

CALFED Bay-Delta Program

Water Use Efficiency Program Program Plan Year 8

(State FY 2007-2008; Federal FY 2008)

Implementing Agencies:

Department of Water Resources
State Water Resources Control Board
United States Bureau of Reclamation
Natural Resources Conservation Service

November 6, 2007

CHAPTER 1. INTRODUCTION

This *Water Use Efficiency (WUE)* Program Plan identifies the activities scheduled to be completed under the CALFED Program during State Fiscal Year (FY) 2007-08 (July 2007 through June 2008) and Federal FY 2008 (October 1, 2007 through September 30, 2008). This plan also describes the accomplishments made during the previous fiscal year, State FY 2006-07 and Federal FY 2007.

The Water Use Efficiency Program is presently considered a Coordinated CALFED Action. Under the CALFED structure, Department of Water Resources (DWR), State Water Resources Control Board (SWRCB), United States Bureau of Reclamation (Reclamation), and Natural Resources Conservation Service (NRCS) will work together to implement the WUE Program consistent with the CALFED Record of Decision (ROD). The implementing agencies will work with the WUE stakeholders to continue to implement the WUE Program and to report overall program progress to the CALFED advisory and governing boards.

Priorities

As in previous WUE Program plans, CALFED agencies will continue to support agricultural and urban water use efficiency program implementation, recycled water, desalination, and environmental quality.

In addition, agency staff is evaluating the performance of urban and agricultural grants awarded in the past. This effort includes identifying and developing methods to better quantify future performance of water use efficiency programs. To assist in the evaluation, quantifiable objectives, performance measures, and sound scientific methodologies will be incorporated into future Proposal Solicitation Packages (PSP) for water use efficiency grants.

CHAPTER 2. ACCOMPLISHMENTS

The accomplishments reported include activities that are projected to be completed by December 2007.

One of the ROD requirements is for implementing agencies to report annually on the implementation efforts, including availability of local share financing and recommendations on removing any impediments to implementation.

The following ROD commitments were accomplished during Year 7:

- Since 2000, CALFED agencies have conducted a number of grant programs requiring local share in financing local projects. Local agencies have responded positively. Appendix A provides a preliminary estimate of grant funded project outcome and also State, federal and local cost shares. In some cases, local agencies use State dollars for their local share of federal funds. The Appendix A Table indicate that there is willingness to provide significant local share for WUE projects.
- Completed negotiations with 70 Proposition 50 WUE grantees and executed 70 contracts. The estimated projected water savings for the agricultural and urban projects funded by Proposition 50 in Year 5 are 18,800 and 8,800 acre feet per year, respectively. The projected water savings of other agencies' funded projects have not been estimated.
- Released 2007 WUE PSP, conducted four public workshops, and invited 104 applicants to submit a full proposal.
- DWR received 367 Urban Water Management Plans for the 2005 cycle and completed review of 173 plans. DWR submitted a report to the Legislature on the status of the plans.
- Released desalination grant solicitation package and selected projects.
- DWR initiated review of the previously funded projects.
- Reclamation began implementing the Refuge Water Management Plan criteria.
- Reclamation began implementing Regional Criteria for the Sacramento River Contractors.
- Water use measurement legislation: Legislation proposed by Assemblyman Laird (AB 1404) was signed into law.

- AB 1420 was signed into law that conditions loans and grant to urban BMP implementation.
- CBDA released WUE Comprehensive Evaluation Report.

Tasks on schedule for Year 7:

- The Central Valley Project Improvement Act (CVPIA) required the revising the Standard Criteria to evaluate water conservation plans no less than every three years. The next Standard Criteria revision is for 2008. This revision process will begin in 2007.
- Agricultural and urban technical assistance and grants.
- Performance measures: More specific Performance Measure information is incorporated into Years 6, 7, and 8 RFP's and PSP's.
- Evaluation: work is underway to review previously funded projects.
- Completed review and evaluation of Proposition 13 funded projects.

Tasks behind schedule for Year 7:

- The ROD water savings projection for Stage 1 was 520,000 to 680,000 acre feet per year for urban grants. The ROD's projection for urban grants in Stage 1 was \$350 million. The total agency grants since 2001 is \$49.7 million (14% of ROD's projection). The actual water savings from grant-funded projects will not be available until projects have been completed.
- The ROD water savings projection for Stage 1 was 260,000 to 350,000 acre feet per year for agriculture. ROD's projection for agricultural grants in Stage 1 was \$513 million. Total agency grants since 2001 is \$98.4 million (19% of ROD's projection). The actual water savings from grant-funded projects will not be available until projects have been completed.
- ROD's projection for water savings from water recycling in Stage 1 was 225,000 to 350,000 acre feet per year and the projection for grant funding was \$650 million. The total agency grants since 2001 for water recycling has been \$212 million (33% of the ROD's projection). The actual water savings from grant-funded projects will not be

available until projects have been completed.

- DWR in cooperation with other agencies and stakeholders have identified urban implementation challenges and impediments such as: marketing, lack of sufficient data, lack of quantified and reliable savings estimates, incentives, and leak detection costs which need to be further studied and the identified barriers removed for improving water conservation. These projects were eligible for funding for DWR's 2004-05 and 2006-07 PSP and Reclamation's 2006 RFP. DWR is analyzing the 2004-05 PSP applications to determine the impediments for agricultural applicants and assist agricultural districts in linking projects to TB. While progress is being made, more work is needed to address these implementation challenges.
- Urban BMP certification: No urban certification process is developed but a stakeholder interview was conducted. But AB 1420 that was signed into law that conditions loans and grant to BMP implementation.

Details of Year 7 accomplishments are outlined below:

I. Urban Conservation Projects

A. Grants

DWR selected 47 urban water conservation projects for a total of \$16,895,191 of Proposition 50 funds in Year 5. Contracts were developed for these Proposition 50 grants. The projected water savings from 25 urban implementation projects is estimated to be 30,000 acre feet per year. The ROD water savings projections for Stage 1 was 520,000 to 680,000 acre feet per year for urban. The ROD's projection for urban grants in Stage 1 was \$350 million. The total grant from agencies since 2001 is \$49.7 million (14% of ROD's projection). Management of Proposition 13 grants continued into Year 7.

2007 WUE Proposition 50 PSP was released and workshops were conducted. 60 proposals from Step I were selected and invited back for full proposals. Proposals are reviewed and eligible proposals will be selected for funding in 2007.

Lead Agency: DWR with cooperation from SWRCB, NRCS, and Reclamation.

In FY 2007, Reclamation's Mid-Pacific Region water conservation staff awarded approximately \$1.2 million in grants through the on-going Water Conservation Field Services Program. These grants are awarded for agriculture and urban water use efficiency projects.

In FY 2007, USBR's Lower Colorado Region, Southern California Area Office is expected to award grants through an RFP for urban and agricultural water conservation via Internet at: <http://www.grants.gov>. Local cost share for federal funds is 50%.

Funding: \$0.5 million in FY 2007

Lead Agency: Reclamation

II. Agricultural Conservation Projects

A. Loans

\$15 million was available for agricultural loans. No applications were submitted.

B. Grants

DWR selected 28 agricultural water conservation projects for a total of \$11,737,791 of Proposition 50 funds in Year 5. Contracts were developed. The projected water savings from 11 implementation projects is estimated to be 26,000 acre feet per year. The ROD water savings projection for Stage 1 was 260,000 to 350,000 acre feet per year for agriculture. ROD's projection for agricultural grants in Stage 1 was \$513 million. Since 2001, total agency grant funds awarded are \$98.4 million (19% of ROD's projection). Management of these Proposition 50 grants and formerly funded Proposition 13 grants continued into Year 7.

2007 WUE Proposition 50 PSP was released and 4 workshops were conducted. 44 proposals from Step I were selected and invited back for full proposals. Proposals are reviewed and eligible proposals will be selected for funding in 2007.

Lead Agency: DWR with cooperation from SWRCB, NRCS, and Reclamation.

In Fiscal Year 2007, Reclamation's Mid-Pacific Region water conservation staff anticipates awarding approximately \$1.2 million in grants through the on-going Water Conservation Field Services

Program. These grants are awarded for agriculture and urban water use efficiency projects.

Lead Agency: Reclamation

NRCS continued to implement the Environmental Quality Incentives Program (EQIP) (Category B), to provide cost share incentive payments to encourage installation of water conservation practices. Funding available in the EQIP for on farm implementation is based on prior year estimates of the EQIP practice cost share expenditures that complement CALFED WUE Agricultural.

Lead Agency: NRCS

III. Water Recycling Projects

A. Grants

ROD's projection for water savings in Stage 1 was 225,000 to 350,000 acre feet per year and the projection for funding was \$650 million. The total agency grant since 2001 for water recycling has been \$212 million (33% of the ROD's projection).

SWRCB Water Recycling Loans and Grants accomplishments for FY 2006-2007 are as follows:

1. A grant to the WaterReuse Foundation was approved in 2003 for water recycling research program. The SWRCB continued administration of this grant.
2. For the period of July 2006 through February 2007 approved three grants totaling \$207,500 (non-category A funds) for facilities planning studies for water recycling projects using Proposition 13 (2000 bond issue) funds.
3. In FY 2003-04 the Legislature appropriated \$42 million from Proposition 50 (2002 bond issue), Chapter 7 for local assistance for water recycling projects. A ranked list of water recycling construction grant projects that benefit the Delta was adopted by SWRCB in April 2005. Implementation of this program incorporates a state funding share of 25 percent of eligible costs up to a maximum of \$4 million. For the period of July 2006 through February 2007, increases for two projects were approved for \$573,000 in Proposition 50 grants (2005).
4. Using funds from Proposition 50, Chapter 8, the Integrated Regional Water Management Grant Program provides grants for integrated regional plans and implementation of a spectrum of water resources projects, including water recycling. The IRWMP is jointly administered by SWRCB and DWR's Division of Planning and Local Assistance.

Guidelines were adopted in 2004. Fifty conceptual implementation grant proposals were submitted in the first of a 2-step application process in 2005. In March 2006, 26 applicants were called back to proceed to the second step with final implementation proposals due in June 2006. For the period of July 2006 through February 2007, 16 projects were approved for funding, including projects having water recycling elements.

Lead Agency: SWRCB

Title XVI program complements the CALFED Bay-Delta Program's aim of generating significant water supply, water quality and ecosystem benefits in the short term. The CALFED Water Use Efficiency Program specifically identifies water recycling, including State and Federal water recycling programs to provide planning, technical, and financial assistance for water recycling projects as a way to meet the goal of assuring efficient use of existing and new water supplies. The Title XVI program, along with the California State Water Resources Control Board's water recycling activities, assists in meeting such CALFED goals by addressing opportunities for water recycling and reuse.

Lead Agency: Reclamation

B. Loans

For the period of July 2006 through February 2007, approved low interest loan totaling \$6,170,000 for construction of a water recycling project using State Revolving Fund Loan Program funds.

Lead Agency: SWRCB

IV. Desalination Projects

A. Grants

1. Water desalination may be considered a water supply activity rather than water use efficiency. The Water Desalination Program is managed by DWR Office of Water Use Efficiency and Transfer. Thus, it is reported under the WUE Program Element for organizational reasons. DWR's Water Desalination Program is administered by funds from Chapter 6 of Proposition 50.
2. The Water Desalination Grant Program is implementing Chapter 6 of Proposition 50 [Water Code Section 79545(a)]. The objective of this grant program is to assist local public agencies with the development of local potable water supplies through brackish water and ocean water

desalination. Pursuant to the Proposal Solicitation Package (PSP) released on January 26, 2006 for the Water Desalination Grant Program, DWR received 49 proposals by the due date of March 24, 2006. The proposals consisted of 12 construction projects, 17 pilot proposals, 13 research and development proposals, and 7 feasibility study proposals.

3. Two independent review panels evaluated desalination Grant Proposals. A 22 member technical Desalination Review Panel (Panel) was composed of members representing local, State, and federal agencies, as well as other stakeholders and experts in technical, environmental, and economic aspects.
4. On September 26, 2006 based on the review process DWR funded 24 different projects (for a total State share of \$21.5 million) including 4 construction, 9 pilot and demonstration, 7 research and development, and 4 feasibility study projects.

Lead Agency: DWR with cooperation from EPA, DHS, SWRCB, and DFG.

V. Urban Technical Assistance

DWR received 367 Urban Water Management Plans for the 2005 cycle and completed review of 173 plans. DWR submitted a report to the Legislature on the status of the UWMPs.

DWR collaborated with the CUWCC to promote and initiate the “non-ideal” urban weather station program. This program is designed to assist urban water agencies with water management, runoff reduction, and best management practices (BMP) implementation.

Lead Agency: CUWCC in partnership with DWR.

Through a contract with the CUWCC, guest accounts are created for Reclamation Contractors that are not signatories to the CUWCC. This contract enables all of Reclamation’s urban contractors to submit their Annual Updates online via the CUWCC’s website. This contract also provides technical assistance for the urban Best Management Practices. Reclamation is an active member of the CUWCC and participates in the Steering Committee and various other committees run by the CUWCC.

As part of the ongoing WUE agency’s efforts to implement recommendations in the Comprehensive Evaluation, Reclamation has asked CONCUR Inc. to

conduct an assessment to determine the need for agriculture and urban technical assistance. This assessment includes background analytic work, interviews, and an internet based survey. The online survey will allow for a wider group of respondents to be reached. The near-term goal of this assessment is to help inform the choices Reclamation and other federal and state agencies make regarding the technical assistance offered on water use efficiency. The results of the assessment will be in a report that will focus on key findings and implications for Reclamation's technical assistance program. The report will be available to the interviewees and the public.

Reclamation began a study to identify concurrent and overlapping government programs aimed at improving water resource efficiency. It is hoped that the study will encourage agencies to look beyond their individual areas of responsibility in an effort to bring about greater resources efficiencies.

Lead Agency: Reclamation

VI. Agricultural Technical Assistance

DWR provides ongoing assistance to agricultural water suppliers by providing information to implement efficient water management practices and help local agencies in their efforts to prepare Water Management Plans and bi-annual progress reports through the Agricultural Water Management Council (AWMC). DWR provides assistance for agricultural water management planning and implementation.

Continued participating in the work of the 3-way agreement and partnership with Reclamation on tasks identified in the cooperative agreement. DWR's portion of the AWMC cooperative agreement tasks are complete and DWR funds are spent; task underway are funded with Reclamation funds.

Developed a new cooperative agreement with AWMC to find ways to improve agricultural water supplier's participation in the PSP process. Outreach and marketing of TB's are also part of scope of the work for this activity.

Supported the AWMC to develop a database containing water management plan information. CBDA assisted the AWMC with the initial database development.

Continued to assist AWMC to incorporate QO's into EWMP's, net benefit analysis, and Model Water Management Plan.

Lead Agency: AWMC with assistance from CBDA, DWR, and Reclamation.

Operated and maintained equipment in over 130 California Irrigation Management Information System (CIMIS) stations statewide and disseminate data to the public for agricultural and urban water management planning. Plan to assist local water agencies install five new CIMIS weather stations. Collect, process QC/QA, and disseminate CIMIS data to the public through the CIMIS website and provide technical assistance. Provide statewide operations maintenance, calibration, and technical assistance, in resolving problems with DWR and cooperator owned CIMIS weather stations. Managed Bryte Lab activities and equipment repair and calibrations. Updated maintenance and operation files. Provided local technical assistance on the use of CIMIS and efficient irrigation scheduling. Continued outreach activities at conferences, workshops, and educating foreign visitors and scientists.

Lead Agency: DWR

Administered and updated the new CIMIS website: (<http://www.cimis.water.ca.gov>) to facilitate the increased demand for data, technical information, and water management tools. Implemented File Transfer Protocol (FTP) site for automated data downloads. Implemented new logger net polling computer data acquisition platforms to provide more frequent CIMIS data updates. Continued collecting data and providing assistance for maintaining three weather station towers for the Salton Sea Authority investigation.

Implemented non-ideal site weather station network study, which includes, establishing weather stations on surfaces other than grass and a comparative correlation analysis to a reference weather station for determining ETo. Began analysis of comparing CIMIS, lysimeter, and EP pan correlations from the Five Points Research Station and fetch studies.

Continue to manage a contract with University of California Davis to further refine ETo zone maps for California using remote sensing and spatial interpolation methods, updating daily, and to be made available to the public through the CIMIS web page. DWR has begun the final stage of refining and implementing the Geostationary Operational Environmental Satellites (GOES) model daily statewide evapotranspiration (ETo) maps and integrating them into CIMIS. In conjunction with the GOES project, CIMIS stakeholders completed phase 1 of the web client services. This includes the creation of a standard data protocol that will allow for the automatic and seamless transmission of CIMIS data to any end user.

Continued submitting publications to California Agricultural Technology Institute and the Water Conservation News. Published second scientific paper Comparing Net Radiation Estimation Methods: CIMIS vs. Penman – Montieth in the ASCE Journal.

Lead Agency: DWR

Reclamation provides technical assistance to water suppliers through

agreements with the Cal Poly Irrigation Training and Research Center (ITRC), California State University, Chico, Fresno State's Center for Irrigation Technology, and the AWMC. As an example of this technical assistance, the ITRC trains district staff at San Luis Obispo in their Rapid Appraisal Program. This program evaluates irrigation and district's facilities and operations to improve water management. The ITRC annually conducts several 1 to 3 day training classes for approximately 150 participants per year. Most participants are district staff, state and Federal employees, or private contractors. Classes focus on the latest technologies for improved irrigation management. Topics covered include: water distribution system automation, water measurement, and optimal canal operation. In addition to training district staff, Reclamation supports ITRC's Annual Design/Manager School, which supports improvements in on-farm irrigation, drainage reduction, and enhanced groundwater and surface water quality. The ITRC also offers onsite training for Reclamation's water users on specific topics related to irrigation and drainage. These include irrigation evaluation, water delivery modernization, drainage, water quality, and irrigation scheduling. Additionally, federal funding to AWMC will assist the Council in monitoring and evaluating the implementation of efficient water management practices by agricultural water suppliers. The AWMC's work will assist Reclamation, DWR, and CALFED in developing a program of technical and financial incentives for water use efficiency in the agricultural sector and can be used to enhance Reclamation's Criteria for Evaluating Water Management Plans, which are required under the Central Valley Project Improvement Act.

Reclamation will re-evaluate the Standard Criteria for Evaluating Water users through the Water Conservation Field Services program.

Reclamation facilitated technical assistance to water suppliers and water users through the Water Conservation Field Services program.

As part of the ongoing WUE agency's efforts to implement recommendations in the Comprehensive Evaluation, Reclamation has asked CONCUR Inc. to conduct an assessment to determine the need for agriculture and urban technical assistance. This assessment includes background analytic work, interviews, and an internet based survey. As part of the assessment, CONCUR is currently conducting confidential stakeholder interviews. The online survey will allow for a wider group of respondents to be reached. The near-term goal of this assessment is to help inform the choices Reclamation and other federal and state agencies make regarding the technical assistance offered on water use efficiency. The results of the assessment will be in a report that will focus on key findings and implications for Reclamation's technical assistance program. The report will be available to the interviewees and the public.

Regional Criteria: Reclamation is working with the Sacramento Valley Contractors who are developing a Regional Plan in accordance with the Regional Criteria for Evaluating Water Management Plans for the Sacramento

River Contractors. The Regional Plan will be finalized in 2007.

Lead Agency: Reclamation

Provided technical assistance to growers throughout the state for the adoption of new irrigation equipment and improved water management techniques including sprinkler and micro-irrigation systems. Participated in "Opportunities and Challenges in Agricultural Water Reuse Specialty Conference" held in Santa Rosa, the first conference focusing entirely on agricultural water reuse issues.

Lead Agency: NRCS

VII. Recycling Technical Assistance

Continued to provide technical, biophysical, and engineering-oriented knowledge on water recycling and desalination issues; provided staffing and technical support to help implement the Recycled Water Task Force's recommendations. Completed two research projects with local agencies and University of California Davis to in optimizing the energy needs in the treatment and use of recycled water.

Lead Agency: DWR

Continued to provide technical knowledge on water recycling, including: responding to questions from policy makers, regulators, state and local agencies, and the public on permitting issues, public health regulations, and types, locations, and amounts of water reuse occurring. Continued participation on Department of Health Services Recycled Water Committee.

Lead Agency: SWRCB

VIII. Water Desalination Technical Assistance

The Reclamation Southern California Area Office has provided technical assistance to Long Beach Water Department for the Seawater Desalination Pilot Plant.

Lead Agency: Reclamation

IX. Managed Wetlands Technical Assistance

Reclamation has reviewed Plans submitted by Refuges in accordance with the Criteria for Developing Refuge Water Management Plans.

Lead Agency: Reclamation

X. Assurances

A. *Urban Certification*

DWR, USBR, SWRCB, and CBDA conducted a confidential stakeholder's interview with representatives of urban water agencies, environmental groups, State, and federal agencies to better understand the affected stakeholder's communities' views regarding urban water agencies implementation of locally cost effective BMPs. An Interview Summary Report was prepared for the agencies. DWR is taking the lead in utilizing the report and furthering the implementation of urban BMPs. AB 1420 was signed into law in 2007. DWR will implement AB 1420 that conditions loans and grants to implementation of BMPs.

Lead Agency: CBDA with participation by DWR, Reclamation, and SWRCB

B. *Agricultural Assurances Package*

Agricultural Assurance Package is a set of mechanisms structured to ensure that water users implement appropriate efficiency measures. Work with stakeholders to update assurances package associated with agricultural water use efficiency program implementation. A draft assurance package was developed. The strategy is to take an adaptive management approach and to provide incentives for furthering linkage of funding to Targeted Benefits (TB).

The existing Quantifiable Objectives (QO) and the list of prioritized TB's were included in the WUE PSP. Grant funding will be linked to TB and other project benefits. No further work is currently planned for development of new QO's.

DWR has utilized the list of Performance Measures developed for Reclamation's RFP and adapted it for inclusion in the 2007 WUE PSP. DWR has required the applicants to submit a monitoring and performance evaluation plan as part of their application for grant funding.

Lead agency: DWR

Quantifiable Objectives/Targeted Benefits:

Targeted Benefits and Quantifiable Objectives were developed by CALFED. The CALFED ROD requires providing irrigated agriculture with an objective list of resource management goals. Through a

process that involves quantified TB's and water balances, a QO is developed and expressed in acre-feet or in water quality units. In a simplistic sense, a QO represents a water order: an amount of water needed at a specific location for a given period. Water suppliers and growers can use this information to propose system upgrades to meet the stated objective.

Fifty-five of the 194 TB's are available as QO's. The Water Use Efficiency PSP's are generating interest and activity in QO's. Reclamation has integrated QO's into its standard and regional criteria. The AWMC worked with water districts to help them integrate QO's into the AWMC's efficient water management practices and AWMP process. In Year 6 the AWMC issued a technical memorandum explaining what practices correspond to QO's.

Participating agencies: DWR, Reclamation, and CBDA.

To carry out their activities agencies relied on the following activities:

- Update TB's. Review and revise existing listing of TB. Involved updating existing TB and eliminating those TBs determined to no longer be relevant. A list of prioritized TB has been developed and is included in the WUE PSP.

Lead agency: DWR, with support from CBDA and Reclamation

Outreach: Continue to work with agricultural water suppliers to promote marketing of TB and linkage with EWMP's and to encourage districts to pursue grant funds. Conduct regional workshops and meetings and continue promoting integration of TB's into the AWM Plans and Implementation of Efficient Water Management Practices, and in grant funding proposals. A contract was developed with the AWMC; however, due to delays in contract execution only part of the contract was completed.

Lead agency: DWR, with support from AWMC

- Continue promoting integration of TB's into Reclamation regional and standard CVP criteria.

Prioritized Grant Funding: Review and revise CALFED-related, water use efficiency grant funding criteria to give higher priority (more score in ranking) to those implementation grant projects with an articulated linkage to TB. Similarly, funding for non-implementation grants (research, pilot, and feasibility) must be targeted towards those projects that foster TB's pursuit. DWR's 2007 WUE PSP puts high priority on projects with linkage to TB. Projects with linkage to TB had first priority and earned the higher score for project priority.

AB 1404, water use measurement reporting was signed into law in 2007. It requires agricultural water suppliers to report their farm-gate deliveries to DWR annually.

C. Science and Monitoring

DWR provided for the proposal and implementation processes to be accessible to all agencies involved in water use efficiency activities and for incorporating more scientific measures into the program. Proposals submitted to DWR were required to have a monitoring and assessment plan. DWR will use the plan to make assessments and evaluation of funded projects to evaluate the effectiveness and benefits of CALFED funding of water conservation projects.

AB 1881 signed by the Governor in 2006 requires DWR, by January 2009, to update the Model Landscape Ordinance adopted by DWR in 1992. DWR intends to conduct an ETAF study and submit a report to the Legislature on the water budget component of the model ordinance before adoption of the Updated Model Ordinance. An ET Adjustment Factor study will be conducted to determine the maximum allowed amount of water for irrigated landscape. This study is needed to develop the water budget component of the Updated Landscape Model Ordinance.

DWR initiated work on the AB 1881 ET Adjustment Factor study using the science funds. A Technical Advisory Committee consisting of interested stakeholders was formed to advise DWR in the study. The study will investigate effect of irrigation systems, irrigation management and plant factor on ET adjustment factor to determine the maximum amount of applied water in irrigated landscape. A statement of work was developed and proposals will be reviewed by DWR for funding.

Lead Agency: DWR with cooperation from Reclamation, SWRCB, and CBDA.

D. Verification

A more detailed monitoring plan is required in the WUE PSP application to allow verification of WUE funded projects.

For water recycling projects funded by the SWRCB, projects are monitored for the first five years of operation to determine actual deliveries of recycled water compared to estimates for the approved project.

Co-Lead agency: DWR, Reclamation, and SWRCB take the lead for their grant programs ongoing interagency coordination.

XI. CBDA Coordination

WUE is now a CALFED Coordinated Action. Implementing agencies have informed CBDA of accomplishments and actions.

Comprehensive Year 4 Evaluation:

The primary deliverable for CBDA is the ROD specified Comprehensive Year 4 WUE Evaluation completed in September 2006. The results of this evaluation will be used by policy-makers to determine not only the continued level of funding for future WUE projects but for the future funding of other water management actions, such as surface storage.

Lead Agency: CBDA

Funding: No specific funding identified.

CHAPTER 3. PLANNED ACTIVITIES

To continue to meet the ROD requirements, implementing agencies plan to report annually on the implementation efforts, including availability of local share financing and recommendations on removing any impediments to implementation.

The CBDA's WUE Comprehensive Evaluation Report (CBDA Report) recommends urban certification; assurances; water use measurement; improving collection of data; closely monitor, verify, and track results; and review grant program structure and protocols. These recommendations are addressed in the Activities planned for Year 8 with the schedule and deliverables, where applicable. Also included are DWR's planned activity for reducing greenhouse gas through water use efficiency action.

Implementing agencies have a number of major activities underway. Some of these activities are required by the ROD and were identified in the WUE Implementation Program Plan. Major activities include DWR's continuing work on water desalination Proposition 50 projects and 2007 agricultural and urban WUE grant proposals, the SWRCB application review and administration for water recycling and Reclamation funding for water recycling and NRCS' Environmental Quality Incentives Program (EQIP) (Category B) and other technical assistance for on-farm water management. Other major activities include the implementation of the Recycled Water Task Force Report, practical application of science concepts, technical assistance to agricultural and urban water users, and coordination with CBDA under the Coordinated Actions. Priority is given to activities that are expected to meet the ROD commitment. This program plan and the DWR 2007 PSP outline the strategy to monitor, track, and verify program outcomes. The Activities reported are priorities for funding. Funding for Year 8 is sufficient to provide for high priority activities. However, Proposition 50 funding will be used up in 2007-2008.

The Activities planned for Year 8 are consistent with the Program tasks and ROD objectives and commitments. Program implementation reflects beneficiary pays approach including local cost share for implementation projects. DWR's 2007 PSP will continue to require local matching fund for its grant program, consistent with the ROD requirements.

As a part of implementing the major activities, agencies monitor and to the extent available report back annually on the funds spent, activities undertaken and the results. The precise timing of this assessment will be determined by agencies.

The grant programs by the implementing agencies pursue the ROD objective of incentives vs. regulation.

Agencies will continue to improve involvement of Tribes and Environmental Justice groups through CALFED, outreach, and the public workshop process.

I. Urban Conservation Projects

A. Grants

Continue to work on the 2004 WUE grant funded projects, and management of these contracts.

Complete Step 2 of the 2007 WUE Proposition 50 and initiate contracting process.

Issue the Proposition 50 2008 WUE PSP for urban and agricultural water use efficiency. Implementation as well as research and development projects are eligible for funding. Urban BMP's, EWMP and the Recommendations and actions of the Water Smart Landscape for California will be eligible under DWR grant funding. Furthermore, DWR 2008 PSP will provide opportunity to proposals that will remove the implementation impediments for both agricultural and urban water use efficiency. This Program Plan and DWR PSP will also outline the strategy to monitor, track, and verify project and program outcomes.

Draft PSP will be issued, workshops will be held for public comment, and review will be obtained from WUE stakeholders. Efforts will be made to include Native American tribes and incorporate Environmental Justice in the development and implementation of the PSP. Continue to strive for a balance between making the proposal and implementation process as accessible as possible to all entities involved in water use efficiency and incorporating more scientific measures into the program. Implementing agencies will include necessary descriptions and a criterion in the PSP to ensure public benefits, monitoring and verification. Proposals will be reviewed and selected based on the criteria outlined in the PSP document.

The planned grant dollars are not sufficient to meet ROD objectives.

Manage Proposition 13 and 2007 Proposition 50 WUE-funded projects, including: project monitoring, verification, and assessment of costs and benefits and review of related reports.

Funding: \$15.07 million dollars for grant funding and \$360,000 for grant administration.

Lead Agency: DWR with participation by SWRCB, and Reclamation.

In Fiscal Year 2008, Reclamation's Mid-Pacific Region water conservation staff anticipates awarding approximately \$500,000 in grants through the on-going Water Conservation Field Services

Program. Federal funds can be used to cost-share up to 50% of each project cost.

In Fiscal Year 2008, Reclamation's Lower Colorado Region will award approximately \$500,000 to urban water conservation projects.

Lead Agency: Reclamation

II. Agricultural Conservation Projects

A. Loans

The Proposition 13 loan program is available for agricultural water conservation projects. This loan program is managed by DWR's Office of WUE and Transfers.

Funding: \$15 million

Schedule: FY 2007-08

Lead Agency: DWR

B. Grants

Issue the Proposition 50 2008 WUE PSP (combined with urban PSP. See urban PSP).

Manage Proposition 50 previously awarded grants, including project monitoring, verification, and assessment of costs and benefits and related reports.

Funding: \$15.07 million Proposition 50 WUE funding. \$280,000 of Proposition 50 funds and \$103,000 from Proposition 13 for program administration.

Implementing agencies will include necessary descriptions and a criterion in the PSP's to ensure public benefits, monitoring, and verification.

Participating agencies: DWR, SWRCB, NRCS, and Reclamation.

In Fiscal Year 2008, Reclamation's Mid-Pacific Region water conservation staff anticipates awarding approximately \$500,000 in

grants through the on-going Water Conservation Field Services Program. Federal funds can be used to cost-share up to 50% of each project cost.

Lead Agency: Reclamation

NRCS intends to implement the new Farm Bill, which is expected to be authorized in late FY 2007 or early FY 2008. The Federal Administration's draft Farm Bill would reauthorize the Environmental Quality Incentives Program (EQIP), which provides cost share incentive payments to encourage installation of water conservation practices. The Administration's draft Farm Bill adds new fundable projects under an expanded EQIP that would include a Regional Water Enhancement Program focused on watershed level projects for water quantity and water quality. Funding available in EQIP for on farm implementation is usually based on prior year estimates of EQIP practice cost share expenditures that complemented CALFED WUE Agricultural Water Conservation goals. NRCS EQIP is considered Category B.

Funding: As available.

Schedule: Annual Budget Authorization by Congress

Lead Agency: NRCS

III. Water Recycling Projects

A. Grants and Loans

SWRCB major activities through FY 2007-08 are as follows:

Continue administering grants and loans from Proposition 50 (grants), State Revolving Fund (loans), 1984 Bond Law (loans), and Proposition 13 (2000 bond issue, grants and loans) for planning and construction of water recycling projects. Under criteria in the CALFED Bay-Delta Program Programmatic Record of Decision, these programs are classified as Category B funding programs, except for funds authorized by Proposition 50, which is a Category A funding source.

Funding: \$619,258 million with 75% local cost share

Funding: Loan repayments from previous loans under the 1984, 1988, 1996 and 2000 (Proposition 13) Bond Laws are available to continue loans and grants for planning and construction of water recycling

projects. The State Revolving Fund can be used for water recycling projects, but there is no set allocation for this purpose. Proposition 13 funds under existing contract will be administered for additional research proposals. A small amount of additional research funds will become available from loan repayments.

Funding: Funds from Proposition 50 and the loan repayments from Proposition 13 loans are available for administration.

Lead Agency: SWRCB

Schedule: FY 2007-08

Continue administering Integrated Regional Water Management Grant Program implementation grant proposals, which could include water-recycling projects.

Funding: Proposition 50, Chapter 8 funds.

Lead Agency: DWR and SWRCB

Reclamation's Lower Colorado Region will provide \$1.2 million in recycling grants with 75% local cost share.

Lead Agency: Reclamation

B. Research Grants

SWRCB major activities for FY 2007-08 are to continue water recycling research projects.

Funding: Up to 3 percent of loan repayments from Proposition 13 loans may be used for water recycling research.

Schedule: ongoing

Lead Agency: SWRCB

Develop a project-tracking database for SWRCB-funded water recycling projects, including administrative data as well as recycled water delivery data.

Funding: Administration funds for the State Revolving Fund and Propositions 13 and 50 for task administration.

Schedule: Ongoing

Lead Agency: SWRCB

Reclamation provides funding to WaterUse Association, which in turn, provides research grants for water recycling. Studies funded nationally in other states often benefit California water recycling efforts.

Schedule: Ongoing

Lead Agency: Reclamation

IV. Desalination Projects

DWR major activities for 2007-08 are to continue the water desalination grants program to include the management of 24 different projects which were awarded through the 2005 1st cycle of the desalination grant process. In addition, DWR will finalize the contract negotiations with grantees of the second desalination funding cycle, execution of agreements, and management of the additional 24 projects awarded in 2006.

Schedule: No future grant funding is available. Administration is ongoing.

Lead Agency: DWR

Funding: \$250,000 of Proposition 50 Desalination and \$350,000 Proposition 50 WUE funds for program administration in FY 2007-08

V. Urban Technical Assistance

- Landscape training
- Promote California Friendly Landscape
- Support BMP 5 in coordination with CUWCC
- Disseminate information on landscape water conservation
- Distribution system water audit and leak detection
- Assist with new mobile labs
- Participate in evaluating and research of potential BMP's

- Develop protocol for estimating environmental benefit of BMP implementation
- Review about 200 Urban Water Management Plans (remainder of 367 plans submitted in the 2005 cycle) and provide technical assistance
- Publish articles in Water Conservation News and brochures
- Develop and manage Urban Water Management Plan database
- Participate in commercial, industrial, and institutional water conservation through workshops, conferences, and outreach
- Support urban technical assistance projects through technical assistance grants.
- Assist the CUWCC with the implementation of the Water Smart Landscape for California, Landscape Water Conservation Task Force Recommendations (LTFR)
- Begin implementation of the LTFR's (1.1, 15.1, 15.2, 16.1, 31.1 model ordinance), as resources become available
- LT recommendations will be given priority for funding under Proposition 50 2007 WUE PSP.
- Initiate an assessment to identify research needs that could help full implementation of BMP's, and new and emerging technologies in the urban setting.
- Support CUWCC BMP database (funding is provided from FY 06-07).

Funding: \$224,000 in general fund for WUE. \$870,000 in Urban ERPA funds. \$950,000 of Proposition 50 funds for technical assistance special projects, including eligible recommendations and actions of Water Smart Landscape for California, and for specific efforts to remove barriers to urban water conservation.

Lead Agency: DWR

Through the Water Conservation Field Services Program (WCFSP), Reclamation will provide technical assistance to its urban contractors. These efforts can be seen through agreements with:

- California Polytechnic State University, San Luis Obispo's Irrigation Training and Research Center

- California Farm Water Coalition
- California State University, Fresno's Center for Irrigation Technology
- Universities of California, Riverside
- California State University, San Bernardino
- California State University, Chico
- Water Education Foundation's Project Water Education for Teachers.

Lead Agency: Reclamation

Funding: Included in the water conservation budget

Schedule: Ongoing

VI. Agricultural Technical Assistance

DWR provides ongoing assistance through DWR's four district offices and the AWMC process to agricultural water suppliers by providing information to implement efficient water management practices and help local agencies in their efforts to prepare Water Management Plans and biannual progress reports by providing brochures, bulletins, and holding workshops. Also, review and evaluate Agricultural Water Management Plans.

Technical assistance for agricultural water management planning and implementation

Review and evaluate AWMP and biannual progress reports.

Conduct two meetings/workshops for water districts in each DWR's four districts

Continue to participate in the 3-way cooperative agreement and partnership with Reclamation and AWMC on the remaining tasks identified in the cooperative agreement. The 3-way cooperative agreement is a joint effort by Reclamation and DWR to provide funding to the AWMC for specific activities.

The Cooperative Agreement activities include:

- Increasing participation of agricultural water districts in water management planning and implementation of efficient water management practices
- Provide technical and financial assistance to the water districts to prepare a Water Management Plan (WMP)
- Develop a data base
- Outreach activities that inform water districts of new and innovative technologies and management practices, and
- Refinement and improvements in the AWMC Net Benefit Analysis

Assist AWMC to further develop the database containing water management plans information. As part of the 3-way Cooperative Agreement, the data base structure and format was developed by AWMC. The AWMC initiated locating and compiling data and information into the database. The database contains information comes from water management plans that have been reviewed by DWR and endorsed by the AWMC.

Support the AWMC development of a searchable online database that catalogues agricultural water resources from reports, studies, and other sources.

Continue to support AWMC to find new ways to increase agricultural water supplier's participation in the PSP and help to improve agricultural proposals to include TB's.

Initiate an assessment to identify research needs that could help full implementation of EWMP's and new and emerging technologies in the agriculture setting.

Publish articles on district efforts to improve water management and efficient water management practices implementation in DWR's Water Conservation News or in the AWMC's Best Management Practices.

Continue assisting AWMC to incorporate QO's in the Water Management Planning, Net Benefit Analysis, and the Model Water Management Plan.

Initiate several new cooperative agreements on a number of priority and directed activities. These activities may include: data base development and mobile labs for agricultural and urban setting, etc.

Assist with the development of agricultural water use efficiency strategy for the California Water Plan Update.

Continue assisting mobile labs.

Provide statewide information on irrigated acreage and water conservation.

Support agricultural technical assistance through technical assistance grants.

Funding: \$70,000 of general fund, \$1.017 million of Ag ERPA, and \$950,000 of Proposition 50 agriculture technical assistance special projects funds, including specific efforts that remove the barriers to water use efficiency implementation.

DWR staff will support technical assistance to agricultural water suppliers in implementing and achieving the CALFED Water Use Efficiency Program goals and objectives.

Schedule: Ongoing

California Irrigation Management Information System (agricultural and urban):

- Operate and maintain over 135 California Irrigation Management Information System (CIMIS) stations statewide and disseminate data to the public in support of both agricultural and urban water users. Assist local water agencies to install new CIMIS weather stations. Collect, process QC/QA, and disseminate CIMIS data to the public through the CIMIS web page, www.cimis.water.ca.gov, and provide technical assistance.
- Provide statewide operations maintenance, calibration, and technical assistance in resolving problems with DWR and cooperator owned CIMIS weather stations. Continue collecting data and providing assistance for maintaining three weather station towers for the Salton Sea Authority investigation.
- Manage Bryte Lab activities, equipment repair, and calibrations.
- Update maintenance and operation files.
- Provide local technical assistance on the use of CIMIS and efficient irrigation scheduling. Continue outreach activities at conferences, workshops, and educating foreign visitors and scientists.

- Refine and update content and the JAVA struts technical platform for the new CIMIS web page to facilitate the increased demand for data, technical information, and water management assistance. Implement new reporting methods from the CIMIS web page. Contract with University of California, Davis to further refine daily ETo zone maps (GOES) for California using remotely sensed data and spatial interpolation methods, and to be made available to the public through the CIMIS website including GIS capabilities.
- Implement new data web client acquisition platforms protocol to provide data more seamlessly. Implement the new logger net polling personal computer to production more frequent CIMIS data updates.
- Continue investigations into CIMIS ETo estimation of net radiation, moving the net radiometers from UC Davis to remote locations in Fresno and Gerber agro climatic stations. Publish scientific paper on the investigation. Possibly look into surface renewal as a way of developing crop and landscape coefficients.
- Continue partnership with the CUWCC to promote and initiate the non-ideal site program. This program is designed to assist the urban water agencies with water management, runoff reduction, and best management practices (BMP) implementation. It will include installation of a weather station network, data analysis, and the development of a new CIMIS database. Participate in the CUWCC Landscape Subcommittee, Sustainable Building Task Force Technical Advisory subcommittees, and Irrigation Association ET controller investigations.
- In Year 8, DWR will continue to upgrade its CIMIS capability in support of the Landscape Task Force Recommendations (recommendation 15.2) by acquiring necessary hardware and developing a database and enhancing data availability via the internet.
- Continue to publish articles in CATI and the Water Conservation News and other media. Update the Agricultural and Urban Resource Books and the CIMIS Field Maintenance Guide.

Lead Agency: DWR

Funding: \$760,000 general and Proposition 84 funds to support staff (\$380,000 for agriculture and \$380,000 for urban).

Through the Water Conservation Field Services Program (WCFSP), Reclamation will provide technical assistance to its agricultural contractors. These efforts can be seen through agreements with:

- California Polytechnic State University, San Luis Obispo's Irrigation Training and Research Center
- California Farm Water Coalition, Fresno State Center for Irrigation Technology
- University of California, Riverside
- California State University, San Bernardino
- California State University, Chico, and
- The Water Education Foundation's, Project Water Education for Teachers

Funding: Included in the water conservation budget.

Schedule: Ongoing

Lead Agency: Reclamation

Continue to provide technical assistance to producers throughout the state for the adoption of new and improved water management techniques. Compile data and procedures for use of flow meters in irrigation systems and incorporate the information in agency Technical Note and applicable Practice Standard Revisions. Compile data and procedures for use of backflow prevention in irrigation systems and incorporate the information in agency Technical Note and applicable Practice Standard Revisions. Design a water management training course for field office staff that provides irrigation and water management technical assistance.

Lead Agency: NRCS

VII. Recycling Technical Assistance

Water Recycling Technical Assistance

In collaboration and coordination with stakeholders, DWR continues to provide technical, biophysical, and engineering-oriented knowledge on water recycling by:

- Developing guidelines for water recycling regulation and permitting requirements.
- Identifying potential water recycling projects.

- Developing user-friendly water quality guidelines for recycled water use in landscape.
- Helping to implement the Recycled Water Task Force's recommendations.
- Increasing public awareness and disseminate knowledge and information on the safe use of recycled water through research, publications and participation in technical and outreach meetings.
- Coordinating with federal, State, and local agencies to advance local and regional water recycling.
- Publishing technical papers.

Co-Lead agency: SWRCB and DWR

Continue to provide technical knowledge on water recycling, including responding to questions from policy makers, regulators, State and local agencies, and the public on permitting issues, public health regulations, and types, locations, and amounts of water reuse occurring. Continue participation on Department of Health Services Recycled Water Committee. Provide assistance to implement recommendations of the Recycled Water Task Force.

Funding: Administration funds from various bond issues.

Schedule: Ongoing

Lead Agency: SWRCB

VIII. Water Desalination Technical Assistance

In collaboration and coordination with stakeholders, DWR continues to provide technical, biophysical, and engineering-oriented knowledge on water recycling by:

- Developing guidelines for water desalination regulation and permitting requirements.
- Identifying potential water desalination projects.
- Developing user-friendly planning guidelines for desalination projects.

- Helping to implement the Desalination Task Force's recommendations.
- Increasing public awareness and disseminating knowledge and information on technical advancements on desalination technologies.
- Coordinating with federal, State, and local agencies, and other stakeholders, to advance local and regional water desalination. Publishing articles in the WCN about desalination.

Lead: DWR

Schedule: Ongoing

IX. Managed Wetlands Technical Assistance

Through the Water Conservation Field Services Program (WCFSP), Reclamation will provide technical assistance to its refuge contractors. These efforts can be seen through agreements with California Polytechnic State University, San Luis Obispo's Irrigation Training and Research Center, Fresno State Center for Irrigation Technology, and the California State University's Chico Irrigation Training Center. Lead Agency: Reclamation.

Funding: included in the water conservation budget

Schedule: Ongoing

X. Assurances

A. Performance Measures:

Facilitate the evaluation of programmatic performance of the WUE element by developing WUE performance measures, including indicators of the progress towards achieving those goals. Additionally, staff will monitor the performance of WUE projects through methods that estimate the cost and performance of WUE projects. Performance may be measured by the volume of water conserved or recycled or through other qualitative or quantitative means. DWR will conduct the performance of funded projects as project outcomes are reported to DWR. DWR will require performance measures as part of the grant funding applications. A set of performance measures for project and program effectiveness will be developed by 2008 to assess water savings, cost, in-stream flow benefits, and water quality benefits.

Funding: DWR's funding is included in Science and Monitoring section.

Schedule: 2007-08

Lead Agency: DWR with cooperation from, SWRCB, Reclamation, and NRCS.

Reclamation requires the inclusion of performance measures as part of the grant application process in all RFP's posted on the website : <http://www.grant.gov>. This section requires a performance assessment plan and a list of project-specific performance measures to assess the project success in the relation to its goals and objectives. The performance measures must also describe the monitoring and assessment procedures used to quantify actual project benefits, including water conserved, better managed, or water marketed. At the completion of the project, the grant recipient must also include information about how the data and other information is to be handled, stored, and made accessible.

Lead: Reclamation

Funding: Funding is included in as part of the grant application.

Schedule: on going

B. Urban Certification

DWR and other agencies will review the Urban Certification Interview results in determining the next steps and mechanisms for implementation of locally cost effective urban BMPs. DWR will implement AB 1420 in 2009 to condition loans and grants to BMP implementation.

Co-Lead Agency: DWR, CBDA, and implementing agencies

Schedule: 2008

C. Ag Assurances Package

Continue to work with stakeholders and improve on the Agricultural Assurances Strategy developed in Year 6 and pursue implementation through an adaptive management process. DWR will include implementation of EWMP's as a scoring criterion for grant funding. Applicants will be required to monitor and report on the project benefits. Greater emphasis was placed on the linkage between project outcome and TB's and this policy will be implemented in future PSPs.

Quantifiable Objectives/Targeted Benefits:

Agencies will continue incorporation of QO's and TB's in future programs and projects. DWR PSP will give priority to projects that contribute to high priority TB's.

- Outreach: Continue to work with agricultural water suppliers to promote marketing of TB's and linkage with EWMP's and to encourage districts to pursue grant funds. Continue promoting integration of TB's into the AWMP, implementation of Efficient Water Management Practices, and in grant funding proposals.

Lead agency: DWR, with support from AWMC.

- Continue promoting integration of TB's into Reclamation regional and standard CVP criteria.
- Prioritized Grant Funding: Give higher priority (additional scores in ranking) to those implementation grant projects with an articulated linkage to TB's. Similarly, funding for non-implementation grants (research, pilot, and feasibility) will be targeted towards those projects that foster TB's pursuit.

D. Science/Monitoring/Verification

Proposals submitted under Proposition 50 are reviewed for scientific merit and feasibility. Monitoring plan and Performance Measures will be required of all applicants for Proposition 50 funding. DWR will analyze monitoring data as projects progress and results are submitted to DWR. DWR will examine the funded projects and pursue any further monitoring needed to verify project benefits. The Monitoring and Performance Evaluation (performance measures) plans of all grant funded projects will be incorporated into agreements with the grantee. The monitoring and verification data and the performance measures will be used to analyze the water savings, in-stream flow benefits, water quality, energy savings, and costs of projects.

Co-Lead agency: DWR, Reclamation, and SWRCB will take the lead for their respective grant programs; ongoing cross-agency coordination.

DWR Funding: Science and Monitoring

Periodically convene the WUE Science Application Advisory Committee (SAAC) to provide advice on conducting science and evaluation tasks. DWR anticipates that there will be meetings of SAAC in Year 8 to review and discuss previously WUE-funded project results. DWR will incorporate science review in its PSP process and will

continue to monitor the agricultural, urban, and water desalination projects results and analyze data.

Lead Agency: DWR, with participation by SWRCB, NRCS, and Reclamation.

Initiate the ET Adjustment Factor study to determine the maximum amount of water allowed for irrigated landscapes. This study is needed to develop the water budget component of the Landscape Model Ordinance. AB 1881, signed by the Governor in 2006, requires DWR to update the Model Ordinance by January 2009. DWR intends to conduct the ETAF study and submit a report to the Legislature before adoption of the Updated Model Ordinance. This study is funded by DWR's FY 06-07 science funds. DWR expects to receive Proposition 84 funding (\$400,000) for two new positions to implement the requirements of the AB 1881.

Science and Monitoring Program Funding: \$1.5 million

Schedule: 2007-08

Lead Agency: DWR with participation by SWRCB, NRCS, and Reclamation.

E. Verification

Proposition 50 funding was appropriated for science and monitoring activities to determine effectiveness of the Proposition 50 grant funding expenditures. CBDA report recommends improving procedures to monitor, verify, and track results in reviewing grant program protocols. DWR will conduct the necessary research, monitoring and verification of WUE funded projects and invest in studies or projects that improve the scientific basis of water use efficiency projects. One such activity is project level monitoring and quantification of benefits and costs. Manage projects to ensure benefits are realized. This entails monitoring, verifying and assessing the local and public costs and benefits of the WUE-funded projects and the extent of progress towards achieving TB's and already articulated QO's. Continue using already articulated QO's to track progress and assess program effectiveness.

Evaluate the local and public costs and benefits of the WUE funded program. Integrate results and findings of project level implementation, as results become available, in an overall and comprehensive analysis to summarize program benefits and achievements regarding CALFED WUE goals for urban and agricultural projects. DWR will examine the

funded projects and pursue any further monitoring needed to verify project benefits.

Co-Lead agency: DWR, Reclamation, and SWRCB – take the lead for its own grant program.

F. Water Use Measurement

DWR will make water use measurement proposals eligible for funding under Proposition 50 PSP. DWR will implement AB 1404, agricultural water use measurement reporting legislation.

Schedule: 2008

Co-Lead Agency: DWR, SWRCB, and Reclamation.

G. Water Use Efficiency and Greenhouse Gas Emission Reduction

The California Energy Commission sponsored study show that for every acre foot of water used, one metric ton of greenhouse gas (GHG) is generated. DWR is committed to take actions to reduce GHG emission through water conservation actions. Initial estimates indicate that, GHG emission reduction targets of 0.4 million metric tons for 2010 and 1.2 million metric tons for 2020 through WUE are achievable through water using appliances code enforcement, implementation of locally cost effective conservation measures, and state grant funding. If the locally cost effective measures are not implemented, additional state investment in grants to local water agencies or disincentives to enforce implementation of locally cost effective conservation measures would be needed to achieve the targets. More work is needed to verify these targets including:

- Identify the energy intensity of various water end uses by region in order to prioritize the implementation of water conservation measures.
- Determine embedded energy required to deliver water to urban end-users and to treat wastewater for multiple utilities in specific regions of the state to identify demand side water-energy efficiency opportunities for the regions of the state.
- Carry out research into the embedded energy required to deliver water to agricultural end users and the source of embedded energy in water by region.
- Identify efficient urban and agricultural water management opportunities that use less energy.

- Determine the average cost per acre foot of urban and agricultural water by region.
- Develop a strategy that includes recycling and brackish water desalination in areas with high water-energy intensity for potential implementation. Additional research will be required to determine the potential for GHG reductions and the cost effectiveness of specific recycling and brackish water desalination projects.

Lead Agency- DWR

DWR has requested staff resources for work on reducing GHG through water use efficiency.

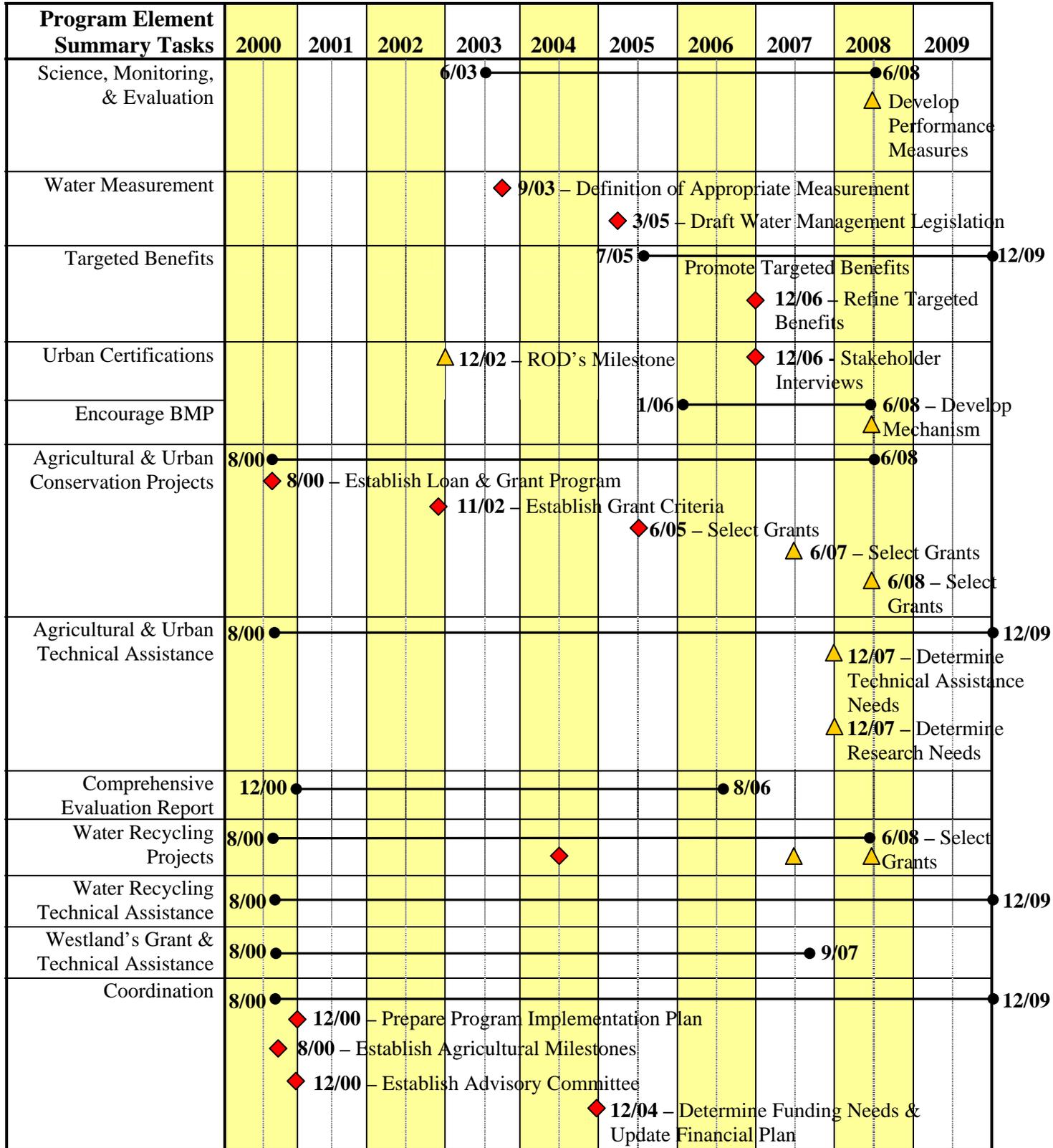
XI. CALFED Coordination

Implementing agencies will coordinate the WUE activities and report overall program progress to CBDA. Implementing agencies will continue to convene WUE Stakeholder committee meetings to get input and guidance in interpreting the ROD to meet the goals and objectives of the WUE program.

Lead Agency: Implementing agencies

Schedule: Ongoing

XII. Schedule



●—● Present Schedule ◆ Completed Milestone ▲ Remaining Milestone

XIII. Budget

Include a section on program budgets for FY 2008.

This should follow the format in the current program plans.

Water Use Efficiency (\$ in millions)	Yr 6	Yr 7	Yr 8	Yr 9	Total
State ¹		\$67.17	\$38.73	\$3.47	\$109.36
Federal ²		\$11.92	\$10.67		\$22.59
Local ³		\$88.92	\$61.00		\$149.92
Water User					
Available Funding Total	N/A	\$168.01	\$110.39	\$3.47	\$281.87

1. State funding includes: DWR and SWRCB.

2. Federal funding assumes President's Budget funding for US Bureau of Reclamation (Reclamation). Federal appropriations beyond Year 7 are unknown. USDA NRCS implements the EQIP program, which is Category B and not included in the above budget.

3. Local funding assumes 50% local cost match for water conservation grants and 75% for recycling grants.

Water Use Efficiency Program Plan Appendix A

In June 2007, the CALFED Bay-Delta Program published a report titled “Program Performance Assessment Executive Summary, *Final Draft as of June 20, 2007.*” The Program Performance Assessment report includes Stage 1 investments by State, federal, and local agencies for Water Use Efficiency projects. CBDA received the following public comments on the Program Performance Assessment:

- How much water are we actually getting? Need to clarify, is this AF/year? Total AF to date? The document should make clear the breakdown on conservation funding, recycled funding and desalination, the amounts of annual water saved as a result and the total costs (operating and capital, cost per acre foot, local cost share)
- How much is recycling costing? Costs should be presented in terms of capital costs as well as operating costs.

To provide complete response to these questions requires full cost benefit analysis of grant or loan funded projects after projects are completed. However, in an attempt to provide information on the agency funded projects and estimate of their expected savings based on existing data, Table 1 is provided to show funding by State and federal agencies and the local entities for agricultural and urban water conservation, water recycling, and water desalination. Also included in Table 1 are the estimates of grant or loan funded water savings or water deliveries. Table 1 gives the reader an overview of the level of funds committed by State, federal and local agencies and the expected water savings or increased water supply from implementing the projects. It is important to keep in mind that while some of the grant or loan funded projects have been completed; the majority are underway and will be completed in one to three years.

Some projects may have received funding from more than one funding program or funding source. Thus, what is shown as a local share for water recycling in Table 1 as one funding source may include funding from other State or federal sources. Also, water savings or deliveries shown in Table 1 from one funding source may include savings or deliveries for a project included under another source.

The project total cost is expected to be the sum of agency grant or loan and the local agency’s proposed share; however the project actual cost may be different when the project is completed. Since the actual project costs may be different from the planned costs, the actual project capital costs and operation and maintenance costs will be determined at the completion of projects. Also, the estimate of water savings and deliveries reported in Table 1 are based on the data provided by the applicants to the funding agency at the time of grant

application. The estimate of planned water savings and deliveries should not be considered as actual and will be evaluated and verified at the completion of projects. Therefore, the estimate of project water savings and the estimate of projects total costs reported in Table 1 should not be used to calculate total water saved or delivered or to calculate cost per acre foot of water.

Projects funded in early years of Stage 1 did not require full project monitoring and evaluation, therefore a complete set of data do not exist for a full cost benefit evaluation. More recent grant funded projects have a reporting requirement to refine water savings and report actual local cost share and also pre and post project monitoring information. The information collected from grantees final reports will help answer some questions with more certainty. It must be noted that some of the funds spent are on feasibility studies, research, demonstration and educational projects and can not report quantifiable water savings or deliveries, but depending on the project outcomes un-quantified future water savings are expected. It is reasonable to assume that the earlier funded projects had relatively lower cost per acre foot of water savings.

The State Water Resources Control Board is in the process of partnering with WaterReuse Foundation to hire a contractor to fully evaluate the benefits and costs of a select group of projects that have received state funding. The results of the analysis will be available in mid 2009. In addition, the State Water Board is currently gathering and evaluating project annual reports and project files to determine actual recycled water deliveries for previously funded projects. The results of this evaluation will be available in mid-2008. Starting in January 2007, the State Water Board began calculating and tracking unit costs of proposed water recycling projects.

Natural Resources Conservation Service (NRCS), Environmental Quality Incentives Program (EQIP) are not funded with Category A funds but are reported for informational purposes.

TABLE 1 State and federal agency WUE grant funded projects and estimate of expected outcome (2000 to 2007)

				Estimate of Project Water Savings or Delivery, AF/Y	Remarks
DWR Ag and Urban projects	Number of Projects	Agency Grant Share	Local Share		
<i>SB 23 Ag (FY 2000-2001)</i>	23	\$5,923,744	\$4,550,000	14,800	
<i>Prop 13 Ag (FY 2000-2001)</i>	5	\$499,930	\$0	NA	feasibility studies result in non-quantifiable water savings.
<i>Prop 13 Ag (FY 2001-2002)</i>	8	\$719,000	\$2,296,831	38,800	
<i>Prop 50 Ag (FY 2004-2005)</i>	27	\$11,237,791	\$5,200,000	18,823	
<i>Prop 50 Ag (FY 2006-2007)</i>	22	\$9,889,622	\$4,223,211	NA	Under development.
Ag subtotal	85	\$28,270,087	\$16,270,042	72,423	
<i>SB 23 Urban (FY 2000-2001)</i>	23	\$5,883,250	\$4,550,000	5,700	
<i>Prop 13 Urban (FY 2000-2001)</i>	7	\$682,911		NA	feasibility studies result in non-quantifiable water savings
<i>Prop 13 Urban (FY 2001-2002)</i>	21	\$8,503,956	\$2,597,526	7,100	
<i>Prop 13 Urban (FY 2002-2003)</i>	25	\$18,000,000	\$13,175,892	13,200	
<i>Prop 50 Urban (FY 2004-2005)</i>	45	\$16,895,191	\$16,900,000	8,816	
<i>Prop 50 Urban (FY 2006-2007)</i>	35	\$18,185,623	\$27,461,303	NA	Under development.
Urban subtotal	156	\$68,150,931	\$64,684,721	34,816	
Subtotal	241	\$96,421,018	\$80,954,763	107,239	
DWR Desalination	Number of Projects	Grant Share	Local Share	Estimate of Project Water Savings or Delivery (AF/Y)	Remarks
<i>Prop. 50 Desal (FY 2004-2005)</i>	24	\$24,750,459	\$124,038,671	20,000	Expected by the year 2010
<i>Prop. 50 Desal (FY 2005-2006)</i>	24	\$21,539,540	\$90,363,756	15,000	Expected by the year 2011
Subtotal	48	\$46,289,999	\$214,402,427	35,000	The total amortized production cost of reverse osmosis for seawater desalination is estimated to be \$860/AF to \$1,300/AF (assuming electricity costs of \$0.08/kWh). For brackish water desalination, the range is from about \$250/AF to \$1,200/AF.
DWR Subtotal	289	\$142,711,017	\$295,357,190	142,239	
USBR ag and urban conservation and recycling	Number of Projects	Grant Share	Local Share	Estimate of Project Water Savings or Delivery AF/Y	Remarks
<i>Ag Conservation (FFY 2005-2006)</i>	8	\$1,405,277	\$2,377,563	56,300	
<i>Ag Conservation (FFY 2006-2007)</i>	6	\$480,520	\$487,885	80,000	Quantities verified by USBR
Ag subtotal	14	\$1,885,797	\$2,865,448	136,300	
<i>Urban Conservation (FFY 2005-2006)</i>	7	\$1,401,186	\$1,623,351	5,554	
<i>Urban Conservation (FFY 2006-2007)</i>	5	\$1,121,476	\$1,986,084	5,000	
Urban subtotal	12	\$2,522,662	\$3,609,435	10,554	
<i>Recycling (FFY 2005-2006)</i>	9	\$14,900,000	\$45,000,000	110,204	
<i>Recycling (FFY 2006-2007)</i>	9	\$8,700,000	\$261,000,000	120,000	Multi-year funding of the same 9 recycling projects
Recycling subtotal	9	\$23,600,000	\$306,000,000	120,000	
USBR Subtotal	35	\$28,008,459	\$312,474,883	\$266,854	

TABLE 1 State and federal agency WUE grant funded projects and estimate of expected outcome (2000 to 2007)

SWRCB	Number of Projects	Grant/Loan Share	Local Share (Not Available)	Estimate of Project Water Savings or Delivery	Remarks
<i>1984 Bonds Recycling (FY 2001-2002)</i>	2	\$17,400,000		0	Deliveries assigned to Prop 13 funding for same projects
<i>SWRCB Prop 13 Recycling (FY 2000-2001)</i>	1	\$3,200,000		3,000	
<i>SWRCB Prop 13 Recycling (FY 2001-2002)</i>	13	\$78,665,690		115,570	
<i>SWRCB Prop 13 Recycling (FY 2002-2003)</i>	3	\$7,855,250		6,901	
<i>SWRCB Prop 13 Recycling (FY 2003-2004)</i>	1	\$3,900,000		3,143	
<i>SWRCB Prop 13 Recycling (FY 2005-2006)</i>	1	\$640,350		800	
<i>SWRCB Prop 13 Recycling (FY 2006-2007)</i>	1	\$2,932,500		352	
<i>SWRCB Prop 50 Recycling (FY 2002-2003)</i>	4	\$8,023,000		31,455	
<i>SWRCB Prop 50 Recycling (FY 2005-2006)</i>	18	\$42,159,375		38,719	
<i>SWRCB Prop 50 Recycling (FY 2006-2007)</i>	0	\$573,000		-31	Funding increases for 2 previously approved projects. Estimated deliveries reduced for one project.
<i>SWRCB SRF-Recycling (FY 2001-2002)</i>	4	\$180,710,000		0	Deliveries assigned to Prop 13 funding for same projects
<i>SWRCB SRF-Recycling (FY 2002-2003)</i>	4	\$52,600,000		12,233	
<i>SWRCB SRF-Recycling (FY 2005-2006)</i>	2	\$17,160,000		260	
<i>SWRCB SRF-Recycling (FY 2006-2007)</i>	1	\$6,170,000		0	Deliveries assigned to Prop 50 funding for same project
SWRCB Subtotal	55	\$421,989,165		212,402	
CALFED Category A Projects Total	379	\$592,708,641	\$607,832,073	621,495	
<p>SWRCB Notes: SWRCB funding includes both grants and loans for construction. Amounts shown are initial funding approved. Local cost share data are not readily available. SWRCB Prop 13 grants for facilities planning are not reported in this table. Recycled water deliveries are initial planned estimates, not actual deliveries, reported as acre-feet/year. To prevent double counting, deliveries are assigned to only one funding source for projects receiving funding from multiple sources. The number of proposals exceeds the number of projects because some projects received approval for more than one funding source.</p>					
<i>Natural Resources Conservation Service</i>	Number of Projects	Grant Share	Local Share	Estimate of Project Water Savings or Delivery	Remarks
<i>EQIP (FY 2000)</i>	County basis	\$675,000	\$675,000	not measured	On farm water savings required
<i>EQIP (FY 2001)</i>	County basis	\$815,000	\$815,000	not measured	On farm water savings required
<i>EQIP (FY 2002)</i>	County basis	\$2,483,000	\$2,483,000	not measured	On farm water savings required
<i>EQIP GSWC (FY2003)</i>	County basis	\$5,406,000	\$5,406,000	not measured	On farm water savings required
<i>EQIP GSWC (FY2004)</i>	County basis	\$8,874,000	\$8,874,000	not measured	On farm water savings required
<i>EQIP GSWC (FY2005)</i>	County basis	\$9,014,000	\$9,014,000	not measured	On farm water savings required
<i>EQIP GSWC (FY2006)</i>	County basis	\$8,366,000	\$8,366,000	not measured	On farm water savings required
<i>EQIP GSWC (FY2007)</i>	County basis	\$8,294,000	\$8,294,000	not measured	On farm water savings required
NRCS Subtotal		\$43,927,000	\$43,927,000		
GRAND TOTAL	379	\$636,635,641	\$651,759,073		