CALIFORNIA BAY-DELTA AUTHORITY

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Agenda Item: 5
Meeting Dates: July 8, 2004

CALIFORNIA BAY-DELTA PUBLIC ADVISORY COMMITTEE

DELTA IMPROVEMENT PACKAGE: RECOMMENDATION OF ADOPTION OF DRAFT MEMORANDUM OF UNDERSTANDING

Description: A revised Draft Memorandum of Understanding (MOU) regarding CALFED Program activities in the Delta has been prepared by the implementing agencies. This document is intended to clarify the roles, responsibilities and commitments of the signatory agencies in the implementation of programs, projects, evaluations and monitoring focused on water project operations in the Delta region that advance the CALFED Program goals in the areas of water supply reliability, water quality, ecosystem restoration, levee system integrity and science.

Recommended Action: Staff recommends that BDPAC recommend to the Authority that it adopt the proposed MOU.

Background

The CALFED Record of Decision (ROD) calls for a balanced approach to achieving key goals of water supply reliability, water quality, ecosystem restoration and levee system integrity.

The State and Federal agencies are proposing to take actions related to water project operations in the Delta over the next few years. These actions include: (1) increasing integration of the State and Federal water projects through improved coordination and new storage and conveyance agreements (State Water Project/Central Valley Project [SWP/CVP] Integration Plan); (2) increasing the SWP Delta permitted pumping rates to 8,500 cfs; (3) developing a new, long-term Environmental Water Account (EWA) to protect, recover and restore Delta fisheries while providing water supply reliability commitments to the SWP and CVP exporters; (4) implementing projects to improve Delta water quality; (5) improving levee system integrity; and (6) conducting monitoring, studies and analysis of the Delta system to support more flexible, real-time management by the agencies.

An initial list of potential projects being considered as part of the proposed MOU was provided to the Authority at its February 11 meeting, and to BDPAC at its March 11 meeting. It was further discussed at the April 7-8 and June 9-10 meetings of the Authority and at BDPAC's May 13 meeting. In response to public comments received at

the May 27, 2004 public workshops on the Delta Improvements Package and discussion at the California Bay Delta Authority meeting on June 9-10, 2004, the State and Federal agencies developed a revised Draft Memorandum of Understanding. The revised version was posted on the Authority's website http://www.calwater.ca.gov on June 18, 2004. This revised Draft MOU will be considered for approval at the August 12, 2004 meeting of the Authority.

Before they can be implemented, the elements described in the proposed MOU will undergo an extensive public review process, through a variety of means, including public workshops, review by BDPAC subcommittees, focused meetings with stakeholders, and presentations to the Authority. In addition, projects under consideration will complete, as appropriate, applicable State and Federal regulatory and environmental permitting requirements, including California Environmental Quality Act and National Environmental Policy Act.

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List of Attachments

Attachment 1 – Draft Memorandum of Understanding Regarding CALFED Bay-Delta Program Activities in the Delta (dated June 18, 2004)

Contact

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Delta Regional Coordinator

Draft Memorandum of Understanding Regarding CALFED Bay-Delta Program Activities in the Delta

I. Introduction

Actions to increase water supply reliability, improve water quality, and protect important fish species in the Delta have frequently been at odds with each other. The purpose of this Memorandum of Understanding (MOU) is to clarify the roles, responsibilities, and commitments of the signatory agencies in the implementation of programs, projects, evaluations, and other undertakings focused on the Delta region that advance the CALFED Bay-Delta Program goals in the areas of ecosystem restoration, water quality, water supply reliability, and science.

The state and federal agencies are coordinating their assumptions and schedules to move forward with a set of activities focused on the Delta that are consistent with the CALFED Program's principle of balanced implementation. Coordination of these key activities will help the signatory agencies implement the CALFED Record of Decision (ROD) in a balanced manner and avoid the conflict and gridlock that the CALFED Program was created to address.

The schedules for many of the proposed actions and commitments listed below are described in Appendix A.

II. Water Supply Actions and Commitments

The signatory agencies intend for the proposed actions and commitments described below to improve water supply reliability from the Delta while protecting water quality and fishery resources.

A. State Water Project/Central Valley Project Integration Plan

DWR and USBR will continue to coordinate SWP/CVP operations, and propose to convey up to 50,000 acre feet per year of Level 2 CVP refuge water at the SWP Banks pumping plant, and use up to 37,500 acre feet per year of CVP water to reduce SWP in-basin obligation for Bay-Delta water quality and flow requirements. DWR and USBR are also proposing to increase these amounts up to 100,000 acre feet per year and up to 75,000 acre feet per year, respectively, when full implementation of the SWP Banks pumping plant increase to 8,500 cfs permitted capability is achieved, or earlier if agreed to by DWR and USBR. In order to facilitate SWP/CVP integration, DWR and USBR will develop and obtain SWRCB approvals of any needed water level, water quality, and fisheries response plans set forth in the SWRCB Water Right Decision 1641. These proposals will be evaluated through the Operations Criteria and Plan (OCAP) early consultation process, and will also go through applicable project-specific environmental and regulatory review processes before implementation.

B. State Water Project/Central Valley Project Intertie

USBR and DWR will evaluate, and USBR proposes to construct, an Intertie between the Delta-Mendota Canal and California Aqueduct, with an initial capacity of 400 cfs toward the California Aqueduct and a reverse flow capability of 900 cfs toward the Delta-Mendota Canal, to allow for greater operation and maintenance flexibility for both the CVP and SWP, and enable the CVP to recover conveyance capacity. Subsequent to the construction of the Intertie, USBR and DWR propose to further evaluate the potential for increasing the capacity of the Intertie to 900 cfs.

C. South Delta Improvements Project/Increase SWP Pumping to 8,500 cfs

As described in the CALFED ROD, DWR and USBR are proposing to increase the permitted pumping rates allowed at the SWP Banks pumping plant as part of the South Delta Improvements Project (SDIP).

In accordance with the CALFED ROD, implementation of increased permitted pumping is conditional upon avoiding adverse impacts to fishery protection, and in-Delta water supply reliability. DWR and USBR agree implementation of increased permitted pumping at the SWP Banks pumping plant is also conditioned on:

1. DWR and USBR constructing and operating permanent operable barriers in the South Delta to improve water quality, water level conditions, and provide fishery protection.

2. DWR and USBR, in cooperation with other CALFED agencies and local interests, developing and implementing a comprehensive San Joaquin River Salinity Management Plan (Plan) to enable reliable compliance with all existing Delta water quality salinity objectives (electrical conductivity and chloride) for which the state and federal water projects have responsibility, in accordance with SWRCB Water Right Decision 1641. This Plan will be completed by December 2004.

3. Construction of the Veale and Byron Tracts aspects of the Old River and Rock Slough water quality improvement projects to protect and improve water quality conditions near the Contra Costa Canal.

4. USFWS, NOAA Fisheries, and DFG developing and implementing environmental protection measures, including project-specific and updated programmatic federal biological opinions and state NCCP authorizations to comply with federal ESA and state NCCPA requirements that continue to protect and recover covered species to an equivalent level of protection as provided for in the CALFED ROD. The assets needed to provide this level of protection will be adjusted periodically based on new science and other information.

5. DWR, USBR, USFWS, NOAA Fisheries, and DFG developing and implementing a long-term Environmental Water Account with appropriate water user and public funding to protect, recover, and restore at risk native fish species that rely on the Delta while providing water supply reliability commitments to the SWP and CVP exporters.

DWR and USBR will continue to comply with existing SWP and CVP water rights conditions, as described in SWRCB Water Right Decision 1641.

DWR expects the development of environmental documentation, obtaining permits, and construction of the permanent operable barriers will take until late 2007. In the interim there may be strategic opportunities during high flow months to increase allowable pumping capability at the SWP Banks pumping plant beyond existing operating rules. DWR will work with the signatory agencies and regulatory agencies to identify the conditions, including the ones set forth above, that would allow for such interim operation as part of the SDIP permitting process.

III. Water Quality Actions and Commitments

The signatory agencies reaffirm their commitment in the CALFED ROD to continuously improving Delta water quality for all uses, including drinking water, environmental, and agricultural uses. The signatory agencies intend that actions listed below will collectively contribute to meeting this commitment, and commit to the process described in Section VI.H. to assess water quality impacts and ensure their actions collectively contribute to continuous improvement.

A. South Delta Improvements Project/Permanent Operable Barriers: DWR and USBR will evaluate and construct permanent operable barriers to improve water quality and water level conditions in the South Delta. DWR, USBR, USFWS, NOAA Fisheries, and DFG will develop operating parameters for these permanent operable barriers as part of the SDIP EIS/EIR. The permanent operable barriers will be constructed and operable prior to DWR fully implementing the proposal to expand SWP pumping to 8,500 cfs.

B. San Joaquin River Salinity Management Plan: DWR and USBR, in cooperation with other CALFED agencies and local interests, will develop and implement a comprehensive San Joaquin River Salinity Management Plan (Plan) to maintain compliance with all existing Delta water quality salinity objectives for which the state and federal water projects have responsibility, as required by SWRCB Water Right Decision 1641. The Plan will be developed by December 2004, and may include the following salinity control and flow-related actions:

- A coordinated agricultural and managed wetlands drainage strategy for the San Joaquin River.
- Salt load management and reduction activities.

- Recirculation of Delta exports for subsequent release into the San Joaquin River for purposes of reducing salinity concentrations.
- Voluntary water transfers and exchanges.
- Real-time water quality monitoring.
- Coordination of east side tributary operations.
- Introduction of potential high quality wastewater treatment plant flows.
- Westside groundwater management.

This Plan will be coordinated with and provide input to the SWRCB and Central Valley Regional Water Quality Control Board regulatory processes and programs with the intent of ensuring consistency.

USBR, under federal Court Order, is currently preparing a drainage plan for the San Luis Unit of the CVP, which includes areas from which drainage flows into the San Joaquin River. Aspects of the Plan described above may or may not be part of the final drainage plan for the San Luis Unit.

C. Vernalis Flow Objectives: USBR, in cooperation with DWR, will submit a plan by November 15, 2004 describing how USBR intends to meet the Vernalis flow objectives in 2005. This plan will include a thorough analysis of options for meeting the Vernalis flow objectives, including alternatives to releases from New Melones Reservoir. In addition, USBR and DWR will identify the long-term ability to meet the existing flow objectives contained in SWRCB Water Right Decision 1641. USBR will provide this information to the SWRCB in any future urgency change petitions related to the Vernalis flow objectives, and as part of the SWRCB's periodic review of the 1995 Bay-Delta Water Quality Control Plan.

D. Old River and Rock Slough Water Quality Improvement Projects: The signatory agencies will work with Contra Costa Water District to relocate agricultural drains in Veale and Byron Tracts. In accordance with the CALFED ROD, these projects will be completed prior to the operation of the proposed permanent, operable barriers in the South Delta. In addition and in support of the CALFED Program objective of continuous improvement in Delta drinking water quality, the signatory agencies will work with CCWD to reduce seepage into the Contra Costa Canal.

E. San Joaquin River Dissolved Oxygen: To help improve water quality beyond their water project obligations, DWR and USBR, in coordination with USFWS, NOAA Fisheries, DFG, other CALFED agencies, and local interests will develop and implement a comprehensive strategy to improve dissolved oxygen conditions in the Deep Water Ship Channel near Stockton. This strategy will be coordinated with and provide input to the SWRCB and Central Valley Regional Water Quality Control Board regulatory processes with the intent of ensuring consistency among these programs.

F. Franks Tract: Through studies, pilot projects, and other actions, the signatory agencies will evaluate and implement, if appropriate and authorized, a strategy to significantly reduce salinity levels in the South Delta and at the CCWD and SWP/CVP

export facilities and improve water supply reliability by reconfiguring levees and/or Delta circulation patterns around Franks Tract while accommodating recreational interests.

G. Delta Cross Channel Program: USBR and the signatory agencies will evaluate Delta Cross Channel gate operational strategies to improve Central and South Delta water quality while improving fish passage through the Delta.

H. Relocation of M&I Intake: If the water quality improvements from the above measures do not provide acceptable continuous improvements in Delta water quality, the signatory agencies will evaluate, and if appropriate, work with the Contra Costa Water District to relocate their intake to the lower part of Victoria canal, with appropriate environmental review and, if authorized and appropriated, cost-sharing.

I. Through-Delta Facility: DWR and the signatory agencies will complete the feasibility studies on a 4,000 cfs diversion facility in the north Delta to assess its potential benefits and impacts on water quality, water supply, and environmental conditions in the Delta.

IV. Environmental Protection Actions and Commitments

The signatory agencies recognize the need to continue to provide the protections for covered species that were established in the CALFED ROD, and believe that the actions below will meet this commitment for those covered species that are dependent in part or entirely on the Delta ecosystem.

A. OCAP ESA Consultation: DWR and USBR have prepared a Biological Assessment for the OCAP. Based on this document, USFWS and NOAA Fisheries will prepare coordinated Biological Opinions, including Preliminary Biological Opinions on SDIP. This integrated package will allow USFWS and NOAA Fisheries to comprehensively analyze the effects of proposed water project operations to federally listed species.

B. SDIP ESA Consultation: Consistent with the CALFED ROD Conservation Agreement Regarding Multi-species Conservation Strategy, DWR and USBR are preparing an Action Specific Implementation Plan (ASIP) for covered species potentially affected by the SDIP. USFWS and NOAA Fisheries will evaluate the SDIP Preliminary Biological Opinions and the ASIP to determine if reinitiation of consultation for SDIP is appropriate. DFG will evaluate the ASIP for NCCP authorization.

C. Update of CALFED ROD Programmatic Regulatory Commitments: USFWS, NOAA Fisheries, and DFG will evaluate and may update the CALFED ROD programmatic regulatory commitments. USFWS, NOAA Fisheries, and DFG authorized programmatic compliance under FESA, CESA, and the NCCPA by establishing and implementing the Stage 1 milestones for restoration and species

recovery, as detailed in the biological opinions and the MSCS Conservation Agreement. The CALFED ROD requires USFWS, NOAA Fisheries, and DFG to review these regulatory commitments provided to DWR and USBR by September 30, 2004, based in part on progress in achieving the milestones and the efficacy of the EWA, and to issue supplemental biological opinions and NCCP determinations which may retain the regulatory commitments to DWR and USBR described in the CALFED ROD. In part, these regulatory commitments are provided by the operation of the EWA and funding for the ERP at levels sufficient to provide for adequate protection and recovery of covered species, as described in the CALFED ROD.

D. Environmental Water Account: DWR, USBR, USFWS, NOAA Fisheries, and DFG will determine whether to continue the short-term Environmental Water Account through Stage 1. If a decision is made to continue an EWA beyond Stage 1, DWR, USBR, USFWS, NOAA Fisheries, and DFG will develop and implement a long-term Environmental Water Account based on criteria developed by USFWS, NOAA Fisheries, and DFG to protect and restore at risk native fish species that rely on the Delta while providing water supply reliability commitments to the SWP and CVP exporters with appropriate water user and public funding.

E. Delta Regional Ecosystem Restoration Implementation Plan (DRERIP): The DRERIP is the first of several regional plans intended to refine the existing planning foundation guiding the long-term implementation of the CALFED Ecosystem Restoration Program element. The DRERIP will update the ERP's planning foundation specific to the Delta, refine existing Delta-specific restoration actions and guidance for Delta-specific EPR tracking, performance evaluation, and adaptive management feedback. DFG, USFWS, and NOAA Fisheries, in collaboration with other CALFED agencies, will continue to develop this regional restoration plan for the Delta.

V. Delta Levees Actions and Commitments

The signatory agencies recognize the many benefits provided by the approximately 1,100 miles of Delta levees, including protection for 520,000 acres of farmland, the Mokelumne Aqueduct that crosses the Delta to serve water to the East Bay, three state highways, a railroad, natural gas and electric transmission lines, and thousands of acres of habitat. These levees also protect water quality for Delta and export water users. The recent levee failure on Upper and Lower Jones Tract illustrates the importance of the existing Delta levee system, and emphasizes the significance of including the Delta Levee Program in the CALFED ROD.

DWR, DFG, and the US Army Corps of Engineers, in cooperation with other signatory agencies, will implement the CALFED Levee System Integrity Program Plan as described in the Multi-Year Program Plan to provide long-term protection for the multiple Delta resources described above by maintaining and improving the integrity of the extensive Delta levees system.

VI. Science Actions and Commitments

The signatory agencies will continue to conduct workshops, studies, independent reviews, and other activities to evaluate the relationship between SWP/CVP operations, water quality, and biological resources, and to incorporate the best available information into their planning and regulatory activities.

A. CBDA Independent Science Board: The CBDA Independent Science Board (ISB) will continue to provide input to the CBDA on implementation of this MOU regarding the long-term risks and challenges associated with providing water supply reliability, improving water quality, and protecting key species by restoring the Delta ecosystem.

B. EWA Independent Reviews: The CBDA Science Program, in cooperation with the signatory agencies, will undertake a comprehensive review of the first four years of the Environmental Water Account**,** in preparation for the annual EWA Review Panel analysis of water project operations and its impact on key species. The EWA Review Panel will continue, as necessary, to conduct independent annual reviews, and a comprehensive assessment every four years, and the CALFED agencies will consider the recommendations from the EWA Review Panel in their annual operations planning.

C. Focused Study on South Delta Hydrodynamics, Water Quality, and Fish: DWR, USBR, USGS, DFG, and USFWS will investigate fish movement, distribution, entrainment, and water quality in the South Delta to improve understanding of the effects of South Delta export and barrier operations and flows. This information, in combination with information from the Vernalis Adaptive Management Plan experiments and other studies, will be used to evaluate water project operation and fishery management actions.

D. Focused Study on Delta Smelt and Fish Facilities: DFG will complete studies to evaluate Delta smelt survival at the South Delta export and fish salvage facilities.

E. Science Program PSP: The CBDA Science Program will undertake a Proposal Solicitation Process to evaluate and fund studies to address the gaps in information about the relationship between water management activities and biological resources.

F. SWRCB Periodic Review: The CBDA Science Program will work with the signatory agencies to provide key summaries and analyses of research on Delta water operations, water quality, and biological resources to the SWRCB as part of its periodic review of Delta water quality objectives. These summaries and analyses will include but are not limited to: (1) salinity and flow objectives in the South Delta; (2) the 2.64 mmhos/cm EC (X2) objective; and (3) the Vernalis Adaptive Management Program.

G. South Delta Fish Facilities: USBR and DWR will continue to evaluate potential improvements to fish facilities in the South Delta to ensure operation as originally intended to accommodate changing environmental conditions and proposed operations. In addition, recommendations on alternative facilities, combined operations, and intake locations will determine how fish facilities should be implemented with SWP operations in the future.

H. Performance Evaluation and Monitoring Program:

USBR, DWR, USFWS, NOAA Fisheries, DFG, and USEPA will work with the Interagency Ecological Program, US Army Corps of Engineers, SWRCB, and Central Valley Regional Water Quality Control Board to design and implement a Performance Evaluation and Monitoring Program. This program will evaluate the water quality and biological resource effects of the SWP, CVP, and the Delta activities described in this MOU. This program will be designed to fully evaluate compliance with existing regulatory requirements (including the MSCS and the SWRCB Water Right Decision 1641) and progress towards achievement of CALFED Program goals, including continuous improvement in Delta water quality for all uses, and restoration and recovery targets for endangered species.

This program will include, at a minimum, performance measures, conceptual models, adaptive management strategies, data handling and storage protocols, expected products and outcomes, regular reporting, and an independent review of existing monitoring programs. The proposed program will be submitted to the CBDA Science Program for external review and to the CBDA Independent Science Board for a recommendation on the proposed program to CBDA.

The proposed program will include an annual technical report by the signatory agencies, in a form acceptable to, and submitted to, the CBDA Lead Scientist, that describes significant advances in scientific understanding of the system, status and trends of water quality and biological resources, causes for any significant changes in water quality or biological resources, and recommendations for further study.

Significant findings from this annual technical report will be summarized by the CBDA Science Program, in cooperation with the signatory agencies, and provided to the CBDA. This annual summary of significant findings to the CBDA will identify any failure to meet existing water quality objectives, achieve continuous improvement in Delta water quality, and restoration and recovery targets for endangered species, and any necessary corrective actions as needed.

VII. Provisions

A. Relationship with the CALFED ROD

The signatory agencies acknowledge the programmatic nature of the CALFED ROD, and also acknowledge that the CALFED ROD provides for revising specific projects and programs in the CALFED Bay-Delta Program to account for new information or changed circumstances. The signatory agencies believe that the projects, programs, and commitments in this MOU are consistent with the CALFED ROD. Nothing in this MOU is intended to replace or change the implementation commitments in the CALFED ROD (pp 32-35).

B. Further Environmental Review

The projects and programs described in this MOU are at different stages of development and implementation. Many of these projects and programs are at an early stage and need to complete further technical studies and appropriate NEPA, CEQA, or other environmental and regulatory reviews, as determined by the appropriate agencies on a case-by-case basis. The signatory agencies acknowledge that changes may be made to the proposed projects and programs, or they may not be approved as a result of these future reviews.

C. Contingent on Appropriation of Funds and Future Actions

The expenditure or advance of any money, or the performance of any obligation of the United States under this MOU, will be contingent upon appropriation or allotment of funds in accordance with 31 USC 1341(Anti-Deficiency Act). No liability will accrue to the United States for failure to perform any obligation under this MOU in the event that funds are not appropriated or allotted.

The project schedules described in this document and the ROD depend upon certain assumptions about state and federal budgets, optimized construction schedules, willing sellers, and other contingencies. These assumptions may change as the CALFED Program progresses and appropriate revisions to the CALFED Program may be necessary. Consistent with federal law, nothing in this document or the ROD constrains the discretion of the President or his successors to make whatever budgetary or legislative proposals he or his successors deem appropriate or desirable.

The commitments and obligations under this MOU of the State of California are subject to the availability of appropriated funds. No liability will accrue to the State of California for failure to perform any obligation under this MOU in the event that funds are not appropriated.

D. Nature of MOU

This MOU is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or equity by a party against the United States, the State of California, any agencies thereof, any officers or employees thereof, or any other person.

E. Legal Consistency

All provisions of this MOU are intended and will be interpreted to be consistent with all applicable provisions of state and federal law. The undersigned recognize that public agency signatories to this MOU have specific statutory and regulatory authority and responsibilities and that actions of these public agencies must be consistent with applicable procedural and substantive requirements. Nothing in this MOU is intended to, nor will have the effect of, constraining or limiting any public entity in carrying out its statutory responsibilities. Nothing in this MOU constitutes an admission by any party as to the proper interpretation of any provision of law, nor is anything in this MOU intended to, nor will it have the effect of, waiving or limiting any public entity's rights and remedies under any applicable law.

The program or activities conducted by or funded by any federal agency under this MOU will be in compliance with the nondiscrimination provisions contained in Titles VI and VII of the Civil Rights Act of 1964, as amended; the Civil Rights Restoration Act of 1987 (Public Law 100-259); and other nondiscrimination statutes: namely, Section 504 of the Rehabilitation Act of 1973, Title IX of the Education Amendments of 1972, the Age Discrimination Act of 1975, and American's With Disabilities Act of 1990. They will also be in accordance with applicable federal regulations, which provide that no person in the United States will on the grounds of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving federal financial assistance.

The parties recognize that this MOU is not a contract. This MOU does not delegate to any agency, or the collective group of agencies, the authority to: (1) control another agency's final decision on a project; (2) modify or halt an agency's project; or (3) compromise an agency's discretion to pursue projects according to its individual agency legal authority. This MOU facilitates cooperation and advice among the agencies; it will not be interpreted to form a partnership, joint venture, or contract that requires federal agencies to analyze state projects and programs under the National Environmental Policy Act.

F. Consistency
Paragraphs G-K below apply to this MOU and are consistent with the provisions of the "Amended and Restated CALFED Bay-Delta Program Implementation Memorandum of Understanding," dated September 2003.

G. Modification
This MOU can be modified, if agreed to in writing, by all parties hereto.

H. Term of the MOU
This MOU will become effective as to an agency upon the date of its execution by that agency.

I. Signature in Counterparts
This MOU may be executed in counterparts.

J. Additional Signatories
Other state or federal agencies may execute this MOU. Upon the execution of this MOU by additional agencies, those agencies will become a party to this MOU and no amendment executed by the other signatories is required for the agencies to become a party.

K. Termination/Withdrawal
Any signatory agency may withdraw from this MOU by providing written notice to all of the undersigned parties explaining the reasons for the proposed withdrawal. The withdrawal becomes effective 60 days after the date of such notice, at which time the MOU will have no further force and effect as to that agency. Withdrawal by any one agency shall not invalidate this MOU as to any agency not tendering its own independent notice of withdrawal.

VIII. Signatures

Lester Snow
Director
California Department of Water Resources

Kirk C. Rodgers
Regional Director, Mid-Pacific Region
U.S. Bureau of Reclamation

L. Ryan Broddrick
Director
California Department of Fish and Game

Steve Thompson
California/Nevada Operations Manager
U.S. Fish and Wildlife Service

Patrick Wright
Director
California Bay-Delta Authority

Rodney R. McInnis
Acting Regional Administrator,
Southwest Region
NOAA Fisheries

Sandra Shewry
Director
California Department of Health Services

Wayne Nastri
Regional Administrator
EPA Region 9

IX. Appendices

Appendix A: Summary of Actions and Schedules

SUMMARY OF ACTIONS AND SCHEDULES

WATER SUPPLY ACTIONS AND SCHEDULES

SWP/CVP Integration Plan: DWR and USBR are working on a plan to improve integration of the state and federal water project operations. This plan would allow the SWP to convey CVP refuge water; allow the CVP to provide water to assist in meeting the SWP's water quality responsibility; and allocate available water from the "Phase 8" of the SWRCB Bay-Delta water rights hearings to the CVP and SWP. Intermediate steps to improve coordination and project reliability are proposed to be taken prior to the permitted pumping rates at the SWP Banks pumping plant being raised to the 8500 cfs level. The actions are: conveying up to 50,000 acre-feet of Level 2 refuge supply by the SWP; using up to 37,500 acre-feet of releases from Shasta Reservoir to meet SWP Delta water quality requirements; and implementing a program to enable earlier, higher water allocations by reducing the risks associated with forecasting storage to protect the low point in San Luis Reservoir for water quality purposes. These actions are being evaluated in an early consultation process related to the development of the biological opinion for the CVP/SWP Operations Criteria and Plan and are proposed to be implemented during 2005, after full public review and completing NEPA and CEQA requirements.

Schedule:

- Complete SWP/CVP Operations Criteria and Plan Biological Opinion and early consultation on intermediate actions to improve CVP/SWP operation coordination by June 2004
- Completion of Water Level and Fishery Response Plans required by D-1641 for use of Joint Point of Diversion (JPOD) by July 2004
- Final Sacramento Valley Water Management Program (Phase 8) by June 2005
- Complete NEPA/CEQA analyses and public review of intermediate SWP/CVP operation actions by early 2005
- Initiate formal consultation or request confirmation of preliminary Biological Opinion by early 2005
- Implement intermediate SWP/CVP operation actions by during 2005

SWP/CVP Intertie: The construction and operation of a 400 cfs SWP/CVP pumping plant between the Delta Mendota Canal and the California Aqueduct will provide operational flexibility and improve water supply reliability for the SWP and the CVP. The project will allow the CVP to use the full permitted capacity of the Tracy Pumping Plant (4600 cfs). The agencies involved will develop cooperative operations criteria for the intertie. Subsequent to the construction of the intertie, USBR and DWR propose to further evaluate the potential for increasing the capacity of the Intertie to 900 cfs toward the California Aqueduct. The target date for obtaining federal authority for this increase is late 2006.

Schedule:

- Complete environmental documents by the summer of 2004
- Initiate construction of the 400 cfs intertie by late 2004
- Operation of the 400 cfs conveyance capacity by late 2005
- Obtain federal construction authorization to increase intertie conveyance capacity to 900 cfs by November 2006

South Delta Improvements Project/Increase SWP Pumping to 8,500 cfs: DWR and USBR are proposing to increase the permitted pumping rates at the SWP Banks pumping plant to 8500 cfs, as described in the South Delta Improvements Project (SDIP). As proposed, SDIP also includes conveying 100,000 acre-feet of Level 2 refuge water for the CVP, using up to 75,000 acre-feet of CVP water supply for SWP Delta water quality requirements, installing permanent operable barriers for water level protection in the South Delta, dredging channels for increased conveyance capacity, and improving specific local diversions in the South Delta. South Delta water quality protection agreements will be integral to the increased pumping.

Schedule:

- Final SDIP EIS/EIR and Record of Decision by Mid-2005
- Transitional implementation of 8500 cfs, dredging/diversion improvements, 2005-2007
- Construct permanent operable barriers by December 2007
- Fully operate under 8,500 cfs by January 1, 2008

WATER QUALITY ACTIONS AND SCHEDULES

South Delta Improvements Project/Permanent Operable Barriers: DWR and USBR propose to dredge Delta channels and install permanent operable barriers to ensure water of adequate quantity and quality to agricultural diverters within the South Delta. These actions, along with the extension of approximately 24 agricultural diversions, will be considered in the South Delta Improvement Program EIS/EIR. DWR, USBR, USFWS, NOAA Fisheries, and DFG will develop operating parameters for these permanent operable barriers as part of the SDIP EIS/EIR. Barriers are part of the CALFED Record of Decision and the CVPIA.

Schedule:

- The SDIP Final EIS/R and Record of Decision by Mid-2005
- Begin actions in 2005

San Joaquin River Salinity Management Plan: DWR and USBR, in cooperation with other CALFED agencies and local interests, will develop and implement a comprehensive San Joaquin River Salinity Management Plan (Plan) to maintain compliance with all existing Delta water quality salinity objectives for which the state and federal water projects have responsibility, as required by SWRCB Water Right Decision 1641. The Plan will be developed by December 2004, and may include the following salinity control and flow-related actions:

- **Drainage Strategy:** Development and adoption of a coordinated agricultural drainage and managed wetlands strategy for the San Joaquin River, including activities under the San Joaquin Valley Drainage Implementation Program (SJVDIP), the USBR drainage program, the Grasslands Bypass Project, and related drainage and source control programs by the SWRCB and the Central Valley Regional Water Quality Control Board, and other agencies.

  Schedule: Ongoing

- **Salt Load Management and Reduction:** The San Joaquin River Salinity Management Group evaluates the potential for salt load management and reduction in agricultural and wildlife areas that drain into the San Joaquin River.

  Schedule:
  - The San Joaquin River Salinity Management Group to begin study of refuge salinity management by summer 2004

- **Recirculation:** Through planning studies, pilot projects, and other actions, evaluation and implementation, if appropriate and authorized, of strategies to recirculate Delta exports using excess capacity from the Tracy pumping plant, the Delta Mendota Canal, the SWP Banks pumping plant, or the California Aqueduct to convey water for subsequent release into the San Joaquin River for purposes of reducing salinity concentrations. Planning studies will investigate potential fish and wildlife impacts, and contaminants. An appraisal report identifying recirculation as a potentially feasible project is needed to support a request to Congress for feasibility study authority and subsequent appropriation to complete the studies.

  Schedule:
  - Initiate studies for recirculation by fall 2004

- **Voluntary Water Transfers and Exchanges:** Voluntary water transfers and exchanges to improve water quality. Identification of existing transfers and exchanges often have timing flexibility that will allow for water quality enhancement.

  Schedule: Ongoing

- **Monitoring:** Real-time water quality monitoring and forecasting. Expand the real-time monitoring and forecasting capabilities of DWR's San Joaquin River Real-time Water Quality Management Program.

  Schedule: Ongoing

- **Coordination of East Side Tributary Operations:** Real-time, ongoing coordination of tributary agencies operating storage reservoirs to coordinate operations to enhance water quality where compatible with basic operational needs.

  Schedule:
  - Initial draft of potential actions for coordination by October 2004

- **Introduction of Potential High Quality Wastewater Treatment Plant Flows (WWTP):** Catalog potential high-quality WWTP discharges to land, which may be discharged to the lower San Joaquin River if water quality can be improved downstream and investigate opportunities to create recycled water exchanges for high quality supplies for river flow.

  Schedule:
  - Develop draft options by March 2005

- **Westside Groundwater Management:** Analysis of reduced accretion flows to the lower San Joaquin River through strategic groundwater pumping and discharge.

Schedule: Ongoing

Vernalis Flow Objectives: USBR, in cooperation with DWR, will submit a plan by November 15, 2004, describing how USBR intends to meet the Vernalis flow objectives in 2005. This plan will include a thorough analysis of options for meeting the Vernalis flow objectives, including alternatives to releases from New Melones Reservoir. In addition, USBR and DWR will identify the long-term ability to meet the existing flow objectives contained in SWRCB Water Right Decision 1641. USBR will provide this information to SWRCB in any future urgency change petitions related to the Vernalis flow objectives, and as part of SWRCB's periodic review of the 1995 Bay-Delta Water Quality Control Plan.

Schedule: Ongoing

Old River and Rock Slough Water Quality Improvement Projects: Contra Costa Water District will relocate agricultural drains in Veale and Byron Tracts. In accordance with the CALFED ROD, these projects will be completed prior to the operation of the proposed permanent, operable barriers in the South Delta. In addition and in support of the CALFED Program objective of continuous improvement in Delta drinking water quality, CCWD will reduce seepage into the Contra Costa Canal.

Schedule:

- Construction of Veale and Byron tracts drainage improvements begins by June 2004
- Construction of first phase Canal lining project begins by May 2005

San Joaquin River Dissolved Oxygen: To help improve water quality beyond their water project obligations, the DWR and USBR, in coordination with USFWS, NOAA Fisheries, DFG, other CALFED agencies, and local interests will develop and implement a comprehensive strategy to improve dissolved oxygen conditions in the Deep Water Ship Channel near Stockton. This strategy will be coordinated with and provide input to the SWRCB and Central Valley Regional Water Quality Control Board regulatory processes with the intent of ensuring consistency among these programs. Currently, the Bay-Delta Authority is coordinating efforts of stakeholders and agencies to study and correct the low dissolved oxygen problem in the Deep Water Ship Channel near Stockton. Low dissolved oxygen concentrations disrupt migratory patterns of anadromous fish. This effort supports the development of a TMDL and Basin Plan Amendment by the RWQCB. These actions will lead to restoration of the dissolved oxygen conditions to meet the Basin Plan Objectives and protection of beneficial uses.

Schedule:

- Complete the RWQCB Phased TMDL and Basin Plan Amendment by July 2004
- Complete CBDA Implementation Plan by August 2004
- Complete monitoring and modeling studies by June 2007
- Design, construct and operate a demonstration aeration system, fall 2005-2008
- Evaluate other control projects and mitigation strategies, April 2004- December 2008
- Complete Final TMDL/Basin Plan Amendment for long-term control by 2009

Franks Tract: Through studies, pilot projects, and other actions, the signatory agencies will evaluate and implement, if appropriate and authorized, a strategy to significantly reduce salinity levels in the South Delta and at the CCWD and SWP/CVP export facilities and improve water supply reliability by reconfiguring levees and/or Delta circulation patterns around Franks Tract while accommodating recreational interests.

Schedule:

- Complete feasibility studies, assess fisheries and fishing impacts and develop pilot projects by January 2006
- Construct and monitor pilot projects, January 2006 - January 2008

Delta Cross Channel Program: USBR and an interagency team is investigating alternative gate operation strategies to improve central and South Delta water quality while improving fish survival through the Delta. Information on benefits and costs of DCC reoperation will be used in conjunction with an evaluation of the proposed Through-Delta Facility to determine appropriate future steps to meet overall Bay-Delta Program objectives.

Schedule:

- Complete evaluations and make recommendations on reoperation by November 2005
- Implement reoperation recommendations by January 2006

Relocation of M&I Intake: If the water quality improvements from the above measures do not provide acceptable continuous improvements in Delta water quality, the signatory agencies will evaluate, and if appropriate, work with the Contra Costa Water District to relocate its intake to the lower part of Victoria canal, with appropriate environmental review and, if authorized and appropriated, cost-sharing.

Schedule:

- Complete evaluation of water quality improvements (date to be developed)

Through-Delta Facility: DWR and an interagency team will complete a feasibility investigation on a 4000 cfs Through-Delta Facility to assess potential benefits and impacts on water quality and fisheries, and determine its relationship to other proposed Bay-Delta actions. Whether or not to proceed with environmental documentation and implementation of a TDF will be determined following this evaluation.

Schedule:

- Complete evaluations, determine TDF technical viability, and recommend projects for implementation by November 2005
- Seek funding and initiate EIR/EIS for project implementation by January 2006

ENVIRONMENTAL PROTECTION ACTIONS AND SCHEDULES

OCAP ESA Consultation: DWR and USBR have prepared a Biological Assessment for the OCAP. Based on this document, USFWS and NOAA Fisheries will prepare coordinated Biological Opinions, including Preliminary Biological Opinions on SDIP. This integrated package will allow USFWS and NOAA Fisheries to comprehensively analyze the effects of proposed water project operations to covered species.

Schedule:

- OCAP Biological Opinion issued by June 30, 2004

SDIP ESA Consultation: Consistent with the CALFED ROD Conservation Agreement Regarding Multi-Species Conservation Strategy, DWR and USBR are preparing an Action Specific Implementation Plan (ASIP) for covered species potentially affected by the SDIP. USFWS and NOAA Fisheries will evaluate the SDIP Preliminary Biological Opinions and the ASIP to determine if reinitiation of consultation for SDIP is appropriate. The DFG will evaluate the ASIP for NCCP authorization.

Schedule:

- SDIP Biological Opinion issued by January 15, 2005

Update of CALFED ROD Programmatic ESA and ERP Commitments: USFWS, NOAA Fisheries, and DFG will evaluate and may update the CALFED ROD programmatic regulatory commitments. The USFWS, NOAA Fisheries and DFG authorized programmatic compliance under FESA, CESA, and the NCCPA by establishing and implementing the Stage 1 milestones for restoration and species recovery, as detailed in the biological opinions and the MSCS Conservation Agreement. The CALFED ROD requires USFWS, NOAA Fisheries, and DFG to review these regulatory commitments provided to DWR and USBR by September 30, 2004, based in part on progress in achieving the milestones and the efficacy of the EWA, and to issue supplemental biological opinions and NCCP determinations which may retain the regulatory commitments to DWR and USBR described in the CALFED ROD. In part, these regulatory commitments are provided by the operation of the EWA and funding for the ERP at levels sufficient to provide for adequate protection and recovery of covered species, as described in the CALFED ROD.

Schedule:

- Complete evaluation of the EWA, progress toward achieving the milestones, and annual ERP funding by June 2004
- Complete an updated Biological Opinions by September 30, 2004

Environmental Water Account (EWA): DWR, USBR, USFWS, NOAA Fisheries, and DFG will determine whether to continue the short-term Environmental Water Account through Stage 1. If a decision is made to continue an EWA beyond Stage 1, DWR, USBR, USFWS, NOAA Fisheries, and DFG will develop and implement a long-term Environmental Water Account based on criteria developed by USFWS, NOAA Fisheries, and DFG to protect and restore at risk native fish species that rely on the Delta while providing water supply reliability commitments to the SWP and CVP exporters with appropriate water user and public funding.

Schedule:

- Decision on continuing EWA by October 2004
- Draft EIS/EIR on long-term EWA by June 2005
- Final EIS/EIR on long-term EWA by December 2005

Delta Regional Ecosystem Restoration Implementation Plan (DRERIP): The DRERIP is the first of several regional plans intended to refine the existing planning foundation guiding the long-term implementation of the CALFED Ecosystem Restoration Program element. The DRERIP will update the ERP's planning foundation specific to the Delta, refine existing Delta-specific restoration actions and guidance for Delta-specific EPR tracking, performance evaluation, and adaptive management feedback. The DFG, USFWS, and NOAA Fisheries, in collaboration with other CALFED agencies, will continue to develop this regional restoration plan for the Delta.

Schedule:

- Complete development and peer review of species life history and ecosystem element conceptual models by December 2004
- Evaluate Delta ERP Actions and approve priority setting process by May 2005
- Complete final DRERIP in December 2005

DELTA LEVEES ACTIONS AND SCHEDULES

The signatory agencies recognize the many benefits provided by the approximately 1,100 miles of Delta levees, including protection for 520,000 acres of farmland, the Mokelumne Aqueduct that crosses the Delta to serve water to the East Bay, three state highways, a railroad, natural gas and electric transmission lines, and thousands of acres of habitat. These levees also protect water quality for Delta and export water users. The recent levee failure on Upper and Lower Jones Tract illustrates the importance of the existing Delta levee system, and emphasizes the significance of including the Delta Levee Program in the CALFED ROD.

DWR, DFG, and the US Army Corps of Engineers, in cooperation with other signatory agencies, will implement the CALFED Levee System Integrity Program Plan as described in the Multi-Year Program Plan to provide long-term protection for the multiple Delta resources described above by maintaining and improving the integrity of the extensive Delta levees system.

Schedule:

- Implement the Levee System Integrity Multi-Year Program Plan (Years 5-8)

SCIENCE ACTIONS AND SCHEDULES

Independent Science Board: The CBDA Independent Science Board will continue to provide input to the CBDA on implementation of this MOU regarding the long-term risks and challenges associated with providing water supply reliability, improving water quality, and protecting key species by restoring the Delta ecosystem.

Schedule: Ongoing

Environmental Water Account Independent Reviews: The CBDA Science Program established an independent technical review panel, which conducted reviews of the EWA program annually since October 2001. These reviews focused on the technical basis underlying the use of EWA assets for environmental benefit and on the relative effects of diversions and upstream operations on aquatic species of concern.

The EWA agencies (USBR, DWR, USFWS, NMFS, and DFG) are now focused on the development of a long-term EWA. The CBDA Science Program will coordinate review and provide feedback on proposed mechanisms for adapting the EWA based on new information.

Schedule:

- EWA Science Panel review in November 2004

Focused Study on South Delta Hydrodynamics, Water Quality, and Fish: DWR, USBR, USGS, DFG, and USFWS are investigating critical gaps in the understanding of fish movements, distribution, entrainment, and water quality due to various CVP and SWP operational regimes. These studies will help evaluate the near and far-field effects of South Delta exports and barrier operations on fish so that potential benefits of the EWA, VAMP, or SDIP operational options can be maximized. In addition, the effort will be used to support future planning activities.

Schedule:

- Conduct pilot investigations on South Delta hydrodynamics, fisheries, and water quality between May 2004 and July 2005
- Conduct full scientific study on SWP/CVP operations based on pilot work and peer review between March 2005 and July 2007
- Make operations recommendations by July 2008

Focused Study on Delta Smelt and Fish Facilities: DFG will evaluate delta smelt survival in the fish salvage process at the South Delta export facilities. Specifically, these studies will evaluate survival through the collection, handling, transport, and release processes used. This information will assist in developing improved fish facilities at the state and federal South Delta export facilities.

Schedule:

- Evaluate fish survival in the existing CHTR process between April 2004 and June 2007
- Recommend implementing CHTR improvements for Delta smelt by July 2008

Science Program PSP: The CBDA Science Program's solicitation process (PSP) is designed to address gaps in scientific information related to key issues about the relationship between various water management actions and biological resources. Through these scientific evaluations, recommendations on future actions will be based.

Schedule:

- Initial Proposal Solicitation Package on Science agenda will be awarded to various entities in December 2004

SWRCB Periodic Review: The CBDA Science Program will work with the signatory agencies to provide key summaries and analyses of research on Delta water operations, water quality, and biological resources to the SWRCB as part of its periodic review of Delta water quality objectives. These summaries and analyses will include but are not limited to: (1) salinity and flow objectives in the South Delta; (2) the 2.64 mmhos/cm EC (X2) objective; and (3) the Vernalis Adaptive Management Program.

Schedule:

- Periodic review started in spring of 2004

South Delta Fish Facilities: USBR and DWR will continue to evaluate potential improvements to fish facilities in the South Delta to ensure operation as originally intended to accommodate changing environmental conditions and proposed operations. In addition, recommendations on alternative facilities, combined operations, and intake locations will determine how fish facilities should be implemented with SWP operations in the future.

Schedule:

- Improve existing fish facilities. Continuous implementation
- Conduct alternative facility configurations and operational studies, July 2004 to July 2006
- Recommendation on new fish facility alternatives (with SDIP 10300) by July 2006

Performance Evaluation and Monitoring Program: USBR, DWR, USFWS, NOAA Fisheries, DFG, and USEPA, will work with the Interagency Ecological Program, the US Army Corps of Engineers, the SWRCB, and the Central Valley Regional Water Quality Control Board to design and implement a Performance Evaluation and Monitoring Program. This program will evaluate the water quality and biological resource effects of the CVP, SWP, and the Delta activities described in this MOU. This program will be designed to fully evaluate compliance with existing regulatory requirements (including the MSCS and Water Right Decision 1641) and progress towards achievement of CALFED Program goals, including continuous improvement in Delta water quality for all uses and restoration and recovery targets for endangered species. Aspects of this program will be described in detail in the SDIP and other environmental documents currently being prepared by the signatory agencies.

This program will include, at a minimum, performance measures, conceptual models, adaptive management strategies, data handling and storage protocols, expected products and outcomes, regular reporting, and an independent review of existing monitoring programs. The proposed program will be submitted to the CBDA Science Program for external review, and to the CBDA Independent Science Board (ISB) for a recommendation on the proposed program to CBDA.

The proposed program will include an annual technical report by the signatory agencies, in a form acceptable to and submitted to the CBDA Lead Scientist, that describes significant

advances in scientific understanding of the system, status and trends of water quality and biological resources, causes for any significant changes in water quality or biological resources, and recommendations for further study.

Significant findings from this annual technical report will be summarized by the CBDA Science Program, in cooperation with the signatory agencies, and provided to the CBDA. This annual summary of significant findings to the CBDA will identify any failure to meet existing water quality objectives, achieve continuous improvement in Delta water quality, and restoration and recovery targets for endangered species, and any necessary corrective actions as needed.

Schedule:

- Final Conceptual Plan and draft funding needs by July 31, 2004
- Final Implementation Plan for Comprehensive Monitoring Plan by July 31, 2005
- Program implementation by January 1, 2006