

DISAPPROVED BY AUTHORITY

California Bay-Delta Program

Environmental Water Account Multi-Year Program Plan (Years 6-9)

(State FYs 2005-06 to 2008-09; Federal FYs 2006 to 2009)

Implementing Agencies:

Department of Water Resources

Department of Fish and Game

United States Bureau of Reclamation

United States Fish and Wildlife Service

United States National Marine Fisheries Service

The May Revision of the Governor's FY 2006 budget identifies three key activities for the CALFED Program that are to be accomplished by November 1, 2005. They are: an independent program and fiscal review; a re-focusing of the efforts of the California Bay-Delta Authority and the other CALFED state agencies; and the development of an action plan for long-term financing.

The outcome of these three activities likely will have considerable impact on how the CALFED Bay-Delta Program is implemented and financed in succeeding years. Therefore, although this Program Plan describes activities that are anticipated to occur during the next four years, the Authority is being asked to approve it based only on those activities scheduled to occur during FY 2006.

July 2005



Goals, Objectives, Targets, and Performance Measures

Goals and Objectives:

The Environmental Water Account (EWA) has been established to provide water for the protection and recovery of at-risk fish species beyond water available through existing regulatory actions related to the operations of the State Water Project (SWP) and the Central Valley Project (CVP). EWA's purpose is to provide protection to the at-risk fish species of the Bay-Delta estuary through environmentally beneficial changes in SWP/CVP operations at no uncompensated water cost to the projects' water users. This approach to fish protection requires the acquisition of alternative sources of project water supply, called "EWA assets," that are to be used to augment streamflows, Delta outflows, to modify exports, to provide fishery benefits, and to replace the regular project water supply interrupted by the changes to project operations for EWA purposes.

The CALFED Record of Decision (ROD) provided a commitment, subject to specified conditions and legal requirements, that for the first four years of Stage 1, there will be no uncompensated water supply reductions, beyond existing regulatory levels, in CVP or SWP deliveries to project water users resulting from measures to protect fish under Federal or State endangered species acts. This commitment is based on the availability of three tiers of protection:

- Tier 1 is baseline water. The regulatory baseline consists of the biological opinions on winter-run salmon and delta smelt, 1995 Delta Water Quality Control Plan, and 800 TAF of CVP Yield pursuant to CVPIA Section 3406(b)(2).
- Tier 2 consists of the assets in the EWA combined with the benefits of the ERP and is an insurance mechanism that will allow water to be provided for fish protection and recovery when needed, without reducing deliveries to water users.
- Tier 3 is based upon the commitment and ability of the State and Federal Agencies to make additional water available should it be needed. In March 2002, the State and Federal Agencies prepared an implementation strategy for Tier 3, establishing a timely scientific panel process and identifying tools and funding should implementation of Tier 3 prove needed.

The EWA Agencies completed an evaluation of the efficacy of the EWA during the first four years of implementation, as required by the CALFED ROD. The EWA Agencies signed a Memorandum of Understanding (MOU) on September 30, 2004 to extend the EWA Operating Principles and to continue implementing the EWA through December 31, 2007.

Targets:

The EWA plans to manage a mixture of purchased water (fixed assets), operational flexibility (variable assets), storage and exchange agreements, and deferral of scheduled delivery of water allocations by willing participants (source shifting). Depending on hydrology and fish behavior, various quantities of water are purchased from willing sellers and either used for fish actions if needed or stored to be used later for fish actions. Variable quantities of assets are provided primarily through operational agreements and flexibility that allow EWA to take advantage of water and the pumping capacity that becomes available in the Delta. The Program's proposed targets (as of February 28, 2005) would:

- Provide an average of about 375 TAF of water for fish habitat actions (250-490 TAF, depending on type of hydrologic year; average assumes respective year types occur with equal frequency).
- Acquire fixed assets, ranging from 200 TAF to 300 TAF per year depending on hydrology and fish behavior, as measured in south-of-Delta equivalents (water used to compensate for Delta pumping curtailments must be returned to the SWP and CVP export services areas south of Delta). That water may be purchased and/or stored upstream of the Delta. In such cases, additional water is usually required to offset conveyance and Delta losses. (The phrase "south of Delta equivalents" indicates the net volume required after accounting for such losses).
- Acquire south-of-Delta water storage capability and/or its functional equivalent to bridge high-demand periods for the EWA. Functional equivalents may include additional purchases, agreements with the projects to carry debt, or other comparable arrangements.
- Use multi-year wet/dry year exchanges and wet year uneven exchanges to augment assets and manage EWA assets.

Water is acquired through purchases from willing sellers and by capture of surplus water. Water purchases would be from existing non-project water storage reservoirs, groundwater substitution, and cropland idling or crop substitution.

EWA's Yearly Purchases

The EWA Agencies estimate the need for fish actions (pumping curtailments in the Delta) and replacement water based on their experience over the last four years, modeling studies, and gaming studies that simulate the EWA's operations in a wide variety of hydrologic conditions. Placeholders for pumping curtailments are estimated from review of the life stages of fish, their presence over time near the Delta pumps, projected pumping rates at the project pumps, target pumping reductions, the Vernalis Adaptive Management Program, and other in-Delta actions. Estimates of water to be purchased as replacement water for the projects are developed from the projected costs of fish actions, the prior modeling and gaming analyses, estimates of water available from operational flexibility (variable assets), and budgetary constraints. In most years, the EWA agencies will typically purchase between 200 TAF to 300 TAF of water per year from willing sellers, although there can be variations depending on actual fish behavior and hydrology.

Summary of EWA Activity, 2001 through 2004

Through the first four years of its operation (2001 - 2004), the concept of the EWA as presented in the CALFED ROD has been implemented to provide additional protection to at-risk Bay/Delta fish species and maintain the regulatory commitments to prevent additional losses to the water supplies of the SWP

and CVP contractors as a result of fish protection actions. Through the first four years of its operation, EWA was able to fulfill all of its goals with the funds made available for the program by negotiating a series of annual agreements for acquiring assets from willing sellers located to the north as well as south of the Delta. The first two years of EWA, 2001 and 2002, were classified as dry, which made cross-Delta conveyance capacity available to the EWA. Consequently more water was purchased from upstream-of-Delta sources (where the spot-market price of water is lower than from south-of-Delta sources) and conveyed through the Delta for return to the SWP and CVP. 2003, the third year of EWA's operation, was classified as an above-normal year, and cross-Delta conveyance capacity to transfer EWA assets from the north to the south of the Delta was limited to the increment of capacity dedicated for EWA use. As a result, a substantial quantity of EWA's assets in 2003 had to be acquired from south-of-Delta sources at relatively high spot-market prices. 2004, the fourth year of EWA's operation, was classified as a below-normal year, and cross-Delta conveyance capacity to transfer EWA assets from the north to the south of the Delta was limited due to low water levels in south Delta and weed problems in Clifton Court Forebay. As a result, some of EWA's assets in 2004 were not pumped from the Delta as planned. Fortunately, relatively fewer fish actions were taken and EWA ended the year with a debt to the SWP/CVP of only 19,100 acre-feet of water within the agreed upon limit on borrowing.

Future Considerations

With the statewide demand for water for municipal and industrial use on the rise, the availability of water in the future for purchase from the spot-market on short notice is expected to decrease over time, although transfers overall will increase as more long-term agreements between buyers and sellers are enacted. The cost of spot market water is expected to rise. It is thus critically important for the EWA Agencies to pursue, as soon as possible, long-term contracts with willing sellers to ensure sufficient availability of EWA resources in the future, at mutually acceptable prices. Discussions between EWA and several sellers willing to enter into such long-term contracts are currently under way. It is imperative that funding sources be identified and sufficient funds be earmarked at this time to support the acquisition of assets from these sources in the future.

Performance Measures:

Performance measures translate the EWA program's goal and objectives into measurable benchmarks of success. Performance measures range from relatively simple metrics to complex cross-program assessments. As such, current work on Performance Measures includes counting the simple metrics and laying the technical and scientific groundwork that will allow us to perform more complex assessments at a later date.

The Science Program and the EWA have been continuously working to design performance measures for the program. The Science Program has articulated the following three levels of Performance Measures for CALFED programs. These will be refined in accordance with the unique needs of each program. For EWA, examples of performance measures include:

- Level 1: Simple administrative measures. These are site-specific indicators that track direct responses of specific projects or groups of projects (such as number of dollars spent and the number of projects funded).
- Level 2: Quantifiable accomplishments directly related to program actions. These are indicators that track the responses of groups of projects on a local or regional level (such as acre feet of conserved or storage water, miles improved levees, or fish counts).
- Level 3: System-wide indicators. These are indicators that track broad, often complex, responses of groups of projects (such as water supply reliability or ecosystem health).

The EWA Technical Review Panel has reviewed the following Level 2 indicators in its annual assessment of EWA's performance.

- total quantity of water acquired by EWA for the year
- quantity of water used to compensate for pumping curtailments carried out to protect fish
- whether the goal of compensating water project supplies impacted due to pumping curtailments for fish cuts was met each year
- whether regulatory commitments were obtained from the fishery agencies each year
- estimate of fish losses for the year – i.e., whether fish losses, after implementation of EWA, stayed below the reconsultation level for the year
- where feasible, estimated reduction in juvenile salmon entrainment
- where feasible, estimated increase in juvenile salmon survival

Because Level 3 measures gauge the combined effects of several Program Elements, EWA will contribute to the Science Program's ongoing work in this area

The EWA provides protection for at-risk species of fish and helps to avoid reaching the re-consultation level of take for listed species by reducing export pumping during periods of peak abundance of these species in the Delta. Prior to reaching the level of impact for listed species that necessitates formal re-consultation, the Project Agencies' and Management Agencies' staff discuss the extent of the take, the relative abundance and distribution of the particular species of concern, and any relevant information on in-stream and Delta conditions. Based on an evaluation of this information, the Agencies may implement a modification of Project operations or "fish action", usually a partial curtailment of project pumping. The cost of fish protection actions at the CVP Tracy Pumping Plant are typically charged against the CVPIA 3406 (b)(2), which provides water for that environmentally beneficial purpose. The water cost of fish protection actions at the SWP Banks Pumping Plant are reimbursed with assets from the EWA. If there is no (b)(2) water available, EWA water may be used for fish actions at the CVP.

EWA's actions during the 4 years of its operation (2001, 2002, 2003, and 2004) and the status of incidental take relative to early warning and re-consultation levels are illustrated on the following chart.

The chart shows the take level for the various listed fish during periods when EWA operation curtailments were instituted. The take level of the target species was below the reconsultation level when most fish actions were taken. Except for winter run in 2001 (estimate later revised) and spring run Chinook (surrogates for yearlings) in 2003, SWP/CVP take of listed fish in the Delta remained at or below reconsultation levels in these years. EWA actions help to avoid exceeding reconsultation levels of take but would not have been needed in every case to avoid reconsultation. All fish actions in the Delta were targeted at reducing pumping impacts and improving fish survival whether reconsultation levels of take were about to be exceeded or not.

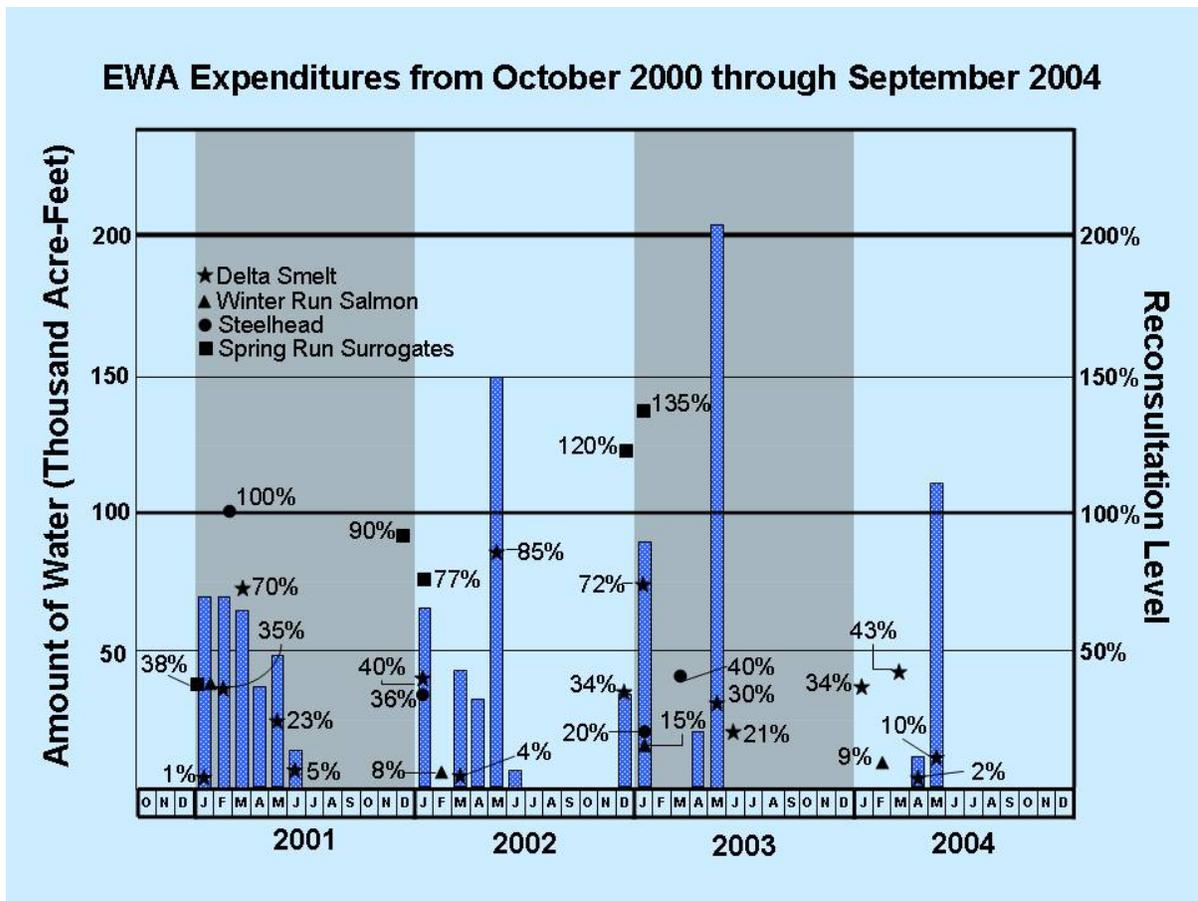


Chart 1

The following table provides a summary of EWA's performance since its inception in 2001 through 2004. The table identifies the specific performance measures or metrics that are used by the EWA agencies to assess the program's annual progress, and to determine whether or not the program is achieving its objectives and goals. The performance measures encompass all three levels, as defined above, and cover nearly all aspects of the EWA's implementation and operation. For each performance measure or metric there is provided a clear definition of the metric's objective, its value and status, and whether or not the objective was met. Also, notes are provided, where appropriate.

Summary of EWA's Performance, 2001 - 2004

Metric	Objective	Value/ Status	Whether Objective was met	Notes
Program Management	Successfully manage program with respect to the following: preparation of annual water acquisition strategy/protocols, agency cooperation, issue resolution, and accurate water and financial accounting, etc.)	Completed	Yes	
Water Purchase Contracts	Successfully negotiate and complete water purchase contracts in timely manner.	Agreements/ Completed	Yes	
Environmental Compliance	Met CEQA, NEPA, ESA, and NCCPA requirements.	Documents/ Completed (see note)	Yes	Completed annual documents for water purchases (2001-2003), and EIS/EIR, which was completed March 2004 and provides environmental coverage from 2004 through 2007 for most EWA water purchases and transfers.
Regulatory commitment to not harm project water deliveries.	Completion of the exchange of letters between the Project Agencies and Management agencies before April.	Letters/ Completed	Yes	
"Balanced-Check-Book"	Sufficient EWA purchased and operational assets were obtained to pay for fish actions taken without incurring debt beyond the current EWA water acquisition strategy.	Total water purchased: 1,098 TAF (including 134 TAF of stored water south of the Delta.) Total operational assets: 214 TAF.	Yes	
Funding	Sufficient funds to meet all program costs (water purchases, conveyance, energy, environmental, labor, etc.)	\$170.0 Million/ Completed	Yes	
Evaluation of Operational decision-making	Operational decisions (CVP/SWP pump reductions, instream flow augmentation, etc.) to protect and recover fish were effective, timely, and made efficient use of EWA assets. Also, decision-making is based on the findings of current science.	1,011 TAF used/ evaluations completed	Yes	Science Program sponsors annual EWA workshops and convenes EWA Review Panel to evaluate aspects of EWA implementation. Decision making has been adjusted based on outcome of these activities.
Winter (December-April 15) fish actions.	See previous metric.	TAF/ Completed		
VAMP (April 15-May 15) related fish actions.	See previous metric.	TAF/Completed		
Post-VAMP (May 16-May 31/Early June) fish actions.	See previous metric.	TAF/Completed		
SWP/CVP export area water deliveries.	Assure no reduction from Tier 1 baseline in water deliveries to project users due to actions to protect fish.	No reductions in project water deliveries	Yes	A total of 1,011 TAF of EWA assets were used to replace project water supplies in WY 2001 through 2004.
Conflicts with stakeholders.	Able to discuss and resolve issues with stakeholders in a manner mutually supported by all.	Unresolved issues	No	No disputes regarding water supply. Unresolved issues concerning future EWA include user fees, size of EWA, adequacy of water management tools, and overall program balance.
EWA Operations	EWA agencies are able to proactively implement the program to minimize uncertainty, reduce risk and develop more streamline processes regarding program implementation.	Improvements made	Yes	Developed modeling tools to help identify water acquisition strategies.
Delta outflow.	Increase over base	Increased Delta outflow by more than 1,000 TAF over 4 years/Completed	Yes, relatively minor increase in Delta outflow	The Delta outflow increase shown is the sum of the pumping curtailments that were not offset by reduced upstream releases, plus the EWA's Delta carriage water costs.
Protect at-risk native fish of the Bay-Delta estuary.	To reduce take and increase survival of listed species and other at-risk species.		Yes, in most cases	Reduction in take and/or increase in survival estimated using models available for species affected by EWA actions.
Contribute to the recovery of at-risk native fish species.	To help increase overall populations of at-risk fish species in accordance with CALFED's objectives.	No reductions in project water deliveries		
Water supply reliability.	Increase water supply reliability for CVP/SWP project users.		Yes	

Accomplishments

The specific accomplishments of the EWA program for 2004 are summarized in the table below.

Water and Power Acquisitions

The Environmental Water Account obtained water through purchases and operational arrangements and used it to replace project supplies lost during pumping curtailments for fish, thus preserving water supply reliability.

Stream habitat was improved when release of EWA water from an upstream reservoir coincided with a habitat need.

ESA-related commitments for continued operation of the CVP and SWP were provided based on a functional EWA and Ecosystem Restoration Program.

Environmental Documentation

The Notice of Determination (NOD) for the EWA EIS/EIR, pertaining to acquisition and management of EWA Assets between 2004 and 2007 (inclusive), was signed by the Department of Water Resources on March 18, 2004. The Department of Fish and Game, as a Responsible Agency, issued its NOD on October 6, 2004. The Record of Decision was signed by Bureau of Reclamation and the United States Fish and Wildlife Service in March 2004 and by National Marine Fisheries Service in September 2004.

The Department of Fish and Game, Fish and Wildlife Service and National Marine Fisheries Service authorized implementation of the EWA through 2007 under state and federal endangered species laws.

The EWA Agencies completed an evaluation of the efficacy of the EWA during the first four years of implementation, as required by the CALFED ROD. The EWA Agencies signed an MOU on September 30, 2004 to extend the EWA Operating Principles and to continue implementing the EWA through December 31, 2007.

The state and federal agencies that are signatories to the Conservation Agreement Regarding the CALFED Bay-Delta Program Multi-Species Conservation Strategy ("Conservation Agreement") signed an amendment to extend the Regulatory Commitments, and related processes, as discussed in Section VII of the Conservation Agreement, through December 31, 2007.

Tier 3 Reserve

The first four years of operation of EWA avoided the need for implementation of Tier 3.

Oversight and Coordination

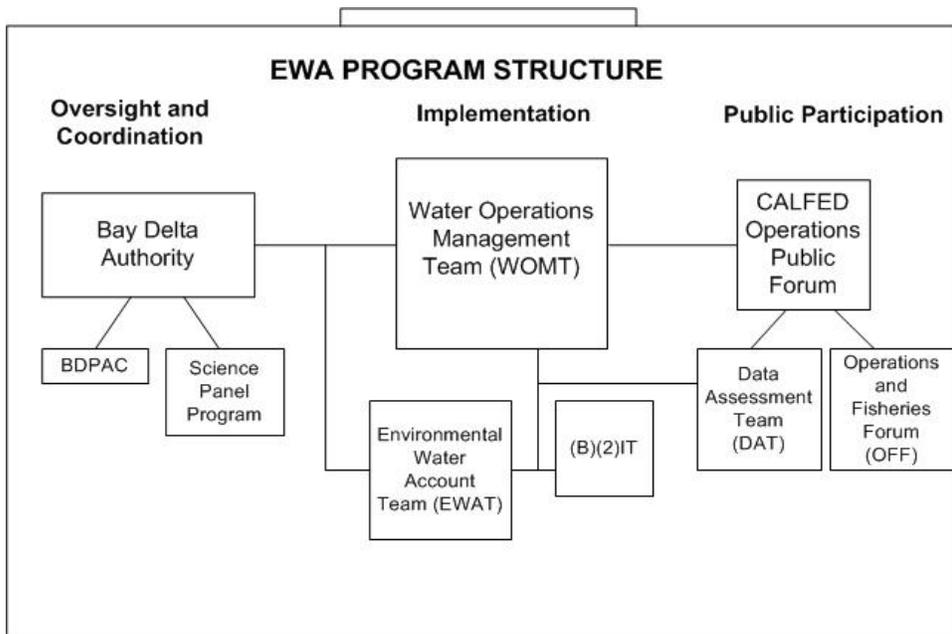
EWA continued coordination between the Management Agencies (USFWS, NMFS, DFG) and Project Agencies (Reclamation and DWR) to maximize opportunities to obtain and use EWA assets for fishery benefits, while helping to ensure water supply reliability to CVP and SWP water users south of the Delta .

Program Structure

EWA is cooperatively implemented by three management agencies and two project agencies. The management agencies are the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS) and the California Department of Fish and Game (DFG), and the project agencies are the United States Bureau of Reclamation (Reclamation) and the California Department Water Resources (DWR). The management agencies are responsible for managing EWA assets and recommending SWP/CVP operational changes beneficial to the Bay-Delta ecosystem and/or the long-term survival of fish species, while the project agencies cooperate with the management agencies in administering the EWA and implementing operational changes proposed by the management agencies, as appropriate.

The five participating agencies meet twice weekly, once at staff level through a team called the Environmental Water Account Team (EWAT) and once at management level as a group called the Water Operations Management Team (WOMT), to discuss the program and decide on program actions. Both of these teams are comprised of members from the five participating agencies. EWA activities are coordinated with the CVPIA (B)(2) Interagency Team and the WOMT, and are an integral part of the annual operating plan for the CVP and SWP. A multi-year EWA water acquisition strategy is developed as part of the annual operating plan.

In addition, various other entities work together with the participating agencies in the EWA program, through activities like coordination and oversight, review, providing information, and organizing public participation. The following chart and table illustrate the inter-relationships among these entities.



Agency	Roles and Responsibilities
California Bay-Delta Authority	<ul style="list-style-type: none"> • Oversight and coordination
Department of Water Resources	<ul style="list-style-type: none"> • Implementing Agency • Acquisition of water • Accounting of EWA assets • Approval of use of SWP facilities • Implementation of EWA actions • Approval of transfers by SWP contractors and other non-SWP entities
U. S. Bureau of Reclamation	<ul style="list-style-type: none"> • Implementing Agency • Acquisition of water • Approval of use of CVP Facilities • Implementation of EWA actions • Approval of federal contractor and settlement Agreement holder transfers
Department of Fish and Game	<ul style="list-style-type: none"> • Implementing Agency • Manage EWA assets • Coordinate EWA with CVPIA 3406 (B)(2) assets • Recommend Fish Actions • Administer the California Endangered Species Act and Natural Community Conservation Planning Act; oversee MSCS compliance and state endangered species compliance for listed fish, wildlife, and plant species.
U. S. Fish and Wildlife Service	<ul style="list-style-type: none"> • Implementing Agency • Manage EWA assets • Coordinate EWA with CVPIA 3406 (B)(2) assets • Recommend Fish Actions • Administer the Federal Endangered Species Act, oversee MSCS compliance and federal endangered species compliance for listed non-anadromous fish and listed wildlife
National Marine Fisheries Service	<ul style="list-style-type: none"> • Implementing Agency • Manage EWA assets • Coordinate EWA with CVPIA 3406 (B)(2) assets • Recommend Fish Actions • Administer the Federal Endangered Species Act, oversee MSCS compliance and endangered species compliance for listed anadromous fish

Major Activities

Provided below is a table summarizing the major activities scheduled during years 6 through 9 of the operation of the EWA program. It should be noted that in order to carry out the scheduled activities completely, adequate funds are essential.

Water and Power Acquisitions

Continue to Provide Protection to the Fish of the Bay-Delta Through Changes in SWP/CVP Operations – The EWA will continue its primary objective—fish protection in the Bay-Delta ecosystem through changes in SWP/CVP operations and providing water supply reliability.

Funding: Proposition 50 for 2005 and unknown for 2006-2009.

Schedule: Ongoing

Short-Term Purchases from Established and New Water Sources – The EWA's strategy will continue to include short-term purchases from existing and new providers, although the volume of water acquired in this manner will comprise a declining proportion of the total mix of purchased assets.

Funding: Proposition 50 for 2005 and unknown for 2006-2009.

Schedule: Ongoing

Multi-Year Purchases from Established and New Water Sources –Multi-year purchases provide some important advantages to the EWA, including increased certainty of the availability of assets and reduced unit cost. Multi-year agreements are expected to be a core part of acquisition strategy.

Funding: Proposition 50 for 2005 and unknown for 2006-2009.

Schedule: Ongoing

Assess SWP/CVP Demand Buy Down – Explore ways for the EWA to pay SWP/CVP contractors to forego a portion of their requested project water in return for compensation from EWA. This option would allow the EWA to receive credit toward SWP/CVP water debt by this compensated reduction in use by some SWP water contractors.

Funding: Proposition 50 for 2005 and unknown for 2006-2009.

Schedule: Ongoing

Evaluate the Potential for Land Retirement and Drainage Mitigation for EWA Assets – Conduct discussions with parties in the San Joaquin Valley outside the Westlands Water District that desire to retire drainage-impacted lands, thereby potentially making the water supply available to the EWA. The EWA Team plans to review this option as a means to address depletion of banked groundwater supplies in the San Joaquin Valley available for the EWA purchase in future years.

Funding: Proposition 50 for 2005 and unknown for 2006-2009.

Schedule: Ongoing

Explore Coordination of New Bullards Bar and Oroville Reservoir Operations – Explore operational coordination of existing non-SWP/CVP reservoirs with the SWP/CVP flood control and water supply systems to develop contractual agreements for additional long-term EWA water supply benefits.

Funding: Proposition 50

Schedule: Ongoing

Investigate Groundwater Banking Capability – Initiate consideration of storage proposals south of the Delta to provide in-ground storage for EWA assets.

Funding: Proposition 50 for 2005 and unknown for 2006-2009.

Schedule: Ongoing

Funding Issues: The availability of full funding is necessary for EWA to carry out the above activities in their entirety. All of these activities are directly or indirectly related to protecting the at-risk fish of the Bay-Delta and precluding any water supply losses to the SWP and CVP water users. In the event full funding is not available, one or more of these activities will have to be curtailed or discontinued, which will adversely impact current and/or future EWA operation. For example, if sufficient funds are not available for the acquisition of water and power assets through short and long-term contracts with willing sellers, the EWA fishery agencies will be unable to continue providing regulatory commitments, which could result in uncompensated cuts in SWP and CVP pumping. Similarly, lack of sufficient funds would hamper efforts to explore other means of enhancing the cost-effectiveness of the EWA program – e.g., through SWP/CVP demand buydown, land retirement and drainage mitigation for EWA assets, coordinated reservoir operations, and increased water banking capability. The loss of such assets will reduce the ability of the EWA agencies to provide the fish protections, water supply assurances, and implement the EWA program in an effective manner, and is likely to decrease the asset diversity and increase the cost of acquired assets well beyond the level obtainable through long-term agreements.

Environmental Documentation

Complete the Long Term EWA EIS/EIR - Reclamation, on behalf of the EWA agencies, has entered into a contract with a consultant to complete the Long-term EWA EIS/EIR. DWR is the CEQA lead agency. Reclamation and the USFWS are the NEPA lead agencies. DFG is a trustee agency under CEQA. NMFS is a cooperating agency under NEPA. This EIS/EIR analyzes the effects of EWA operations through 2030. Acquisitions from new sources may require supplemental CEQA and/or NEPA compliance.

Funding: Proposition 50 and Federal funding for 2005 and unknown for 2006-2009.

Schedule: Expected completion – Spring 2007

Funding Issues: The EWA program cannot function without environmental coverage of its operation. The completed EWA EIS/EIR (January 2004) provides NEPA/CEQA compliance for EWA operations through 2007. The Long-Term EWA EIS/EIR will provide NEPA/CEQA compliance for EWA operations beyond 2007, incorporating a broader range of assets and management strategies. Prior to the continuation of EWA beyond 2007, the Long-Term EWA EIS/EIR must be completed. The absence of adequate funds could adversely impact the schedule of the Long Term EWA EIS/EIR, which, in turn, could hamper EWA operation beyond 2007.

Tier 3 Reserve

Ensure Availability of Assets for Tier 3 if needed—While negotiating contracts for acquisition of EWA (Tier 2) assets; ensure that options and/or assets are acquired sufficient to cover Tier 3 water purchases as well, if needed.

Funding: Proposition 13 and Proposition 50.

Schedule: Ongoing

Funding Issues: It has not been necessary to implement Tier 3 protection during the 4 years since the CALFED ROD. If, in the future, EWA assets are exhausted and a pumping curtailment is necessary to avoid jeopardy to a listed species and Tier 3 cannot be implemented due to lack of sufficient funds, the resulting uncompensated cuts in SWP and CVP pumping could lead to water losses to the SWP and CVP contractors and increased conflict over Delta operations.

Oversight and Coordination

Continue Participation in the Planning of California Bay-Delta Program Storage and Conveyance Programs – An important way the EWA can obtain some of the long-term water assets needed to assure fishery protection and water supply reliability is by obtaining conveyance capacity and storage rights in new or expanded reservoirs, as envisioned in the ROD. Several projects have been proposed, including the expanding the existing Los Vaqueros, Shasta and Folsom reservoirs; the Delta Wetlands Project; the Sites Reservoir; and the Westlake Farms Multi-Benefit Reservoir

Funding: Proposition 50 for 2005 and unknown for 2006-2009.

Schedule: Ongoing

Science Review - The Science Program Sponsored EWA Technical Review Panel will evaluate EWA program performance.

Funding: Proposition 50 for 2005 and unknown for 2006-2009.

Schedule: Ongoing

EWA Science: The EWA agencies, in collaboration with the Science Program (including the Interagency Ecological Program) continue to pursue the collection, synthesis and application of scientific information relevant to the biological needs and population dynamics of the anadromous and Delta fish species and to factors affecting the health and function of the Bay-Delta ecosystem. Methods of estimating abundance and distribution have been improved. Decision making processes have been adapted based on new information. Increased involvement of the academic community and other scientists is expected to increase through the Science Program PSP and the Ecosystem Restoration Program Monitoring PSP, providing expertise that has been lacking. The role of the EWA Technical Review Panel is expected to evolve in 2005. Workshops, seminars and other scientific discussions will continue to contribute to improved scientific understanding and more effective EWA management.

Funding: Proposition 50 for 2005 and unknown for 2006-2009.

Schedule: Ongoing

Funding Issues: The oversight and coordination tasks listed above pertain to EWA's continuance beyond 2004, EWA's ability to obtain long-term water assets, and to providing a review of EWA's past performance and guidelines for future performance – i.e., collectively, these tasks are directly related to enhancing and optimizing EWA's operation in the future. The absence of adequate funds to fully carry out these tasks would impair the efficiency of future EWA operation.

EWA Beyond 2007: The Bureau of Reclamation, U.S. Fish and Wildlife Service, and NMFS have received Congressional authorization to participate in the EWA at least through 2011. However, for these Federal agencies to continue participation in the EWA beyond 2011, additional authorization will be required. For the Department of Water Resources and the Department of Fish and Game to continue involvement in the EWA, beyond 2007, CEQA requirements must be met.

Public Involvement and Outreach

Public participation in the EWA program occurs via several venues throughout any given year. Opportunities for public involvement with the EWA are many spanning annual workshops and reviews to weekly technical meetings, water purchase negotiations, and environmental compliance.

Annually, the public is invited to attend technical workshops on specific EWA related issues such as Chinook salmon and delta smelt monitoring and population studies. In addition, the public has been involved and will continue to be involved with the EWA Technical Reviews conducted and sponsored by the CALFED Science Program in conjunction with the EWA Technical Review Panel. These technical reviews have occurred annually for the last 4 years, but are being proposed to occur biennially.

Quarterly, the public is involved with the Bay-Delta Public Advisory Committee (BDPAC) as well as in its subcommittees. BDPAC meetings and subcommittees consist of state and federal agency managers and stakeholders representing water contractors and districts, environmental interests groups, Indian tribes, as well as others. At BDPAC meetings, key topics related to the EWA and other CALFED Program elements are disclosed and discussed. The BDPAC serves as a public venue for the entire CALFED Program.

On a monthly basis, an update of EWA activities is presented at meetings of the CALFED Operations Group (CALFED OPS). This group consists of agency (state and federal) and stakeholder (CVP/SWP contractors and environmental interests groups) representatives. At CALFED OPS meetings, CVP/SWP water operations (including EWA), fish monitoring studies and results, and related policy and technical issues are open for discussion by all participants. CALFED OPS provides a public forum for disclosing EWA activities.

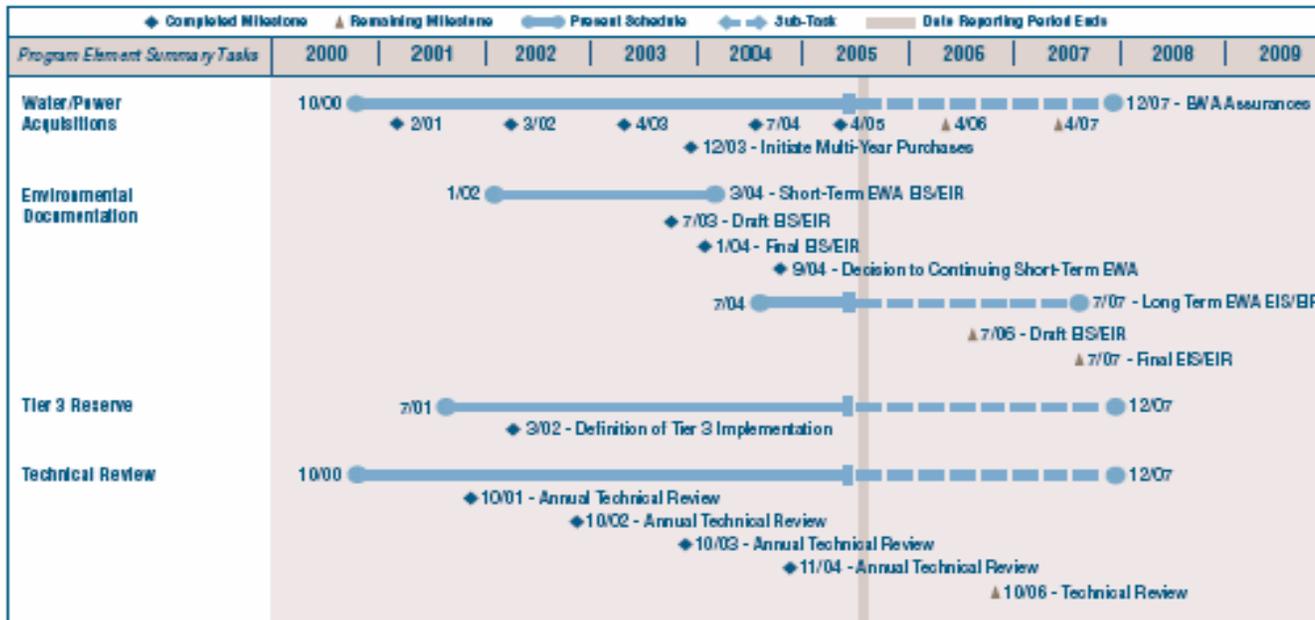
Every week, stakeholders interested in EWA are involved in the Data Assessment Team (DAT), which evaluates and discusses current fish monitoring results, and makes operational recommendations beneficial to fish to the Water Operations Management Team (WOMT). WOMT is an agency management level meeting. An example operational decision is reducing pumping at the CVP/SWP export facilities when at-risk fish species are present. The DAT is a technical meeting consisting of fish biologists and stakeholders.

In all water purchases for the EWA, water districts representatives (and in some cases environmental interests groups) are involved with contract negotiations. For some water purchase agreements, willing sellers petition the State Water Resources Control Board (SWRCB) to obtain approval of a proposed water sale and transfer. Public review of the petition is required prior to the SWRCB's approval.

In addition to the above, public participation and input is key in all environmental compliance activities related to the EWA. For example, the EWA agencies are preparing an Environmental Impact Statement / Environmental Impact Report (EIS/EIR) for the proposed long-term program. The public was involved in public scoping meetings, and will be invited to review the draft EIS/EIR, participate in public workshops and hearings, and to participate in other opportunities for public involvement throughout the environmental review process.

Schedule

Fish protection and water supply reliability benefits were achieved in 2004, despite a fourth consecutive dry year. A short term Environmental Impact Statement/Environmental Impact Report (EIS/EIR) was completed in January 2004, with the long term EWA EIS/EIR scheduled to be completed Summer 2007. The fourth annual science review was held in November 2004, and CALFED agencies are working to integrate EWA activities into the 2004-5 water operations plan. In September 2004, the EWA agencies decided to continue the EWA through 2007.



Integrating Science, Environmental Justice, and Tribal Relations

Science:

The EWA program operates on a water year (October 1-September 30) basis. During the fall of each year, the Science Program's EWA Technical Review Panel (Panel) reviews the overall concept of EWA, its actions (uses of EWA assets and changes in CVP and SWP operations to protect fish), and the technical basis for actions taken during the year.

The EWA program was initiated in August 2000, and the first Panel review was conducted in October 2001. The Panel recommended that State and Federal agencies provide sufficient agency staff time to support the development of the EWA. The Panel also provided various recommendations aimed at increasing the program's scientific credibility by enhancing data collection and evaluation, and improving flexibility in the implementation of EWA by considering a wider set of asset management tools. To accommodate these recommendations, the EWA Implementing Agencies prepared Budget Change Proposals, requesting five more positions for Year 4.

In November 2004, the Panel initiated a review of Year 4 program performance, and the first four years of EWA's implementation. The 2004 review also focused on the future of the EWA as it is poised to move beyond the initial "experiment", and become a more permanent management tool. The Panel's report was submitted to the Science Program on January 17, 2005. The Panel recommended that a systematic approach be considered for integrating the EWA with other programs having similar goals to the EWA and the Ecosystem Restoration Program (ERP), such as the ERP's Environmental Water Program and the Central Valley Project Improvements Act's Water Acquisition Program in order to achieve synergistic biological benefits. Other recommendations included: 1) giving consideration of the biological consequences associated with water purchases, 2) building into future gaming exercises more biological information, the treatment of uncertainty, and use of fish population/movement models, 3) carefully documenting gaming analyses, and 4) implementing a small program to complement the larger ongoing Proposal Solicitation Packages to help bridge the gap between academic and stakeholder researches and agency scientists.

The EWA agencies and Science Program are reviewing the Panel's report and are preparing a written response that will describe how they intend to address the issues and recommendations contained in the report. Also, the EWA agencies and Science Program staff are collaborating on the development of a EWA science agenda and workplan to address the report recommendations.

The technical review of EWA is instrumental to improving the management and operation of the EWA in fulfilling its goal: the protection and recovery of at-risk fish of the Bay-Delta. Scientific knowledge is continually being gained and influences the decisions of groups, such as the EWAT and the Data Assessment Team (DAT), on fish actions and EWA assets management. As more reliable information is obtained on the effects of exports and upstream actions taken for fish benefits, the operation and management of EWA are adjusted to optimize the effectiveness of the program.

Specific EWA activities involving science are provided in the following table for years 6-9. For each EWA activity listed, an "X" is indicated for each element of the scientific process that is applicable and the estimated funds required for the activity is shown. Science is an integral part of the EWA Program and influences daily decisions regarding key activities.

Table: EWA Science Related Activities, Years 6-9

SR#	Science Related Activity	A	B	C	D	E	F	G	H
		Studies and research	Analysis of existing data	Science Communication	Monitoring	Peer review	Use of Science Boards and technical experts	Cross-program coordination (note which program)	Estimated funding for science portion of this activity
1	Protect Fish of the Bay-Delta Through Changes in SWP/CVP Operations	X	X	X	X	X	X		\$4.3 ^(a) million
2	Negotiate Water Purchases ^(b)		X		X			X	Incidental agency staff cost
3	Complete Long Term EWA EIS/EIR	X	X				X	X	\$1.5 million
4	Plan for Future EWA Sources of Water ^(c)	X	X	X		X	X	X	Incidental agency staff cost
5	Participate in Technical Review/Fishery Workshops		X	X		X	X	X	

Notes:

(a) The estimated \$4.3 million depends on the availability of state and federal funds and the extent to which planned activities may be funded by other CALFED programs including the Science Program and the Ecosystem Restoration Program.

(b) Water purchase activities include: short-term and multi-year purchases from established and new sources, and evaluation of potential assets resulting from the retirement of drainage impaired agricultural lands.

(c) Potential future sources of EWA water being explored include: coordination of New Bullards Bar and Oroville Reservoir operations, groundwater banking, and CALFED Program Storage and Conveyance Programs.

Descriptions:

1. Protect Fish of the Bay-Delta Through Changes in SWP/CVP Operations:

- A. **Studies and Research:** Targeted research to understand the factors affecting fish populations and the effects of EWA actions, develop and refine fish population models, and assess EWA performance (\$1.7M)
- B. **Analysis of existing data:** EWAT makes use of existing data and discussion forums, such as the Data Assessment Team, to determine the extent of incidental take, relative abundance and distribution of species of concern, and other relevant information. (\$0.7M)
- C. **Science Communication:** Annual Participation in EWA Technical Review and Fishery workshops.
- D. **Monitoring (including for Performance Measures):** In addition to the accounting needed for asset management, EWA makes use of data generated by the Projects and other entities to assess performance and identify areas needing improvement and ensure compliance with environmental regulations. Existing monitoring through the IEP program and upstream programs will need to be augmented to implement and assess the effects of EWA program actions on juvenile salmonids and delta smelt. (\$1.5)
- E. **Peer review:** EWA Technical Review.
- F. **Use of Science Boards and technical experts:** EWA Technical Review, EWA Science advisors (\$0.4)
- H. **Estimated funding for science portion of this activity:** \$4.3 million (If funds are available and planned activities are not funded by other programs)

2. Negotiate Water Purchases:

- B. **Analysis of existing data:** Use EWA Operations Model to conduct data analysis to develop a formal purchase strategy.
- D. **Monitoring (including for Performance Measures):** Determine effects of crop idling and groundwater substitute options.
- G. **Cross-program science coordination:**
 - a. Environmental Water Program (Ecosystem Restoration Program)
 - b. Central Valley Project Improvement Act (CVPIA) Water Acquisition Program
 - i. Refuge Level 4
 - ii. In Stream
 - c. DWR's Dry Year Water Purchase Program
- H. **Estimated funding for science portion of this activity:** CBDA will determine the funding amount because they have funded this in the past.

3. Complete the Long-Term EWA EIS/EIR:

- A. **Studies and research:** On-going with document preparation (Scheduled for completion by Spring 2007).
- B. **Analysis of existing data:** On-going with document preparation (Scheduled for completion by Spring 2007).

- F. **Use of Science Boards and technical experts:** On-going with document preparation (Scheduled for completion by Spring 2007).
- G. **Cross-program science coordination:** South Delta Improvement Program (SDIP).
- H. **Estimated funding for science portion of this activity:** Incidental agency staff cost in addition to approximately \$1.5 million for consultants to develop EIS/EIR.

4. **Plan for Future EWA Sources of Water:**

- A. **Studies and research:** Conduct analysis to determine long-term water (surface water and groundwater) availability and negotiate purchase strategies with SWP Contractors such as Metropolitan Water District of Southern California & Kern County Water Agency.
- B. **Analysis of existing data:** Investigate existing and proposed surface water storage facilities (such as Los Vaqueros Reservoir Enlargement) and groundwater banking capacity.
- C. **Science Communication:** Will be conducted as needed.
- E. **Peer review:** Will be conducted as needed.
- F. **Use of Science Boards and technical experts:** On-going as part of the planning process.
- G. **Cross-program science coordination:** CALFED Storage and Conveyance Program.
- H. **Estimated funding for science portion of this activity:** Incidental agency staff cost.

5. **Participate in Technical Reviews/Fishery Workshops:**

- B. **Analysis of existing data:** Review of independent research, CALFED Science Program activities, and monitoring relevant to EWA actions will be assembled for the EWA Technical Review Panel.
- C. **Science Communication:** Review of all actions taken by EWA will be presented to the EWA Technical Review Panel by EWA agency staff and workshops organized by the CALFED Science Program.
- E. **Peer review:** Informal review through workshops of the CALFED Science Program.
- F. **Use of Science Boards and technical experts:** CALFED Science Program.
- G. **Cross-program science coordination:**
 - a. Environmental Water Program (Ecosystem Restoration Program)
 - b. CVPIA Water Acquisition Program
 - i. Refuge Level 4
 - ii. In Stream
 - c. DWR Dry Year Water Purchase Program
- H. **Estimated funding for science portion of this activity:** CBDA will determine the funding amount because they have funded this in the past.

Environmental Justice:

To date, EWA agencies have acquired water from willing sellers through groundwater substitution, as well as from stored reservoir water and through extraction of stored groundwater. In the future, EWA may also acquire water made available by willing sellers through crop idling; an action that could potentially affect farm laborers and other individuals associated with farming activities (including farm supply companies, custom operators and other related businesses). The agribusiness industry employs wage earners of all income levels and ethnic backgrounds. The concern for environmental justice is that minority and low-income individuals could be disproportionately affected.

In the process of preparing the EWA EIS/EIR (January 2004) for the program through 2007, the EWA agencies carried out a detailed study of environmental justice concerns related to crop idling associated with EWA's water acquisitions (such as, limiting the amount of crop idling to no more than 20 percent in any one county). The study included analysis of the impacts and consequences of crop idling that are related to environmental justice, as well as formulation of actions to minimize these impacts/consequences. The findings of the study are detailed in the EIS/EIR.

Tribal Relations:

Groundwater extraction via groundwater substitution actions near Indian Trust Assets (ITAs) has the potential to lower groundwater levels beneath the ITAs, thereby impacting tribal water rights and water supplies. This issue has not come up in EWA's water acquisitions to date. However, in recognition that the issue could come up in future acquisitions, the EWA agencies have, in the process of preparing the EWA EIS/EIR (January 2004), studied it in some detail and come up with protective environmental measures and mitigative actions (such as, requiring monitoring plans for all groundwater pumping for EWA) to minimize the impacts of such an operation to a less than significant level. In the event an impact on tribal water supplies/rights is identified, consultation between the affected federally recognized tribal governments and the EWA agencies will be initiated. This may be expanded to include the Bureau of Indian Affairs, the Office of the Solicitor and the Office of the American Indian Trust.

In addition, the following items should help foster more meaningful tribal input and participation on issues or concerns of the tribes.

- Tribal Water Programs (Clean Water Act 106, 319H, etc.)
The majority of California Tribes have developed USEPA Tribal Environmental Programs that have extensive water protection and water quality programs that should be taken into consideration during environmental water account planning and implementation.
- Tribal input re: Adopted resolutions
Outside of the consultation process, tribes lack input on specific CALFED resolutions pertaining to projects that may affect them due to timeframes, concerns, funding, etc.
- Tribal Water Quality Standards
Some tribes have USEPA approved Water Quality Standards (WQS's) and many are in the process of obtaining them. The exchange and sharing of such documents are necessary when it comes to upstream and downstream impacts and/or cumulative impacts that affect the tribes. EWA agencies anticipate that such information would be provided to the agencies by the tribe possessing such standards, should consultation commence for a specific EWA action.

- Tribal Representatives on BDPAC decision-makers available
The tribes have been involved with some aspects of CALFED for a number of years. There are currently two tribal BDPAC members. The input of these members serving on the BDPAC should be made available to all tribes, with the assistance of the CBDA's Tribal Coordinator. EWA agencies support such information releases to the tribes.
- Role of the Bureau of Indian Affairs (BIA)
Although the BIA is not a CALFED member agency, it is the lead federal agency for the protection of Indian Trust Assets. The BIA reviews and comments on EWA's environmental compliance documents, including the EWA EIS/EIR (January 2004).

BIA is currently a "cooperating agency" for the North Delta Off-Stream Storage. Also, BIA has commented for the record on the protection of Indian Trust Assets in the development of CALFED programs.

Cross-Program Relationships

Conveyance Program-The parties are discussing an increase in the average permitted Clifton Court intake rate from 6,680 cfs to 8,500 cfs. The proposal has generated discussions on the ability of the EWA to provide continued fish protection, and the impact of current EWA operations on the water supply benefits that SWP and CVP contractors would receive from the proposed increase to 8,500 cfs. The issue focuses on whether the EWA would be responsible for the increased quantity of replacement water required when operational curtailments are measured against the 6,680 cfs benchmark (current conditions) or the 8,500 cfs benchmark (proposed).

Storage Program – The proposed storage projects - expansion of the Shasta and Los Vaqueros Reservoirs and construction of new storage facilities such as Delta Wetlands, Sites Reservoir and Westlake Farms Multi-Benefit Reservoir offer potentially significant yield and storage benefits to the EWA, should these projects be able to attract the necessary participation and funding.

Ecosystem Restoration Program – The parties are discussing the potential to purchase water jointly to provide instream flows needed for ERP, including the Environmental Water Program (EWP), and EWA assets once the water reaches the Delta. The potential exists to reduce costs and provide more environmental benefits with the water purchased for both programs. To enhance cross-program coordination, the EWP meetings are attended by a EWA team member who provides feedback to the EWA team.

Water Transfer Program – The parties are coordinating water acquisitions and discussing the establishment of water transfer principles, to fine-tune the water acquisition and transfer process.

Water Use Efficiency Program – The parties continue to interact with each other in order to establish the scope of benefits resulting from coordinated action of the EWA and Water Use Efficiency (WUE) programs. This includes holding meetings with pertinent agencies and stakeholders to communicate and consider EWA and WUE objectives and goals in planning.

Funding

Environmental Water Account (\$ in millions)	Yr 6	Yr 7	Yr 8	Yr 9	Grand Total
State ¹	\$ 16.30				\$ 16.30
Federal ²	\$ 10.15				\$ 10.15
Available Funding Total	\$ 26.45				\$ 26.45
<p>1. State funds reflect the \$9.05m in the Governor's Budget May Revision for the California Bay-Delta Authority (Authority), Department of Water Resources (DWR), Department of Fish and Game (DFG), and the Resources Agency (RA) and \$7.24m available from FY 2005 in one multi-year contract.</p> <p>2. Federal funds reflect President's budget for the U.S. Bureau of Reclamation (Reclamation) and the National Marine Fisheries Service (NMFS). Federal appropriations beyond Year 6 are unknown.</p>					

Funding by Task

Environmental Water Account (\$ in millions)	Yr 6	Yr 7	Yr 8	Yr 9	Grand Total
1) Water & Power Acquisitions ¹	\$ 25.87				\$ 25.87
2) Tier 3 Water*					
3) Environmental Documentation	\$ 0.40				\$ 0.40
4) Oversight and Coordination	\$ 0.18				\$ 0.18
Available Funding Total	\$ 26.45				\$ 26.45
1. Includes \$7.24m of State FY05 funds for use in one multi-year contract.					

Geographical Distribution of Activities

The following table summarizes the geographical distribution, and the extent of EWA purchases and operational assets that were obtained in 2001, 2002, 2003 and 2004, respectively. In the first four years, the EWA has implemented over 1.0 Million Acre-feet of actions to better protect fish and improve habitat and purchased approximately 900 TAF of water and obtained over 160 TAF of operational assets to replace the water used to implement these actions.

EWA ASSETS ACQUIRED IN 2001, 2002, 2003 AND 2004				
Assets Acquired	2001 (Dry Year) (TAF)	2002 (Dry Year) (TAF)	2003 (Above Normal Year) (TAF)	2004 (Below Normal Year) (TAF)
Purchases Upstream Of Delta				
State	+105	+135	+ 70	+119
Federal	0	+ 8	0	0
Conveyance and Carriage Costs	- 17	- 32	0	0
Purchases South Of Delta				
State	+159	+ 37	+145	35
Federal (in kind in 2001)	+ 72	+ 60	0	0
Subtotal	=319	=208	=215	=154
Operational	+ 55	+18 (Net)	+ 91	-28
Total	=374	=226	=306	=126
Fish Actions				
Fish Actions	- 290	-248	-348	-122
	<u>(290 State/ 0 Fed)</u>	<u>(176 State/ 72 Fed)</u>	<u>(322 State/ 26Fed)</u>	<u>(55 State/ 68 Fed)</u>
Carryover to 2002	= 84	+84		
Carryover to 2003		=62	+ 42 (Net)	
Carryover to 2004			= 0	
Carryover to 2005				+4
Source Shift Activation	50 of 100	0 of 100	0 of 100	0 of 100