Program actions?" Further evaluations by CALFED will provide us with a basis for realistic expectations with respect to water quality targets for municipal supplies from the Bay-Delta of 50 μg/L for bromide, or an equivalent level of public health protection, to be provided by a cost-effective combination of alternate source water, source control, and treatment.

WQ 3.7.1-3

The recommended changes have been made in the WQPP.

3.7.2 Organic Carbon

WQ 3.7.2-1

Any plans for CALFED projects involving water storage on organic soils with the potential for discharge to Delta drinking water supplies will require pilot-scale testing of potential water quality impacts and full mitigation of conditions that would degrade the quality of drinking water supplies taken from the Delta. CALFED staff believe that a full array of water management tools, including new groundwater and surface water storage, needs to be included in the Water Management Strategy. New groundwater and/or surface water storage will be developed and constructed, together with aggressive implementation of water conservation, recycling, and a protective water

transfer market, as appropriate to meet CALFED Program goals. During Stage 1, CALFED will evaluate and determine the appropriate mix of surface water and groundwater storage, identify acceptable projects, and initiate permitting and construction—if program linkages and conditions are satisfied. Due to potentially fewer environmental impacts, groundwater projects potentially could be implemented sooner than surface water storage. The ongoing Integrated Storage Investigation will help to determine the role of a new groundwater and surface water storage in the overall Water Management Strategy.

WQ 3.7.2-2

An improvement in water quality at water supply diversions is one of the goals of the CALFED Program. As noted in the Programmatic EIS/EIR, implementation of the Preferred Program Alternative would improve water quality in the Delta, including at the water supply intakes. The improved flow of good quality water across the Delta from the Sacramento River would be expected to reduce the DOC content of water withdrawn at the intakes. The improvement in DOC content may be supplemented or offset by an alteration in DOC concentration as a consequence of the Ecosystem Restoration Program. (It is not yet known whether conversion of irrigated agriculture to wetlands in the Delta will increase or decrease DOC concentrations.) It is important to note, though, that under the existing conditions, from 20 to 50 percent of the trihalomethane (THM) precursors to Delta waters originate from drainage water from peat soil on Delta islands (Amy, G. L.; Thompson, J. M.; Tan, L.; Davis, M. K.; and Drassner, S. W. 1990. Evaluation of THM Precursor Contribution from Agricultural Drains. Research and Technology 82:57-64). Also see response WQ 3.6-2.

WQ 3.7.2-3

(i) See response WQ 3.7.2-2 above.

(ii) Information on the results of inundating peat soil is being developed as quickly as possible. Knowledge is rudimentary, and information is unavailable rather than undisclosed. Recent short-term studies were conducted for the California Urban Water Agencies and the MWQI Program of the DWR (Marvin Jung & Associates. 1999. A Trial Experiment on Studying Short-Term Water Quality Changes in Flooded Peat Soil Environments. Report prepared for the Municipal Water Quality Investigations Participating Agencies and the California Urban Water Agencies. Sacramento, CA). The report indicates that inundation without water exchange during summer increased TOC concentration in the water; however, the seasonal effects and the long-term effects (beyond 10 weeks) have yet to be determined.

3.7.4 Recommendations

WQ 3.7.4-1

CALFED's long-term water quality objectives for drinking water include a TOC concentration of 3.0 mg/L and a bromide level of 50 μg/L, or an equivalent level of public health protection. The WQPP provides evidence to suggest that the Pacific Ocean is the primary source of bromide and salinity in Delta drinking water supplies, and that the importance of this source is not likely to be greatly affected by CALFED Stage 1 actions. Similarly, the WQPP casts doubt on the feasibility of controlling organic carbon generated within the Delta. However, because significant public health, treatment, technology, and regulatory questions remain unresolved, it is not clear that reducing bromide and salts from the ocean and organic carbon from the Delta is going to prove essential to adequately meet the CALFED goal of protecting public health.

Because we do not yet know what approaches could bring about an equivalent level of public health protection, we cannot make an unequivocal commitment to achieving numerical objectives for drinking water protection.

We are also not able at this time to quantify the cost of failure to attain adequate public health protection, if that should happen, or to quantify the costs that would be involved in protecting public health in other ways. Exploring source water exchanges, advanced treatment technology, or other means of providing an acceptable level of public health protection can be undertaken, however, and are very much within the intended scope of the Water Quality Program.

Stage 1 water quality actions are expected to result in continuously reduced inputs of constituents that adversely affect drinking water supply. A number of the planned CALFED water quality actions will be measurable in terms of reduced loadings of pollutants entering the waters of the Delta estuary, as compared to existing conditions. Whether these improvements will always be measurable at diversion points, or whether they will be sufficient to fully meet the CALFED goal of protecting public health with regard to drinking water supplies taken from the Delta, cannot be known at this time. Even in the absence of quantitative estimates of the effects of these actions on drinking water supply diversions, taking such actions is clearly consistent with the concept of employing source prevention and source control measures as part of a multiple-barrier approach to drinking water protection.

Future water quality needs will be identified based on results of ongoing health effects research and regulatory developments. Adverse impacts of other CALFED actions, such as may result from habitat restoration, will be determined through monitoring and assessment. If these assessments indicate that Stage 1 water quality actions are inadequate to protect public health, or that other CALFED actions are causing negative effects on water quality, additional actions will be taken to protect public health and reduce negative impacts to less-than-significant levels. This approach is consistent with the CALFED adaptive management philosophy. The Delta Drinking Water Council will participate in evaluating CALFED actions and recommending needed changes to the Program on an ongoing basis to ensure that Program goals are met. The CALFED environmental assessment documents have been amended as appropriate to acknowledge that Stage 1 water quality actions, taken by themselves, have limited capacity for improving drinking water quality.

WQ 3.7.4-2

The proposal to recirculate water through the DMC to the San Joaquin River has been considered in the CALFED Program and will continue to receive consideration. Representatives of some CALFED agencies have indicated serious reservations about such a project, in that it could potentially be contrary to state and federal policies and regulations governing water quality degradation. The recirculation proposal can receive additional study and consideration in the implementation phase of the Program, soon to be underway.

WQ 3.7.4-3

The CALFED Program must simultaneously address ecosystem, water supply reliability, levee system integrity, and water quality problems. While facilities would have undoubted advantages for the quality of the water sent to southern California, it is not presently clear that such facilities would produce the best overall solutions to the problems of the Bay-Delta estuary. The Delta Drinking Water Council will be asked to consider the question of salinity targets and to make recommendations to the BDAC and to CALFED management. The deliberations of the Council will also be supported by technical teams composed of drinking water stakeholders and by the work of independent scientists, who will be commissioned as needed to achieve balanced, scientifically supportable perspectives.

WQ 3.7.4-4

CALFED is committed to continuous improvement in the quality of drinking water taken from the Delta through a combined application of source control, alternative sources, and advanced treatment. As a critical element in the solution to the drinking water quality problems of the Delta, upgrading treatment processes is a high priority in the CALFED drinking water quality program, and cooperative participation in bringing about these improvements is within the scope of the program.

WQ 3.7.4-5

The Arcata project is regarded as an excellent example of meeting wastewater treatment and environmental enhancement objectives simultaneously, and may serve as a model for future CALFED activities.

WQ 3.7.4-6

Some commentors have questioned CALFED's willingness to provide up to $1 million to study non-oceanic sources of bromide, and disagree with giving this work a high priority for implementation. It may be the case that resolving questions on bromide sources would necessitate only minor expenditures, as opposed to the CALFED preliminary estimate. However, in the event that other significant sources of bromide were to be demonstrated, it would be important for available funding to be sufficient to enable thorough evaluation of potential prevention or control measures. While drinking water supplies taken from the Delta may not be significantly improved through bromide control actions directed at non-sea water sources, CALFED recognizes that bromide is a key water quality concern with important implications for the future direction of the CALFED Program. Due to its critical nature, resolving the question of non-ocean sources of bromide with finality and early in the implementation phase of the Program is imperative. The decision to include substantial funding for the effort is justified, even though this amount of funding may not be required to complete the task.

4.2 Problem Statement

WQ 4.2.0-1

Mercury in water and sediment contribute to mercury levels in aquatic organisms, including sport fish. Without intervention, mercury would continue to be transported to the Bay-Delta and would become bioavailable to one degree or another, causing fish consumption advisories. Therefore, the CALFED Program has embarked on a study to determine the mechanisms by which mercury becomes bioavailable. Later CALFED actions would include participation in remedial efforts to reduce the impacts of mercury on the Bay-Delta system The objective of the measures are to "reduce mercury in water and sediment to levels that do not adversely affect aquatic organisms, wildlife, or human health."

WQ 4.2.0-2

CALFED plays a supportive role in the development of TMDLs. CALFED is not a regulatory agency and does not participate in the regulatory process. CALFED has funded fact-finding research projects to determine sources and causes of pollution problems in the Bay-Delta and some tributaries. CALFED also is addressing environmental "Good Samaritan" issues in the interest of better water quality.

4.4.1 Sources and Transport of Mercury

WQ 4.4.1-1

CALFED has funded a study of mercury loading, bioavailability, and potential to remediate sources. The study centers around the Cache Creek watershed. The investigators for that study have focused on eliminating mercury from mines and geothermal springs because these are thought to be the largest contributors of bioavailable mercury. While many sources of mercury are listed in the WQPP, the mining sources are considered by several mercury experts to be the largest. When given the opportunity to study sources of mercury and mechanisms contributing to bioaccumulation, the researchers decided to concentrate on mines, mining practices, and geothermal vents. A mass balance loading of Bay-Delta mercury will be included in the study. The studies are necessary to determine which sources will provide the most benefit when stopped. The objective of the measures are to "reduce mercury in water and sediment to levels that do not adversely affect aquatic organisms, wildlife, or human health."

Some actions can be taken prior to completion of the studies. CALFED has proposed to participate in remedial activities within the Delta and along Cache Creek and Clear Lake. Participation in remedial activities on mine sites may be limited to the activities that do not subject the CALFED Program to litigation. No remedial activities on abandoned mine sites should be conducted without federal environmental "Good Samaritan" protection. Without this protection, acting CALFED agencies may become responsible parties for the abandoned sites.

4.4.2 Transformation and Bioavailability of Mercury

WQ 4.4.2-1

The Cache Creek watershed and other watersheds in the Bay-Delta system have contributed mercury in various forms for many years. Without intervention, the mercury would continue to be transported to the Bay-Delta and would become bioavailable to one degree or another. CALFED has initiated a study of the mercury contamination mechanisms and effects from the Cache Creek watershed. Information from the study will be applied to direct remedial efforts in many of the Bay-Delta watersheds. Effects of off-stream gravel mining will be studied insofar as it pertains to the production or sink of methyl mercury to the river and/or Bay-Delta.

WQ 4.4.2-2

It is true that preliminary information from the CALFED-UC Davis Methyl Mercury Study indicates that increased habitat in the north Delta and other areas may contribute to an increase in methyl mercury production. This is based on the assumption that appropriate micro-organisms are present in the constructed wetlands and that mercury-laden water is allowed to reach the wetlands. This conversion of non-bioavailable forms of mercury to methyl mercury, the most bioavailable form, is being studied by another CALFED mercury study. The researchers in the UC Davis Methyl Mercury study are participating in the larger mercury study. Ecosystem Restoration Program staff have been advised of the possibility of increased methyl mercury production and are taking it under advisement.

5. Pesticides

WQ 5.0.0-1

CALFED acknowledges your support for its role in the pesticide issues. This is the role that CALFED strives for each area of involvement.

5.3 Objective

WQ 5.3.0-1

Pesticides are used in agriculture and in urban areas for various types of pest control. Pesticide residue occasionally runs off during storm events or other situations, causing the commingling of pesticide residue and water. Without intervention, pesticides might be abused or misused, causing increased water quality problems—usually toxicity. CALFED has therefore worked with regulatory agencies to address these issues and develop ways of eliminating toxicity caused by pesticide residue. CALFED has been participating in development of management practices to reduce runoff of pesticide residue from agricultural lands and from urban areas. CALFED has also participated in development of hazard assessment criteria. CALFED proposes to investigate environmental effects of pesticides and assist in methods to control pesticide residue runoff.

Reduction of pesticide use does not necessarily correspond to a reduced toxicity in surface waters. This would be true in a case where toxicity is caused by misuse of pesticides rather than appropriate labeled use. CALFED is participating in studies that will help to determine environmental effects of pesticides and mechanisms that cause pesticide toxicity in surface water. CALFED may participate in programs to reduce or eliminate uses of pesticides, provided that reductions in toxicity can be achieved.

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. CALFED actions in no way usurp the authorities of any regulatory or planning agency.

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 5.3.0-2

The reader appears to misread the page quoted, page 5.3-4 in the June 1999 Draft Programmatic EIS/EIR impact analysis document. Page 5.3-4 summarizes the potentially significant adverse effects on water quality associated with the Preferred Program Alternative. Because nonpoint source pollutants are largely unregulated and mitigation depends on local voluntary efforts, the expected increase in discharge of nonpoint source pollutants to water bodies that would result from the potential growth induced by the Preferred Program Alternative is likely to be unavoidable. At this programmatic level of planning, it is unknown where the new growth is likely to take place or whether the local nonpoint source discharge can be mitigated. The discussion does not differentiate between nonpoint source discharges in the Sacramento Valley and in export areas.

5.4.3 Predominant Uses of Diazinon and Chlorpyrifos

WQ 5.4.3-1

The suggested change has been made in the WQPP.

5.5 Approach to Solution

WQ 5.5.0-1

Pesticide impacts are determined by many factors, including laboratory studies, field studies, and combinations of the two. Determining the cause of the impact may point to a specific use or an abuse of the pesticide that contributes to the impacts far above other legitimate uses. While reducing regionwide use may reduce impact, reducing abuse or reducing a specific use that is found to contribute to pesticide toxicity may eliminate the impact entirely. CALFED is not opposed to pesticide use reduction. CALFED's objective, however, is pesticide toxicity reduction.

WQ 5.5.0-2

Control of urban uses of the pesticides diazinon and chlorpyrifos is a priority action for the environmental Water Quality Program. Removal of the pesticide from public use will need to be considered by the Department of Pesticide Regulation. It is within their authority to regulate these and other pesticides in this manner.

WQ 5.5.0-3

CALFED is not a regulatory agency and does not seek regulatory authority to implement water quality actions. Therefore, implementing a "regulatory only" Program for pesticide toxicity reduction is not within the CALFED Program's solution principles. Use of regulatory programs for reduction of toxicity within the urban areas may not be feasible. Pesticides are labeled for use by homeowners and are sold in local retail stores. Educational methods are being proposed to control pesticide toxicity of urban drainage. As an alternative to regulatory control, CALFED proposes to add technical support to the actions of regulatory agencies. Additional technical support is intended to add scientific validity to methods of toxicity reduction. This method is intended to target the highest contributors first, as feasibility dictates. By doing so, implementation of less effective measures may not be necessary.

5.5.1 Priority Actions

WQ 5.5.1-1

The suggested change has been made in the WQPP.

6. Organochlorine Pesticides

WQ 6.0.0-1

Chapter 6 in the WQPP has been modified to clarify that this section seeks to prevent pollutants no longer used in California from affecting the environment.

6.4 Approach to Solution

WQ 6.4.0-1

We concur. Winter storm runoff should be included as an area to study for reduction potential of organochlorine (OC) pesticides. This suggestion has been incorporated into Chapter 6 in the WQPP.

6.4.1 Priority Actions

WQ 6.4.1-1

The WQPP does contain a list of stakeholder-recommended actions that might solve portions of individual problems. These are not considered exhaustive lists. Through adaptive management and research, other management tools can be incorporated. Work group activities and the adaptive management process is open to interested parties, to maintain equity among stakeholder interests. Work groups participate by helping to define project priority and appropriateness based on what is known. Implementation of any action in the WQPP is not a foregone conclusion. To receive funds, each project must first receive approval by stakeholder and agency groups.

WQ 6.4.1-2

As a nonregulatory agency, CALFED cannot impose implementation of the use of any management measure. However, financial incentives may encourage its use. Polyacrylamide (PAM) will remain on the list of potential actions to be studied.

WQ 6.4.1-3

The endorsement of increasing channel capacity to prevent OC pesticide input to creeks is noted. Furthermore, the relationship between local flood control and OC pesticide management will be brought to the attention of the workgroup, at such time as it is formed.

WQ 6.4.1-4

The CALFED Program does not support programs that will reduce chemicals beyond what is necessary to eliminate environmental toxicity. Program actions are not intended to reduce crop production at all. In some areas of the Water Quality Program, it is hoped that measures might increase productivity (providing salt removal for agricultural soil, which would increase productivity of salty soils).

The comment opposes CALFED dictating any particular planning solution.

WQ 6.4.1-5

The CALFED Program is not a regulatory program and does not enforce any planning action it might develop through the stakeholder process. The planning activities will be restricted to developing methods in order to minimize water quality parameters that are known to cause particular water quality problems. The main CALFED support is proposed to serve as a process for promoting farm conservation and providing funds for cost

sharing or incentives. CALFED will work with the Natural Resources Conservation Service, as one of the many participating CALFED agencies, in developing research projects and planning efforts to meet CALFED goals.

WQ 6.4.1-6

CALFED will continue to propose such monitoring and research.

6.4.3 Existing Activities

WQ 6.4.3-1

Section 6.4.3 in the WQPP has been revised to include a broader scope of programs. The components of the CURES Program mentioned in the comment are good components and should be supported. CALFED will be initiating a stakeholder/agency workgroup to address pesticide work priorities, including research and pilot projects.

WQ 6.4.3-2

The relationship between local flood control and OC pesticide management will be brought to the attention of the workgroup, at such time as it is formed.

7. Salinity

WQ 7.0-1

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 (San Joaquin Valley Drainage Implementation 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.

Correction of the salt imbalance in San Joaquin Valley agriculture does require attention. CALFED is proposing research that will lead to some success. At a minimum, this research could be used to determine how much salt can be removed by non-drain methods, thus reducing needs (or size) of a future proposed drain. 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 utilize 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, and other reverse-osmosis proposals, creates a crystalline salt by-product from used irrigation water and attempts to market the salt for industrial use. These activities will be utilized 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 at this time. Through adaptive

management, the CALFED Program could investigate the feasibility of drain alternatives that meet CALFED solution principles of no redirected impacts.

WQ 7.0-2

As a nonregulatory agency, CALFED has not funded establishment and implementation of water quality objectives for the RWQCB. CALFED has assumed a supportive role, providing funding for research that in turn can be used to establish technically based water quality standards. In the case of diazinon and chlorpyrifos, CALFED funded hazard assessment criteria for DFG. These criteria may be used as part of the basis for a water quality objective by a regulatory agency. CALFED is also supporting reductions in salt loading of the San Joaquin River by proposing funding of projects that would eliminate salt from drain water while keeping agricultural land in production. There is still much to work on in this field. Many questions remain unanswered concerning how much can be done with in-valley solutions.

WQ 7.0-3

The Water Quality Program has not questioned the uses of water in areas served by Delta exports. The Water Use Efficiency Program is reviewing water uses and reuses to maximize benefit of water diverted from the Delta. It is correct, as pointed out by the comment, that a permanent fix to the salinity issues in the San Joaquin River has not been identified and approved. Many parties believe that an out-of-valley drain is appropriate and environmentally safe. However, there is much controversy over the applicability of a drain. The CALFED Program has therefore proposed some other activities that would promote water conservation while reducing salt buildup in irrigated soils. These projects have not been in existence for long periods of time and are not yet considered fully sustainable. Studies are continuing to determine potential solutions to salt buildup in soils while maintaining environmental stewardship and irrigation efficiency. It is hoped that methods developed in the San Joaquin Valley also will be applicable to the Imperial Valley.

WQ 7.0-4

It is true that agricultural drain water is recycled. Salt from irrigating farmland in parts of the San Joaquin Valley combines with salt from other sources and affects the San Joaquin River. CALFED has proposed projects to eliminate some of the agricultural drain water from the system in order to reduce salinity in the San Joaquin River. Additionally, CALFED is proposing to reduce constituents that contribute to the low DO conditions in the San Joaquin River near the City of Stockton. Elimination of some of these constituents might also improve drinking water quality.

7.1 Summary

WQ 7.1-1

Many factors affect the salinity of water diverted from the Delta, including droughts and wet years, seasonal changes associated with annual climate changes, tidal effects, and agricultural irrigation practices. Such variability is inherent in a complex estuarine system such as the Bay-Delta. However, the Preferred Program Alternative is predicted to lower the salinity of export waters on average and, although variability may continue to be high, the range of concentrations is predicted to be lower.

WQ 7.1-2

Tables 5.2-9 and 5.2-10 in the Programmatic EIS/EIR impact analysis document show how the 2 parts per thousand isohaline is predicted to change under the various alternatives.

WQ 7.1-3

Many factors affect the salinity in the Delta in addition to the width of the sloughs. These factors include the flow rates of the rivers, circulation patterns within the Delta, and the magnitude and location of sources of salts. Model predictions of how salinity may change under the various alternatives are provided in tables in Section 5.3 in the Programmatic EIS/EIR.

WQ 7.1-4

Please see common response 16.

WQ 7.1-5

Salinity loading from the San Joaquin River is emphasized because the San Joaquin River contributes to marked elevation of Delta salinity levels that adversely affect beneficial uses of Delta waters. The scope of the WQPP does, however, encompass source prevention and control actions directed at Delta and Sacramento River sources of salts. Salt management of wastewater treatment plant discharges and timing of agricultural discharges are examples of salt management actions envisioned as elements of the WQPP that may be applicable to the Sacramento River and Delta. Detailed planning for and prioritization of such actions will evolve as the Program reaches its implementation phase and will be accomplished with stakeholder involvement. Also see response WQ 3.6.1-4.

WQ 7.1-6

These sections of Chapter 7, "Salinity," were intended to state how much work has gone on before the CALFED Program, with an emphasis on the fact that much has been attempted without large-scale success. CALFED is committed to retiring the minimum acreage necessary in order to accomplish the selenium objectives by cooperating in the successful implementation of other options. Land retirement will be implemented on a voluntary, compensated basis with due regard to impacts on local communities and economies. Therefore, land retirement is considered a final option. In the months since this chapter was written, progress has been made in both integrated on-farm management and reverse-osmosis treatment. Salt disposal or reuse remains an issue that needs attention. There is no indication at this point whether these "treatment" measures will amount to what is needed to meet in-stream salinity standards from regulatory agencies. CALFED is committed to research and pilot projects in order to determine what degree of success is feasible without land retirement or an out-of-valley drain.

7.3 Objective

WQ 7.3.1-1

To state that CALFED is not willing at this time to invest in an out-of-valley drain as it has been proposed, but is willing to invest in other solutions, does not indicate that CALFED is counter productive. The track CALFED stakeholders (and Policy Group) have decided to take will lead to some success in reducing salinity in the San Joaquin River and in the soils of Central Valley farms. These expected results are similar to the goals of the agricultural community who have participated in the CALFED process. The CALFED actions are expected to achieve some success, not the least of which will be to determine how much salt can be removed by non-drain

methods, thus reducing needs (or size) of a proposed drain. This area likely will require many simultaneous solutions; working on all but one solution leaves some room for others to also contribute where individual governing bodies dictate.

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.

WQ 7.3.1-2

The actions proposed in the WQPP are not all of the actions proposed by CALFED to reduce salinity. The drinking water quality improvement strategy in the Phase II Report outlines a general strategy for improvement that includes salinity reduction. The activities from the drinking water quality program and the actions from the ecosystem water quality program should result in overall reductions of salt, which should improve the utility of the San Joaquin River water and the Delta water. The Delta Drinking Water Council will examine the results of efforts and will identify additional measures to further protect drinking water uses of the water.

7.4 Problem Description

WQ 7.4-1

Stakeholders have recommended establishment of intermediate water quality milestones for salinity in water diverted from the Delta. Values of 220 mg/L and 150 mg/L TDS have been recommended as salinity targets. The CALFED Program must simultaneously address ecosystem, water supply reliability, levee system integrity, and water quality problems. While facilities undoubtedly would have advantages for the quality of drinking water supplies taken from the Delta, it is not presently clear that such facilities would produce the best overall solutions to the problems of the Bay-Delta estuary. The Delta Drinking Water Council will be asked to consider the question of salinity targets and to make recommendations to the BDAC and CALFED management. The deliberations of the Council will also be supported by technical teams composed of drinking water stakeholders and by the work of independent scientists who will be commissioned as needed to achieve balanced, scientifically supportable perspectives. Potential impacts of failure to provide adequate water quality are not assessed, as it is not presently known what level of source water quality will be required to meet the CALFED objective of providing protection of public health in drinking water supplies taken from the Delta, when source water quality improvements, alternate sources, and treatment are combined to address drinking water concerns.

7.4.1 Lower San Joaquin River Basin Salt Balance

WQ 7.4.1-1

The impact analysis section in the June 1999 Draft Programmatic EIS/EIR states the following on page 5.3-17:

> Data reported by Grober (1999) at the CVRWQCB [Central Valley Regional Water Quality Control Board] indicate that concentrations in the San Joaquin River at Vernalis, expressed in terms of specific conductance or umhos/centimeter [cm] exceeded the 700 umhos/cm 30-day running average objective for April through August in about 54 percent of the time from 1986 to 1997. These concentrations exceed desirable levels for agricultural irrigation and cause problems for south Delta farmers and for export water.

While this characterization does not include the assertions made by the commentor, it does describe the salinity impairment of the San Joaquin River.

7.4.3 Sources

WQ 7.4.3-1

The WQPP recognizes that some water use efficiency measures are capable of increasing concentrations of salts as a result of decreased water use, while some water use efficiency activities reduce pollutant loads and improve water quality. Whether the effects of water use efficiency actions are beneficial to water quality will need to be analyzed on a case-by-case basis. At the current programmatic level of detail, specific water use efficiency projects have not been identified that would make it possible to analyze their potential impacts on the quality of receiving waters. As projects are developed during the implementation phase of the CALFED Program, salinity and other environmental impacts will be identified and documented, and provisions will be made for mitigation where appropriate as a condition of project implementation. Potential mitigation measures might include treatment to remove salt or avoidance of circumstances that would cause salinity increases. CALFED is committed to avoid significant salinity increases in the Delta estuary and its tributaries resulting from its actions.

WQ 7.4.3-2

CALFED hopes to support development of the same types of practices.

7.5 Approach to Solution

WQ 7.5-1

According to modeling projections conducted by DWR, the Preferred Program Alternative does result in significant reductions in salt concentrations at the diversion facilities for the SWP. (See Tables 5.3.4-a and 5.3.4-b in the Programmatic EIS/EIR.) The TOC changes associated with the Preferred Program Alternative have not been evaluated quantitatively. Section 3.7.3 in the WQPP points out that organic carbon "might be subject to control by drainage treatment if the technology can be proven and if it can be made economically feasible." Source identification of TOC and pilot testing of treatment methods on agricultural drains from Delta islands is an early implementation action (see Table 3 on page 12-18 in the June 1999 WQPP).

WQ 7.5.0-3

Salinity and selenium have been concerns in the San Joaquin River for many years. Without intervention, the salinity problem might cause agricultural land to be unproductive or might warrant land retirement under this and other programs. Rises in salinity in the river and Delta threaten ecosystem stability and irrigation exports from these areas. CALFED is proposing innovative solutions to remove salt from supply water and drain water. It is proposed that solutions be sustainable projects, that is, that they lead to long-term productivity of the land. Suggestions such as integrated on-farm management, which was developed through other salinity management

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."

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.

C-028287

C-028288

C-028288

Attachment 1

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C—028298

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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."

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