
*Adapted from November 3, 1998 Staff Draft
CALFED Revised Phase II Report (pgs. 48-52)*

12/08/98 Version

Water Use Efficiency Program

(Reflects preliminary outcomes of Agricultural Water Use Efficiency Assurances Stakeholder Focus Group through 12/7/98. Some language from the November 3, 1998, Staff Draft has been intentionally omitted. Additional refinements by Focus Group are anticipated.)

Bold Text = Additions made during Focus Group deliberations

~~Strikethroughs~~ = Language considered but not included by Focus Group

WUE Program Description

(Insert into Chapter 4.1 - Program Elements)

The CALFED Water Use Efficiency Program is based on the recognition that implementation of efficiency measures occurs mostly at the local and regional level. The CALFED policy toward water use efficiency is a reflection of the State of California legal requirements for reasonable and beneficial use of water: existing water supplies must be used efficiently, any new water supplies that are developed by the Program must be used efficiently as well.

The CALFED Water Use Efficiency Program will 1) establish measurable objectives, 2) offer support and incentives through expanded programs to provide planning, technical, and financial assistance; 3) monitor progress towards objectives; and, 4) if these objectives are not met, provide for the reopening of the setting and implementation of objectives. CALFED agencies will also support institutional arrangements that give local water suppliers an opportunity to demonstrate that cost-effective efficiency measures are being implemented. Some potential water use efficiency benefits, such as water quality improvements, may be regional or statewide rather than local. These are situations in which CALFED planning and cost-share support may be particularly effective.

Water use efficiency measures can make available additional water supplies for environmental or consumptive users, and can serve as a useful tool for addressing many of the problems in watershed management. Improvements in water use efficiency are anticipated from a wide range of CALFED programs, and not all of these are reflected in this discussion of the Water Use Efficiency Program. As with

other program elements, actions and activities undertaken throughout the CALFED Program can have corollary benefits in other CALFED program areas. For example, CALFED expects to generate substantial water use efficiency incentives through improvements in the water market and through willing-seller water acquisitions for Ecosystem Restoration Program instream flows. In addition, improvements in water quality in the Water Quality Program can assist in meeting water use efficiency goals by reducing the need for water to meet soil leaching requirements and by enhancing water reclamation opportunities. Similarly, actions taken under the Water Use Efficiency Program are expected to have ancillary benefits for other CALFED objectives. Reducing unnecessary surface runoff from farms and urban areas can enhance water quality by reducing the discharge of unwanted substances into watercourses. In addition, WUE measures can improve water supply reliability by increasing the number of opportunities available to water managers. Finally, through the planning and implementation of WUE measures, the cost effectiveness of various storage components will become better defined.

Based on analysis provided in the *Water Use Efficiency Program Plan*, estimates of potential reduction of water application and irrecoverable losses are summarized in the following table. Values in the table represent potential reductions of water application and irrecoverable losses that are most likely to occur for future conditions regardless of the outcome of a CALFED solution (termed no-action) as well as the incremental savings expected from a CALFED solution. Representative values shown in this summary table are all midpoints in value ranges contained in the *Revised Water Use Efficiency Program Plan*.

The purpose of this table is to give the reader a perspective of the order of magnitude of the potential effects of water use efficiency improvements both with and without the CALFED solution. The values presented are not goals or targets. Rather, they are intended to provide the relative magnitude of potential results of expected efficiency actions. Because stakeholders disagree on the magnitude and/or the feasibility of achieving these values, the values will be further refined before the CALFED Programmatic EIS/EIR is finalized. Stakeholders do agree, however, that water conservation can provide significant benefits for multiple purposes and therefore is a significant contribution to the CALFED solution. Consistent with a programmatic analysis, specific actions or programs that would have to be implemented to achieve these results have not been specified.

The table describes three types of potential reductions:

- **Recovered Losses with Potential for Rerouting Flows** - These losses currently return to the water system, either as groundwater recharge, river accretion, or direct reuse. Reduction in these losses would not increase the overall volume of water, but might have other benefits such as making water available for irrigation or instream flows during dry periods, improving water quality,

decreasing diversion impacts or improving flow between the point of diversion and the point of reentry.

- Potential Irrecoverable Losses - These losses currently flow to a salt sink, deep aquifer, or the atmosphere, and are unavailable for reuse. Reduction in these losses would increase the volume of useable water.
- Potential Reduction of Application - This is the sum of the previous reductions.

There appears to be emerging agreement between agricultural and environmental interests on distinctions between different types of potential reductions. This is a significant breakthrough in the debate over agricultural water conservation potential as it enables the CALFED program and stakeholders to focus on effectively reducing specific types of losses to obtain desired benefits.

Summary of Estimated Conservation and Recycling Potential (1,000 acre-feet)¹
(The Focus Group is still refining descriptive language in the attached table to ensure the information is presented as clearly as possible.)

See Table on Following Page

A section summarizing draft Water Use Efficiency Program actions is being rewritten by the Focus Group to:

- 1) Summarize the range of new actions being developed by the Focus Group and described in detail elsewhere in this document; and
- 2) Integrate these new actions with steps already developed for urban/refuge water users.

Development of Agricultural Water Use Efficiency Program. The March 1998 draft EIS/EIR proposed that an existing group, the Agricultural Water Management Council established pursuant to AB3616, play a pivotal role in assuring demonstration of efficient water use in the agricultural sector. Concerns about this proposal, and about the agricultural water use efficiency program more generally, led to the formation of both a formal stakeholder-agency focus group to evaluate and propose improvements to the program and a technical review panel to review the technical basis for the program and proposals included in the EIS/EIR. The Focus Group has met several times and its preliminary recommendations are reflected in this document. Before the CALFED Programmatic EIS/EIR is finalized, CALFED will incorporate comments received from these two groups, as well as other comments received from the public, and will proceed with program refinement in an open public process.

Summary of Estimated Conservation and Recycling Potential (1,000 acre-feet)¹

(The Focus Group is still refining descriptive language in this table to ensure that the information is presented as clearly as possible.)

	No Action (in absence of CALFED)			CALFED Increment (result of CALFED actions)			Total Conservation Potential		
	Recovered Losses with Potential for Rerouting Flows (A=C-B) ³	Potential for Recovering Currently Irrecoverable Losses (B) ³	Total Potential Reduction of Application (C) ³	Recovered Losses with Potential for Rerouting Flows (A=C-B) ³	Potential for Recovering Currently Irrecoverable Losses (B) ³	Total Potential Reduction of Application (C) ³	Recovered Losses with Potential for Rerouting Flows (A=C-B) ³	Potential for Recovering Currently Irrecoverable Losses (B) ³	Total Potential Reduction of Application (C) ³
Urban (Total Delivered Water: ___ [to be added later])	475	685	1,160	435	845	1,280	910	1,530	2,440
Agricultural (Total Applied Water: 25,719)	2,162	228	2,390	1,668	148	1,816	3,830	376	4,206
Urban Recycling ²	169	798	967	85	255	340	254	1,053	1,307
TOTAL	2,806	1,711	4,517	2,188	1,248	3,436	4,994	2,959	7,953

¹ All figures are forecast for year 2020 and are from CALFED's Revised Water Use Efficiency Program Plan.

² No Action urban recycling values do not include existing recycling level of 485,000 acre-feet (the March 1998 Phase II Interim Report inadvertently included the existing values).

³ The values in Column B (Potential For Recovering Irrecoverable Losses) and Column C (Total Potential Reduction of Application) were computed explicitly from regional values of applied water, depletion, evapotranspiration of applied water and other factors. The values in Column A (Recovered Losses with Potential for Rerouting Flows) were computed as the difference between the values in Columns B and C.

The ultimate goal for CALFED is to develop a set of agricultural water use efficiency programs and assurances that contributes to CALFED goals and objectives, has broad stakeholder acceptance, fosters efficient water use, and helps support a sustainable agricultural economy in the Central Valley. In doing so, CALFED must develop a program that:

- Promotes the use of water in a way that optimizes both on-farm and environmental (including water quality) benefits.
- Takes into account the regional differences in available water management options.
- Includes effective linkages to other CALFED programs.

The Focus Group is developing a program structured around four broad elements. These elements – listed below and enumerated in greater detail in the accompanying section on action steps – are mutually supporting and are presented as a package.

- **Incentives.** Develop, in consultation with the Agricultural Water Management Council, a program of technical and financial incentives for the implementation of water use efficiency measures in the agricultural sector. The financial incentives should generally take the form of loans for actions or activities that have been identified as cost-effective for the district in a water management plan approved by the Agricultural Water Management Council. The financial incentives should generally take the form of incentive grants for water use efficiency measures that are supplemental to measures that are cost-effective at the district level.
- A locally tailored program that incorporates the work of AB3616.
- **Measurable objectives.** Measurable objectives are objectives for improvements in water management, which can be measured or otherwise tracked to assure that such improvements occur. Objectives will include outcome indicators based on actual water use. Objectives must result in reduced demand on Bay-Delta systems, in increased water quantity or improved timing of instream flow or other specific CALFED objectives.
- **Assurances.** Assurances will play a critical role in the Water Use Efficiency Program element. The assurance mechanisms are structured to ensure that urban, agricultural, and refuge water users implement the appropriate efficiency measures.

Before finalizing the CALFED Program, CALFED will develop a Strategic Plan for Agricultural Water Use Efficiency. The purpose of the Plan will be to articulate a

prioritized, strategic, aggressive program for the achievement of efficient water management for all purposes throughout the many different agricultural regions of the state. The plan will focus in detail on specified regions, basins, and districts on a prioritized basis. The plan will draw on the work of local agencies and other sources to assess:

- what efficient practices are already being carried out;
- identify additional opportunities for improved water management;
- recommend goals; and,
- recommend incentives and other means to overcome any barriers to adoption of more efficient water management practices.

The Strategic Plan is to be developed by the end of 1999. A facilitated process for such development, including non-agency stakeholders, will be undertaken.

**WUE Stage 1 Actions
(Insert into Chapter 5.1 – Stage 1 Actions)****Water Use Efficiency**

The CALFED water use efficiency element focuses on formulation of policies which support implementation of efficiency measures at the local and regional level. The CALFED Water Use Efficiency Program will: 1) establish measurable objectives; 2) offer support and incentives through expanded programs to provide planning, technical, and financial assistance; 3) monitor progress towards objectives; and, 4) if these objectives are not met, provide for the reopening of the setting and implementation of objectives. CALFED agencies will also support institutional arrangements that give local water suppliers an opportunity to demonstrate that cost-effective efficiency measures are being implemented. The first stage implements the processes which will continue in subsequent stages.

Note: The Focus Group is developing a schematic and accompanying language to describe the overall program actions it is proposing. Additionally, the Focus Group is still discussing the order for presenting the actions listed below.

- 1. *Develop Measurable Objectives.*** Prior to the ROD, develop measurable objectives for agricultural water use efficiency. Measurable objectives are objectives for improvements in water management, which can be measured or otherwise tracked to assure that such improvements occur. Objectives will include outcome indicators based on actual water use. Objectives must result in reduced demand on Bay-Delta systems, in increased water quantity or improved timing of instream flow or other specific CALFED objectives. Objectives may vary by region. The objectives will be used to inform two sets of decisions: 1) whether and when new storage and conveyance facilities are permitted, constructed and operated; and 2) whether an individual district receives CALFED benefits. The programmatic decision is to be tied to the achievement of the goals identified in the Strategic Plan. The decision regarding access to CALFED benefits will be linked to the development and achievement of the individual plan submitted to the AWMC. Submit to state and federal legislatures requests for funding this program at an annual rate of \$___ million.
- 2. *Develop Baseline/Reference Conditions:*** Establish baseline or reference conditions in order to evaluate future progress. There will be an independent review conducted in conjunction with AWMC for this purpose. Submit to state and

federal legislatures requests for funding this program at an annual rate of \$___ million (yr 1-3).

3. ***Expand Existing State and Federal Conservation Programs:*** Expand State and Federal programs (DWR, USBR, USFWS, DFG, DHS, and SWRCB) to provide technical and planning assistance to local agencies in support of local and regional conservation and recycling programs. **Submit to state and federal legislatures requests for funding this program at an annual rate of \$___ million (yr 1-7).**
4. ***Create Public Advisory Committee:*** Create public advisory committee to advise State and Federal agencies on structure and implementation of assistance programs, and to coordinate Federal, State, regional and local efforts for maximum effectiveness of program expenditures. **Submit to state and federal legislatures requests for funding this program at an annual rate of \$___ million (yr 1).**
5. ***Develop Urban Certification Process:*** Develop a certification process for Urban Water Management Plans: select agency to act as certifying entity, obtain legislative authority, carry out public process to prepare regulations, implement program beginning with plans submitted in 2005. Access to CALFED benefits will be contingent upon certification of a supplier's Urban Water Management Plan. **Submit to state and federal legislatures requests for funding this program at an annual rate of \$___ million (yr 1-3).**
6. ***Implement Urban Certification Process:*** Implement a process for certification of water suppliers' compliance with the terms of the urban MOU with respect to analysis and implementation of Best Management Practices for urban water conservation. Provide funding support for the entity selected to carry out this function. Access to CALFED benefits will be contingent upon certification of a supplier's compliance with the terms of the urban MOU. **Submit to state and federal legislatures requests for funding this program at an annual rate of \$___ million (yr 1-7).**
7. ***AWMC Evaluation of Agricultural Water Management Plans.*** Utilize the AB3616 Agriculture Water Management Council (AWMC) to evaluate and endorse plans to implement cost-effective water management practices by agricultural districts. Identify and secure ongoing funding sources for AWMC and its members seeking to actively participate in the development, review, and implementation of these plans. Candidate activities include: administration, including staff, of the AWMC itself; implementation of approved practices; and participation by individual signatories. Access to CALFED benefits for a given agricultural district will be contingent upon AWMC's endorsement of the adequacy of its water management plan and implementation. **Submit to state and federal legislatures requests for funding this program at an annual rate of \$___ million (Yrs. 1-7).**

[NOTE: Focus Group still deliberating several issues related to AWMC, including but not limited to: 1) form of action of such plans; 2) specific activities for which such funding will be sought; and, 3) phasing in of certification over time.]

8. ***Resolve Water Recycling Limitations:*** Resolve legal, institutional, and funding limitations for agricultural and urban water recycling. Secure loan and/or grant funding for water conservation (\$200 million in Stage 1) and water recycling (\$500 million in Stage 1) capital improvement projects. (yrs. 1-3).
9. ***On-Farm Outreach Program:*** Develop and implement an agricultural water use efficiency program in cooperation with the NRCS, USBR, DWR, Resource Conservation Districts, and other appropriate entities. The purpose of the program would be to encourage on-farm utilization of cost-effective agricultural water management practices that accrue multiple benefits. The AWMC will be used to assist in soliciting and selecting individual projects to best meet the objectives developed through the Ecosystem Restoration and Water Quality Programs and to improve water supply reliability. Local entities such as water districts and cooperative extension offices will be encouraged to work with RCDs to submit proposed projects. Priority will be given to on-farm projects that are designed to achieve specific Delta-related benefits (e.g., improving water quality as opposed to general assistance or information dissemination). Submit to state and federal legislatures requests for funding this program at an annual rate of \$25 million (yr 1-7).
10. ***Refuge Water Management:*** Implement the methodology for refuge water management which was recently developed, based upon stakeholder and scientific input, including preparation of an Effective Water Use Plan and annual reports by each refuge manager (yr 1-7). Consistent with assurance mechanisms for urban and agricultural water users, access to CALFED benefits will be contingent upon continued implementation of the Effective Water Use Plan. Submit to state and federal legislatures requests for funding this program at an annual rate of \$___ million (yr 1-7).
11. ***Research to Improve WUE Actions:*** Encourage and support research to expand potential water use efficiency measures. Submit to state and federal legislatures requests for funding this program at an annual rate of \$___ million (yrs 1-7).
12. ***Agricultural Financial Incentive Program:*** Develop, in consultation with the Agricultural Water Management Council, a program of technical and financial incentives for the implementation of water use efficiency measures in agricultural sector. This program will consider several factors, including: (a) potential for

reducing irrecoverable water losses; (b) potential for attaining environmental and/or water quality benefits from water use efficiency measures which result in reduced diversions; [c] regional variation in water management options and opportunities; (d) availability and cost of alternative water supplies; and (e) whether the recipient area experiences recurrent water shortages [due to regulatory or hydrological restrictions]. The financial incentives should generally take the form of loans for actions or activities that have been identified as cost-effective for the district in a water management plan approved by the Agricultural Water Management Council. The financial incentives should generally take the form of incentive grants for water use efficiency measures that are supplemental to measures that are cost-effective at the district level. The program will be administered jointly by appropriate state and federal agencies. Funding for this program should total \$700 million during Stage 1, with funding amount increasing throughout Stage 1 as the program is developed and implemented. Funds will be provided by state and federal agencies from appropriations and/or bond measure proceeds pursuant to a cost-share agreement to be developed before the Record of Decision. (Yr 1-7).

[NOTE: Focus group support for this provision was subject to some qualifiers. (1) Using the AWMC process to identify cost-effectiveness and to take an active role in this incentive program was viewed as appropriate by some members only if there is a process outside of the AWMC for setting overall CALFED goals for WUE common program. (2) Many members believed that financial incentives in excess of the \$700 million in Stage 1 may be appropriate.]

13. *Assess the Need for Additional Water Rights Legislation:* Before the CALFED Record of Decision (ROD), the State Water Resources Control Board and California Attorney General's Office will, after consultation with other CALFED agencies, the Legislature, and stakeholders, evaluate the need for additional state legislation providing that a water rights holder's water rights will not be impaired solely because that water rights holder has implemented water use efficiency measures and subsequently transferred water to other beneficial uses. If this evaluation determines that such state legislation is necessary, proposed legislation will be submitted to the Legislature by the CALFED agencies. Submit to state and federal legislatures requests for funding this program at an annual rate of \$___ million (yr 1-4).

[NOTE: Some in the Focus Group want to revisit this issue, believing that we really should move past mere evaluation.]

14. *Water Measurement Program:* Develop, after consultation with CALFED agencies, the Legislature, and stakeholders, state legislation that requires appropriate

measurement or metering of water use for all state water users in the state of California. For municipal and industrial users, water use must be metered. ~~For agricultural water users, water use must be measured with an accuracy equivalent to or surpassing the accuracy required of federal water contractors under the Central Valley Project Improvement Act.~~ Submit to state and federal legislatures requests for funding this program at an annual rate of \$__ million (yr 1-7).

[NOTE: There is not yet agreement on this action from the members of the Ag WUE Focus Group. The primary reasons for continued disagreement are: (a) the controversial nature of water measurement in certain segments of the community; (b) the question of measuring groundwater as opposed to surface water use; (c) the appropriate level (district versus field versus something else) for ag water users; and, (d) the conflict between the AWMC MOU process that relies on "estimation" as opposed to "measurement."]

15. *Linkages to Transfers:* [The Focus Group is still developing language for this proposed action.] Submit to state and federal legislatures requests for funding this program at an annual rate of \$__ million (yr 1-7).