

# California Bay-Delta Program

## Water Use Efficiency Program Multi-Year Program Plan (Years 5-8)

**Implementing Agencies:**

**Department of Water Resources**

**State Water Resources Control Board**

**United States Bureau of Reclamation**

**Natural Resources Conservation Service**

**July 2004**



# Goals, Objectives, and Targets

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## **Goals and Objectives:**

The goal of the Water Use Efficiency (WUE) Program is to advance the implementation of cost-effective water conservation and recycling practices throughout the State that contribute to California Bay-Delta Program water supply reliability, water quality, and ecosystem restoration goals. These practices include agricultural water conservation, urban water conservation, water recycling, and wetlands water management.

The CALFED Record of Decision (ROD) identified several WUE commitments which fall into four broad implementation categories:

- **Assurances, Science, Monitoring, and Evaluation**
  - Provide credible assurances to policy-makers and stakeholders that the WUE Program is being implemented aggressively and in accordance with the ROD.
  - Support and inform sound water management decisions.
  - Verify results of WUE actions.
  - Develop quantified performance measures (including agricultural quantifiable objectives).
  - Engage in adaptive management.
- **Water Conservation and Recycling Loans and Grants**
  - Facilitate implementation of WUE actions at the local level – by cities, water suppliers, and farmers.
  - Use state and federal grants to help local entities implement WUE practices that are not locally cost effective but still contribute to California Bay-Delta objectives.
  - Use state and federal low interest loans to help local entities overcome financial barriers to WUE implementation.
  - Develop partnerships with local and regional entities to: (1) assess the costs, benefits, and feasibility of potential WUE projects; (2) determine the best approach to implement WUE actions; (3) effectively prepare grant and loan applications; and (4) comply with WUE reporting requirements (e.g. related to urban water conservation certification).
- **Water Conservation and Recycling Technical Assistance**
  - Provide technical assistance to help local entities overcome technical hurdles in recycling water.
  - Support and provide outlets for scientific research, public awareness on water recycling production and use.

- **Oversight and Coordination**

- Provide guidance to WUE implementing agencies in interpreting the ROD.
- Employ methods of informal communications, such as staff-level meetings and conference calls with agency staff dissemination of information.
- Engage in formal communications as necessary, such as reports to the California Bay-Delta Authority, the Bay-Delta Public Advisory Committee, and the WUE Subcommittee.

## **Targets:**

The Water Use Efficiency Program provides financial and technical support to enable local entities to conserve water in the urban and agricultural sectors and to recycle urban wastewater. These activities have the potential to increase useable water supplies, increase in-stream flows, and improve water quality.

The ROD called for completion of the WUE Year-4 Comprehensive Analysis, a technical study that will credibly estimate past and expected performance (costs and benefits) of water conservation and recycling activities in California. This analysis will provide estimates of how much water can be conserved and recycled by 2007 and by 2030 under about five different funding levels. After this study is released in the Fall of 2004, the WUE Subcommittee under the Bay-Delta Public Advisory Committee will work with Bay-Delta Authority and Implementing Agency staff to recommend that appropriate level of conservation and recycling to be reflected in revised targets.

The estimates of water conservation performance in the ROD came with a specific caveat against being used as targets. As such, past WUE targets have focused on how many grant dollars have been awarded. The revised targets are expected to include volumetric (e.g. acre-feet of water conserved) as well as monetary components. Additionally, the revised targets will be divided among agricultural and urban conservation and recycling. Where possible the revised targets will be divided into contributions toward water supply (so-called “real water conservation”), in-stream flows, and water quality.

# Accomplishments

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Major accomplishments of CBDA and implementing agencies in 2004 were in WUE Science and Monitoring, Water Measurement, Quantifiable Objectives, Urban Certification, Agricultural and Urban Grants, Water Recycling Technical Assistance, and Oversight and Coordination. The accomplishments include:

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## **Assurances, Science, Monitoring, and Evaluation**

Developed the scope of the WUE independent Science Review Panel and began recruiting panelists. Led by CBDA with participation by Department of Water Resources (DWR), US Bureau of Reclamation (USBR), and State Water Resources Control Board (SWRCB)

Worked with the Science Program to develop a Science Application Advisory Committee to ensure that WUE-related work is practical while still based upon the best available science. Incorporated concepts from the Science Application Advisory Committee into the 2004 WUE Proposal Solicitation Package to improve the monitoring and evaluation of WUE projects. The SAAC also advised USBR on a consultant contract for developing monitoring of WUE projects. Future meetings of the SAAC for 2004 and 2005 have been planned. Led by DWR with participation by USBR and CBDA.

Development of the appropriate water use measurement was a major accomplishment in 2004. CBDA developed an implementation approach. The next phase in 2005 is the necessary legislation and administrative actions needed to implement water use measurement. Led by CBDA; participation by DWR and USBR.

Made progress on the development of WUE element performance measures, through review of on-going science activities including refinement of Quantifiable Objectives, the incorporation of Quantifiable Objectives into water management plans, the development of monitoring and verification protocols of WUE funded projects and participation in the CBDA Science workshop. Led by CBDA with participation by DWR, USBR and SWRCB. Developed a staff draft Framework for Certification of Urban Best Management Practices (BMP) through an ad hoc stakeholder process. Led by the California Bay-Delta Authority (CBDA) with participation by DWR, SWRCB and USBR.

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## **Water Conservation and Recycling Loans and Grants**

Prepared a report on the 69 urban water conservation grants and 23 agricultural water conservation grants for a total of 40,775 acre-feet estimated annual water savings. Led by DWR in coordination with USBR and CBDA.

A draft Project Solicitation Package was developed for Proposition 50 funding. The eligible projects are agricultural and urban water conservation projects. The PSP was released for public comment and the draft was reviewed and endorsed by CBDA.

Facilitated a water recycling stakeholder workshop. Approved amendment to existing WaterReuse Foundation contract and increased the contract amount to an additional \$1 million in 2003. Led by SWRCB with participation by DWR and CBDA.

In Fiscal Year 2004, issued grants and contracts for Water Conservation. Mid-Pacific Region has appropriated approximately \$5,000,000 for Title XVI funding. Issued grants to water suppliers through the Water Conservation Field Services Program. Led by USBR.

Reserved \$600,000 of water recycling research funds for the facilitation of Recycled Water Task Force. Work was completed in June 2003 with submittal of final report to the legislature. Led jointly by SWRCB and DWR.

Awarded 6 water recycling loans totaling \$72 million and committing all water recycling construction loan funds, including 1984 Bond law funds. Additionally, \$20 million of State Revolving Loan funds have been committed for water recycling projects. Projects receiving loan funding contribute to a proposed increase of 36,000 acre-feet per year of recycled water. Awarded 20 water recycling grants to local agencies totaling \$57 million, the total amount of water recycling construction grant funds available from Proposition 13 and remaining Proposition 204 funds. Led by SWRCB.

Made progress on developing an on-farm WUE incentive program. Held 6 meetings throughout the central valley to gather input from producers and others regarding the kind and administration of programs that would be valuable. Led by the Natural Resources Conservation Service (NRCS).

Cooperated with WUE contractor in developing "Key Findings" from regional meetings. Prepared draft of key actions to undertake in an on-farm program. Evaluating existing programs of key agencies. Drafting document of proposed program. Completion date, Summer of 2004.

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## Water Conservation and Recycling Technical Assistance

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Continued to provide technical, biophysical, and engineering-oriented knowledge on water recycling and desalination issues; conducted 22 workshops and meetings with technical presentations; responded to policy makers, legislators, and regulators on issues related to water recycling and desalination; responded to public questions and inquiries regarding water recycling and desalination permitting process; participated in the Southern California Water Recycling Project Initiative II; provided staffing and technical support to the Recycled Water Task Force pursuant to AB 331; submitted the Recycled Water Task Force report to Legislator; participated in the preparation for the California Desalination Task Force pursuant to AB 2717; participated in the California Water Plan Update processes by providing technical support related to water recycling and desalination; helped increase public awareness on the importance of water recycling issues and projects; improved the Water Recycling and Desalination Web site-[www.owue.water.ca.gov/recycle](http://www.owue.water.ca.gov/recycle); in collaboration with the SWRCB and Department of Health Services (DHS) initiated efforts to implement the California Recycled Water Task Force's recommendations. Finalized 4 research agreements with local agencies and University of California Davis to fill in knowledge gap in optimizing the energy needs in the treatment and use of recycled water. Led by DWR.

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Provided financial assistance to help start two new Mobile Laboratories in Tehama and Siskiyou counties. Two new Mobile Laboratories were established. Though still in their infancy, the two labs have conducted 23 pump tests and 60 irrigation system evaluations. Provided financial assistance to an existing Mobile Laboratory in Kern County to provide assistance outside their service area. Kern County has performed 10 evaluations with 15 left to be completed during the first quarter of 2004. The intent of these evaluations is to show agencies that do not currently have mobile laboratories the benefits of the labs and encourage them to establish their own labs. Led by DWR.

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Reprinted and disseminated several water use efficiency brochures, articles and published the Water Conservation News on a quarterly basis. Led by DWR.

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Assisted local agricultural water agencies to install 3 new California Irrigation Management Information System (CIMIS) weather stations. Collected, processed, analyzed, and disseminated CIMIS data to the public through the CIMIS web page. Provided trouble-shooting and technical assistance in maintaining the system and resolve problems with DWR and cooperator owned CIMIS weather stations. Contracted with the Center for Irrigation Technology for On-farm Drainage Reduction, including four workshops per year. Partnered with the University of California Cooperative Extension to conduct 4 workshops on irrigation scheduling and promoting CIMIS. CIMIS participated in several workshops throughout the state to inform the public about the CIMIS program, how to utilize CIMIS data, assist in agricultural and urban runoff reduction, and how to become a CIMIS cooperator. Partnered with the CA Urban Water Conservation Council 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. Contracted with University of California Davis to develop California ETo maps using remote sensing and spatial interpolation methods, updating daily, and to be made available to the public through the CIMIS web page. Developed a new CIMIS web page to facilitate the increased demand for data, technical information, and water management tools. Led by DWR.

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Conducted presentation on urban water management plan preparation and provided technical assistance. Provided technical assistance to the California Urban Water Conservation Council, provided staff support to the CBDA Urban Water Use Measurement Staff Work Group. Published the *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001*, and supported CUWCC to conduct workshops and presentations on those bills throughout California. Led by DWR.

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Facilitated technical assistance to water suppliers and water users through the Water Conservation Field Services program (see Loans and Grants, above). Led by USBR.

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Working with the Interagency Task Force to establish criteria for Refuge Water Management Plans. Incorporated agricultural Quantifiable Objectives on Wetlands. Led by USBR.

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Provided technical assistance to growers throughout the state for the adoption of new irrigation equipment and improved water management techniques. Led by NRCS.

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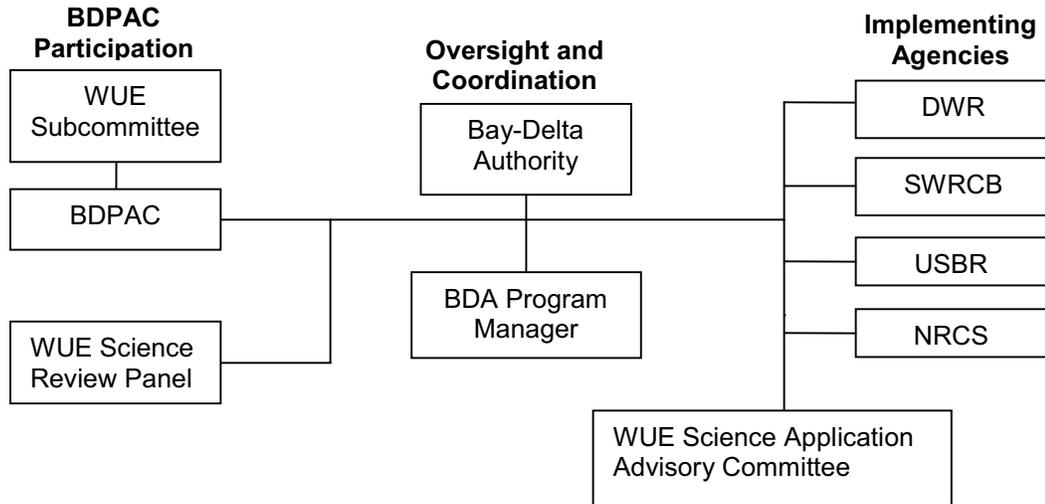
## Oversight and Coordination

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Provided guidance to WUE agencies in interpreting the ROD and facilitated communications. Convened the WUE Subcommittee to the BDPAC. Led by CBDA.

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# Program Structure



Agency	Roles and Responsibilities
California Bay-Delta Authority	<ul style="list-style-type: none"> <li>• Co-Lead agency on Science &amp; Monitoring and Quantifiable Objectives</li> <li>• Lead agency on Water Measurement, Certification, and Oversight &amp; Coordination</li> <li>• Convener of WUE Subcommittee and Water Management Science Board.</li> </ul>
Department of Water Resources	<ul style="list-style-type: none"> <li>• Co-Lead agency on Science &amp; Monitoring and Quantifiable Objectives.</li> <li>• Lead agency on Agricultural Loans, Agricultural Grants, Urban Loans, Urban Grants, Agricultural Technical Assistance, Urban Technical Assistance, and Water Recycling Technical Assistance.</li> <li>• Convener of the WUE Science Application Advisory Committee.</li> </ul>
U.S. Bureau of Reclamation	<ul style="list-style-type: none"> <li>• Co-Lead agency on Science &amp; Monitoring, Quantifiable Objectives, Agricultural Grants, Urban Grants, Agricultural Technical Assistance, Urban Technical Assistance, Water Recycling Grants, and Water Recycling Technical Assistance.</li> <li>• Lead agency on Managed Wetlands Grants and Managed Wetlands Technical Assistance.</li> </ul>
State Water Resources Control Board	<ul style="list-style-type: none"> <li>• Co-Lead agency on Science &amp; Monitoring.</li> <li>• Lead agency on Water Recycling Loans, Water Recycling Grants, and Water Recycling Research Grants.</li> </ul>
Natural Resources Conservation Service	<ul style="list-style-type: none"> <li>• Lead agency on Agricultural Grants (farm) and Agricultural Technical Assistance (farm).</li> </ul>

# Major Activities

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CBDA and implementing agencies have a number of major activities underway. These activities are required by the ROD and were identified in the WUE Implementation Program Plan. Major activities include the Year 4 Comprehensive Review, the 2004 agricultural and urban WUE PSP, the SWRCB PSP and USBR funding for water recycling and water conservation. Other major activities include the implementation of the Recycled Water Task Force Report, guidance on practical application of science concepts, technical assistance to agricultural and urban water users, and CBDA oversight. These activities are in the following tasks: WUE Science and Monitoring (Task 1), Urban Certification (Task 4), agricultural and Urban Grants (Tasks 6 and 7), Water Recycling Technical Assistance (Task 13) and Oversight and Coordination (Task 17). The accomplishments include:

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## **Assurances, Science, Monitoring, and Evaluation**

Evaluate past and future WUE cost and performance. The primary deliverable for this activity is the completion of the ROD specified Comprehensive Evaluation of Year 4 WUE Evaluation. 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) as well. Led by CBDA with participation by DWR, USBR, and SWRCB.

**Schedule:** Completion Draft Report by Fall of 2004

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Complete ROD-specified assurances milestones including development of water use measurement legislation, and developing a process to certify urban BMP implementation. Funding for water use measurement will be critical to implement the activity. Led by CBDA with participation by DWR, SWRCB, and USBR.

**Schedule:** December 2004

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Periodically convene the WUE Science Application Advisory Committee to provide advice on conducting science and evaluation tasks. DWR anticipate that there will be two meetings of SAAC in year 5 to review the WUE project funding process and discuss previously WUE-funded project results. Led by DWR with participation by CBDA and USBR.

**Schedule:** December 2004.

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Develop a set of user guides intended to assist with estimation of benefits of projects in water use efficiency. The user guides will also identify opportunities and constraints of water use efficiency projects at the farm level. Led by USBR with participation by DWR, NRCS, and CBDA.

**Schedule:** Completion September 2004

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Facilitate the evaluation of programmatic performance of the WUE element by developing WUE performance measures, including quantitative goals for the WUE program and indicators of the progress towards achieving those goals. This includes the development, refinement, and evaluation of Quantifiable Objectives. Staff will also monitor the performance of WUE projects through credible 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. Led by CBDA with participation by DWR, USBR and SWRCB.

**Schedule:** Ongoing

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Continue to strive for a balance between making the proposal and implementation process as accessible as possible to all agencies involved in water use efficiency and incorporating more scientific measures into the program. Led by DWR with participation by CBDA and USBR.

**Schedule:** Ongoing

Form and convene the Water Management Science Panel to provide independent scientific advice and review. Led by CBDA; participation by DWR, USBR, and SWRCB. This panel was not convened in 2004.

**Schedule:** Ongoing

## Water Conservation and Recycling Loans and Grants

Issue the Proposition 50 WUE PSP for 2004. The draft PSP was released for public comment and a final draft was prepared based on the comments received. Agricultural and urban water use efficiency implementation as well as research and development projects are eligible for funding. The funding for FY 04-05 is about \$34 million for both ag and urban projects at 50% each. Proposals will be reviewed and selected based on the criteria outlined in the PSP document.

The original Budget Change Proposal indicated funding levels under Proposition 50 of approximately \$34 million each year for three years (split evenly between urban and agricultural projects).

If Proposition 50 funding level is decreased it is anticipated that grants will be decreased proportionally.

Led by DWR with participation by USBR, CBDA, and SWRCB.

**Schedule:** Contracts issued by Spring 2004

The 50 projects funded through Senate Bill 23 General Funds in 2001 have reached completion. A comprehensive report on the results of these projects is under preparation by DWR. Led by DWR.

**Schedule:** June 2004

Continue water recycling research projects. Led by SWRCB.

**Schedule:** Ongoing.

Finalize Refuge Water Management Plan Criteria. Led by USBR with participation by CBDA.

**Schedule:** Completion Summer of 2004.

NRCS is in the last year of a three-year CALFED agreement to develop an on-farm component of the WUE program.

**Schedule:** Completion July 2004.

Develop a Proposal Solicitation Package for the Water Desalination funds under Chapter 6 (a) of the Proposition 50. In FY 04-05, \$25 million funding is available for implementation and research and development for seawater and brackish water desalination projects. The draft PSP will be released for public review and for agency information. Conduct 2004 PSP Workshops; review and select PSP proposals; and generate contracts. Lead by DWR.

**Schedule:** Draft PSP to be released in June 2004.

The Governor's budget included \$25.5 million for water recycling grants for the state fiscal year 2003/2004, and includes \$16.5 million for 2004/2005 of Proposition 50 funds. The initial \$10 million of Proposition 50 funds appropriated for fiscal year 2002/2003 have been encumbered for planning and construction grants to local agencies. Led by SWRCB; participation by CBDA.

SWRCB staff is developing draft planning and construction funding guidelines to replace SWRCB adopted funding guidelines in 1997.. Draft guidelines and funding criteria for the administration of Proposition 50 water recycling funds and other subsequent funding will be presented for adoption by the SWRCB upon the removal of the "Hold" status on Proposition 50 water recycling funds due to lack of staff resources.

**Schedule:** Ongoing

Develop a cost/benefit tracking system for all 2000, 1996, 1988, and 1984 Bond SWRCB water recycling funded projects on a Geographical Information System (GIS) data layer to demonstrate capital costs, operation and maintenance costs, quantity of recycled water delivered, and quantity of State and local water augmented due to the delivery of recycled water.

**Schedule:** Ongoing

In Fiscal Year (FY) 2004, USBR's Mid-Pacific Region water conservation staff is expected to award \$2,357,000 in contracts and grants for agricultural and urban water conservation Title XVI funding for MP Region for FY 04 is approximately \$5,000,000.

**Schedule:** Ongoing

## Water Conservation and Recycling Technical Assistance

Work with the California Urban Water Conservation Council (CUWCC) in the accomplishment of the following (Les by DWR and USBR):

- Refine Urban BMP reporting database.
- Determine revenue impacts of water conservation.
- Support water agencies preparing Urban Water Management Plans.
- Publish Commercial Industrial and Institutional water use efficiency leaflets.
- Determine water conservation potential of various evapotranspiration controllers.
- Publish landscape Water Use Efficiency leaflets.
- Develop a database of mobile irrigation evaluation results.

State budget reductions have impacted these activities. Future funding would be needed to complete these activities. .

**Schedule:** Ongoing

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Provide 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 through Agricultural Water Management Council and by providing brochures, bulletins, and holding workshops. These activities would require some level of additional funding. Led by DWR.

**Schedule:** Ongoing

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Continue collaborating with the University of California, US Department of Agriculture – Agricultural Research Service (USDA – ARS) , the Irrigation Training and Research Center (ITRC) at California State Polytechnic University, San Luis Obispo and other research institutions to further our understanding of key WUE technologies through encouraging development of such technologies. Led by DWR.

**Schedule:** Ongoing

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For water recycling, continue to provide technical, biophysical, and engineering-oriented knowledge on water recycling and desalination issues. In collaboration with stakeholders, initiate efforts to:

- Develop guidelines for water recycling regulation and permitting requirements.
- Identify potential water recycling/ desalination projects.
- Develop user friendly water quality guidelines for recycled water use in agriculture.
- Help implement the Recycled Water Task Force's recommendations.
- Inform policy makers, legislators, and regulators of water recycling and desalination opportunities and impediments.
- Increase public awareness and disseminate knowledge and information on the safe use of recycled and desalinated waters through research, publications and participation in technical and outreach meetings.
- Coordinate with federal, State, and local agencies to advance local and regional water recycling and desalination.

**Schedule:** Ongoing

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Through the Water Conservation Field Services Program (WCFSP), provide technical assistance to their agricultural and urban contractors. Led by USBR.

**Schedule:** Ongoing

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Continue to develop the Draft Criteria for Water Management on Wetlands. Through the Water Conservation Field Services Program (WCFSP), USBR will provide technical assistance to its agricultural and 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, Fresno State Center for Irrigation Technology, Universities of California- Riverside, California State Universities San Bernardino and Chico, and the Water Education Foundation's Project Water Education for Teachers. Led by USBR.

**Schedule:** Ongoing

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Continue to provide technical assistance to producers throughout the state for the adoption of new irrigation equipment and improved water management techniques. Led by NRCS.

**Schedule:** Ongoing

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## Oversight and Coordination

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Prepare Elements of Urban Water Conservation Certification Legislation Complete the definition of appropriate measurement and draft water measurement legislation.

**Schedule:** June 2004

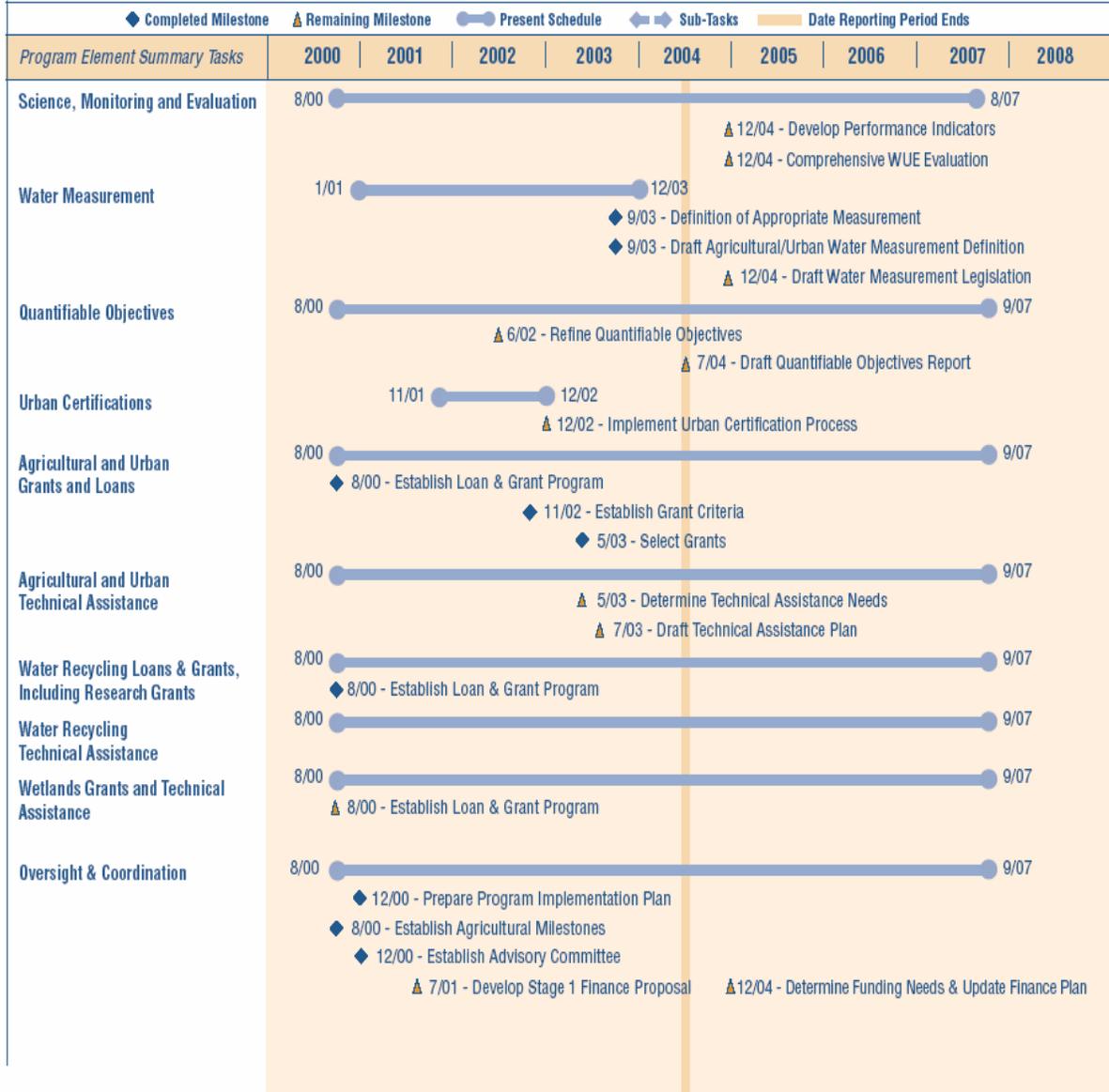
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Continue to convene WUE Subcommittee and Water Management Science Board meetings. Continue to provide guidance in interpreting the ROD to participating agencies to meet the goals and objectives of the WUE program. Led by CBDA.

**Schedule:** Ongoing

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# Schedule



# Integrating Science, Environmental Justice, and Tribal Relations Programs

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The CALFED Record of Decision (ROD) recognized that there are significant overlaps between California Bay-Delta Program Elements and called for an integrated approach to addressing Program goals. Program managers have met to discuss, and will continue to work together to implement a coordinated scientific integration process.

## Science:

The Authority and BDPAC have indicated keen interest in Performance Measures for the 11 program elements. The science program has been working with the other program elements to create performance measures. Performance measures translate program goals and objectives into measurable benchmarks of success. Performance measures range from relatively simple metrics (such as project expenditures) to complex cross program assessments (such as water supply reliability). 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 later.

The Science Program and the Water Use Efficiency Program have been continuously working to design performance measures for the program. The Science Program has articulated the following three levels of Performance Measures. These will be refined as they are tailored for the unique needs of each program. For WUE, examples of performance measures include:

- **Level 1: Simple administrative measures.** 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.** 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.** Indicators that track broad, often complex, responses of groups of projects (such as water supply reliability or ecosystem health).

The WUE Program is tracking Level 1 indicators of project expenditures and numbers and types of projects. The Program is also tracking site-specific changes in water quantity resulting from the implementation of an action such as replacing spray-rinse nozzles. Indicators at this level are the units implemented and the change in water consumption as measured by the action. For diffuse actions such as spray head replacement it is appropriate to assign a fixed conservation value for each unit installed. For actions such as the waste-water recycling plant a meter reading of the annual production volume would be the indicator.

The WUE Program is also developing Level 2 indicators at the multi-site level. These are the collective benefits achieved from implementing multiple projects of the same type or a suite of projects in a defined geographic region. Examples of this are the replacement of spray-rinse nozzles and the

installation of low-flow toilets in restaurants in a metropolitan area or the large number of water conservation projects that collectively save significant amount of water by a water district. Indicators at this level include the change in total water consumption as measured by the actions. In some respects this is easier to track than a site-specific action because collectively they have a greater impact on the overall change in water use. However, a metric to normalize the change in use needs to be included so that the affects of the action can be isolated from behavior or weather variables.

Because Level 3 measures gauge the combined effects of several Program Elements, the WUE Program will contribute to the Science Programs ongoing work in this area. At the system-wide level WUE indicators are found in the CALFED Program objectives. Objectives for the agricultural WUE element are derived from other CALFED Program elements such as the ERP's in-stream flows or the overall benefits of a group of WUE actions on improving water quality or conserving water to meet future demand. If these targets are met and tiers one and two of the agricultural WUE substantiate the results then the program is a success. Similarly, on the urban side of WUE the system wide indicators are used to show similar outcomes.

The critical unknowns related to WUE science are the performance of the WUE-funded projects and refining quantification of future water savings. The following actions are needed to address the unknowns:

- Developing performance measures and evaluating the results of the individual and collective (within a region) WUE-funded projects. Recommending adaptive management changes and applied research needs, where necessary, to meet the desired WUE goals.
- Making projections of potential costs and benefits from WUE projects through 2007 and beyond for possible revisions of WUE goals and objectives.

Three subtasks are planned:

1. Assess past WUE performance: estimate the total costs and benefits of WUE activities since the California Bay-Delta Program began implementation.
2. Assess WUE potential: estimate the total costs and benefits of WUE activities that are expected in the future, both for the California Bay-Delta Program's Stage 1 (through 2007) and until 2030.
3. Convene the WUE Science Application Advisory Committee and the WUE Science Review Panel and Water Management Science Board.

The above tasks will continue in future years.

## **Environmental Justice:**

WUE was the first CBDA Program to incorporate a four part process into the PSP process designed to specifically analyze and assess issues from an EJ perspective. The four step process includes knowing the community, examining disparate and/or cumulative impacts of that community, initiating a dialogue on benefits and burdens of proposed actions, and conducting these steps in a meaningful, open and transparent public process. This process was shared with the State Water Resources Control Board in the implementation of a PSP, and continues to guide WUE's EJ commitments. WUE will also undertake the formulation of an EJ panel to bring together EJ and WUE stakeholders in a process design to further integrate and incorporate EJ into WUE programs and plans. Staff continues to work with the EJ Coordinator and subcommittee conduct the following activities:

- Integrate Environmental Justice principles and relevant EJ work plan tasks into the multi-year program plan.
- Integrate Environmental Justice goals and objectives into the WUE Subcommittee's activities.
- The WUE Subcommittee chair(s) and/or Program Manager will attend Environmental Justice Subcommittee meetings, as appropriate, based on the agenda.
- Include EJ community representatives in grant and loan selection committees.
- Include EJ criteria in proposal solicitation criteria.
- Coordinate with EJ Subcommittee to conduct technical assistance workshops in minority and low income communities to advertise Proposal Solicitation Packages and facilitate proposal submissions from a wider and more diverse population.

## **Tribal Relations:**

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.)  
Majority of California Tribes have developed USEPA Tribal Environmental Programs that have extensive water protection, water conservation and water quality programs that should be taken into consideration during Water Use Efficiency project planning and implementation.
- Tribal Rep's on BDPAC advisory committee  
The tribes have been involved with 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.
- Grant opportunities/educational outreach  
Notify tribal governments of grant opportunities that provide water-use efficiency.

# Cross-Program Relationships

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WUE cross-program integration begins with the program elements' objectives. WUE objectives tier from the California Bay-Delta Program's water supply reliability, water quality, and ecosystem restoration. Consistent with this approach, the WUE element continues to coordinate with the following programs:

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**Ecosystem Restoration** – Staff continues to coordinate with the ERP as needed. This includes meetings with State and Federal agencies, the California Water Plan, and interested stakeholders to develop uniform data collection and reporting procedures. In addition coordination between ERP and WUE is important for the updating Quantifiable Objectives for in-stream flow and water quality objectives. The agricultural element of WUE is coordinating with the Environmental Water Program to pursue in-stream flow benefits on Deer Creek.

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**Storage, Conveyance, and Conjunctive Use** – Staff continues to coordinate with the Storage, Conveyance, and Conjunctive Use Program as needed. This includes meetings with State and Federal agencies, the California Water Plan, and interested stakeholders to develop uniform data collection and reporting procedures.

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**Drinking Water Quality** – Staff continues to coordinate with the Drinking Water Quality Program as needed. This includes meetings with State and Federal agencies, the California Water Plan, and interested stakeholders to develop uniform data collection and reporting procedures. In addition coordination between DWQ and WUE is important for the updating Quantifiable Objectives for water quality objectives.

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**Environmental Water Account-** In addition to water savings, implementation of efficiency measures may provide water quality and flow timing benefits. CALFED has identified a set of Quantifiable Objectives – numeric targets of water savings, water quality and flow timing benefits – to meet CALFED goals. Water quality and timing benefits may be local, regional, and/or statewide and could benefit EWA objectives of protecting at-risk fish. Staff continues to coordinate with the EWA as needed to establish possible benefits from implementation of WUE to EWA. This includes meetings with involved agencies and stakeholders to communicate and consider the EWA and WUE objectives and goals in planning, data collection, program implementation and evaluation.

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**Transfer-** Water transfer can provide financial assistance to support implementation of water use efficiency measures. The WUE Program will coordinate with Water Transfer.

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**Watershed-** WUE program will collaborate with Watershed Program to support implementation of water use efficiency programs and projects in various watersheds of interest to both programs.

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# Funding

<b>Water Use Efficiency</b> <sup>1</sup> (\$ in millions)	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Grand Total
State <sup>2</sup>	\$20.2	\$57.8	\$37.0	\$97.7	\$35.2	\$47.3	\$43.9	\$6.4	\$345.5
Federal <sup>3</sup>	\$25.4	\$25.5	\$16.2	\$18.3	\$12.4				\$97.8
Local <sup>4</sup>	\$62.0	\$74.8	\$72.9	\$160.4	\$181.7				\$551.9
<b>Available Funding Total</b>	<b>\$107.6</b>	<b>\$158.1</b>	<b>\$126.1</b>	<b>\$276.4</b>	<b>\$229.3</b>	<b>\$47.3</b>	<b>\$43.9</b>	<b>\$6.4</b>	<b>\$995.2</b>
<b>Projected Needs Estimate</b> <sup>5</sup>	\$31.0	\$62.0	\$299.0	\$641.0	\$220.9	\$226.1	\$231.3	\$204.6	\$1,915.9
<b>Original ROD Estimate (Aug, 2000)</b> <sup>6</sup>	\$31.0	\$62.0	\$299.0	\$641.0	\$641.0	\$641.0	\$641.0		\$2,956.0

**NOTES:**

- Funding for Years 1 - 3 reflect actual State, Federal and Local obligations, commitments, encumbrances and expenditures updated to reflect actual fund amounts for each task. State funds for Year 5 reflect the Governor's Budget May Revision. Federal funds are the Year 4 enacted and President's FY 2005 proposed budget. Projected funding shown in Years 6 - 8 includes remaining estimates for State bond funds ongoing State base funding, and local matching to grants for years where bond funding is available. Federal appropriations beyond Year 5 are unknown. In addition, the State Water Resources Control Board (SWRCB) has identified an additional \$240 million from the State Revolving Fund (SRF) for years 1-3 for water recycling loans and additional bond funds for year 5 and beyond that are not included in this table. Water Recycling Loans historically includes SRF from the federal Clean Water Act (EPA), Proposition 13, and other bond funds, state contributions as well as local repayments for loans. SWRCB does not have sufficient staff to provide this level of detail to the Authority staff. Until such time that the SWRCB, EPA, and Authority clarify the amount of SRF and other Water Recycling funding from federal, state, and local funds, these amounts will be excluded from the chart.
- The State budget includes funding for the California Bay-Delta Authority (Authority), Department of Water Resources (DWR), and the State Water Resources Control Board (SWRCB).
- The Federal budget includes funding for the U.S. Bureau of Reclamation (Reclamation).
- Most of the local funding included in this table is from local cost sharing for the federal Title XVI water recycling program. Future year projections are an estimate of grant matching for urban and ag water conservation grants, as well as local cost sharing for the Title XVI water recycling program.
- The Projected Needs Estimates are based on funding targets from the 10-year finance plan (July 2) and may change based on completion of the plan in November 2004.
- Original ROD represents the original Stage 1 (Years 1-7) funding estimates from the Record of Decision (Aug 2000).

# Funding by Task

Water Use Efficiency (\$ in millions)	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Grand Total
1) Science & Monitoring	\$0.2	\$1.0	\$0.5	\$1.9	\$1.0	\$1.9	\$1.9	\$0.1	\$8.6
2) Water Measurement	\$0.1	\$0.2	\$0.1						\$0.4
3) Quantifiable Objectives	\$0.05	\$0.1	\$0.06	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.4
4) Urban Certifications	\$0.05	\$0.2	\$0.1						\$0.4
5) Agricultural Loans				\$9.1	\$8.4	\$8.4	\$5.6		\$31.6
6) Agricultural Grants	\$7.4	\$2.7	\$6.8	\$16.1	\$0.7	\$15.0	\$15.1		\$63.8
7) Urban Loans					\$0.0				\$0.0
8) Urban Grants	\$7.6	\$10.8	\$24.8	\$16.3	\$0.9	\$15.0	\$15.1		\$90.6
9) Agricultural Technical Assistance	\$1.6	\$1.5	\$1.7	\$2.8	\$1.9	\$3.2	\$3.2	\$3.2	\$19.1
10) Urban Technical Assistance	\$1.2	\$5.4	\$1.3	\$2.1	\$1.4	\$2.2	\$2.2	\$2.3	\$18.2
11) Water Recycling Loans	\$0.0	\$12.2	\$0.8	\$0.8					\$13.7
12) Water Recycling Grants	\$88.8	\$122.3	\$89.6	\$226.1	\$214.3	\$0.9	\$0.1		\$742.0
13) Water Recycling Technical Assistance	\$0.1	\$1.2	\$0.1	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$3.0
14) Water Recycling Research Grants									
15) Managed Wetlands Grants									
16) Managed Wetlands Technical Assistance									
17) Oversight & Coordination	\$0.4	\$0.6	\$0.4	\$0.7	\$0.3	\$0.3	\$0.3	\$0.3	\$3.4
<b>Available Funding Total</b>	<b>\$107.7</b>	<b>\$158.2</b>	<b>\$126.1</b>	<b>\$276.4</b>	<b>\$229.3</b>	<b>\$47.3</b>	<b>\$43.9</b>	<b>\$6.3</b>	<b>\$995.2</b>
<b>Projected Needs Estimate</b> <sup>3</sup>	\$31.0	\$62.0	\$299.0	\$641.0	\$220.9	\$226.1	\$231.3	\$204.6	\$1,915.9
<b>Original ROD Estimate (Aug, 2000)</b> <sup>4</sup>	\$31.0	\$62.0	\$299.0	\$641.0	\$641.0	\$641.0	\$641.0		\$2,956.0

**NOTES:**

- Funding for Years 1 - 3 reflect actual State, Federal and Local obligations, commitments, encumbrances and expenditures updated to reflect actual fund amounts for each task. State funds for Year 5 reflect the Governor's Budget/May Revision. Federal funds are the Year 4 enacted and President's FY 2005 proposed budget. Projected funding shown in Years 6 - 8 includes remaining estimates for State bond funds/ongoing State base funding, and local matching to grants for years where bond funding is available. Federal appropriations beyond Year 5 are unknown.
- In addition, the State Water Resources Control Board (SWRCB) has identified an additional \$240 million from the State Revolving Fund (SRF) for years 1-3 for water recycling loans and additional bond funds for year 5 and beyond that are not included in this table. Water Recycling Loans historically includes SRF from the federal Clean Water Act (EPA), Proposition 13 and other bond funds, state contributions as well as local repayments for loans. SWRCB does not have sufficient staff to provide this level of detail to the Authority staff. Until such time that the SWRCB, EPA, and Authority clarify the amount of SRF and other Water Recycling funding from federal, state, and local funds, these amounts will be excluded from the chart.
- The Projected Needs Estimates are based on funding targets from the 10-year finance plan (July 2) and may change based on completion of the plan in November 2004.
- Original ROD represents the original Stage 1 (Years 1-7) funding estimates from the Record of Decision (Aug 2000).

# Geographical Distribution of Activities

