Urban Water Use Efficiency Approach Discussion Paper

INTRODUCTION

One of the primary objectives of the CALFED Bay-Delta Program (CALFED) is to improve water supply reliability. This can be done by increasing supply (through new conveyance and storage) or by reducing demand (through conservation and increased efficiency). To begin discussion on possible approaches that might be taken to increase water use conservation in the urban sector, CALFED drafted a paper entitled *Urban Water Conservation Strategy - Objectives and Mechanisms*. This draft paper, dated July 25, 1996, presented a set of objectives for urban water conservation and potential tools to use in developing an approach.

The Water Conservation Committee of the California Urban Water Agencies (CUWA) and the Environmental Water Caucus (EWC) have been discussing these objectives and potential tools in an effort to reach agreement on tools they would recommend for inclusion in an approach and what issues need to be resolved. Based on input from these stakeholders and others, it appears that certain tools hold the most promise for inclusion in a CALFED approach to urban water conservation. To encourage further discussion of these tools and to help define issues requiring resolution, this paper on the most promising tools has been drafted.

Objectives

The draft objectives for an urban water conservation approach, described in the July 25 report, were generally acceptable to stakeholders. Some modification of their associated definitions has been made, and a new objective has been added. These objectives should serve two purposes. They should:

- reflect and protect legitimate stakeholder interests regarding urban water conservation; and

- serve as an adequate test of whether the draft approach is satisfactory.

The revised objectives for the urban water use efficiency approach are as follows:

- **Preserve local flexibility** - During the CALFED scoping period and at numerous public meetings, the desire to maintain the flexibility of implementing conservation measures at the local level was stressed.

- **Ensure a strong conservation component in the Bay-Delta solution** - During the CALFED scoping period and at numerous public meetings, the public as well as stakeholders said conservation should play an integral role in the Bay-Delta solution.

- **Include the strengths and benefits of the CUWCC and the urban MOU** - The California Urban Water Conservation Council (CUWCC) has an established role in the urban water use community relating to the implementation of BMPs. The CUWCC consists of water agencies, environmental and public interest groups, and other interested parties that have signed the *Memorandum of Understanding Regarding Urban Water Conservation in California* (MOU). The strengths of the CUWCC include: ability to foster collaboration among diverse urban agencies and the non-profit community; development of a framework for implementation of urban BMPs; the ability to update BMPs to reflect advances in technology and knowledge in the area of urban conservation; and its ability to allow a signatory agency to exempt itself from a specific BMP given proof of non-cost effectiveness.

- **Provide some type of assurance that a high "floor" level of conservation implementation will occur** - Nearly half of California's larger urban water retailers have signed the MOU and committed themselves to conservation. In addition, major water wholesalers have signed the agreement. Implementation of BMPs is high among many of the signatories. However, for some, BMP implementation rates are low and inconsistent. Additionally, many non-signatory agencies have yet to implement strong conservation programs. Establishment of a high "floor" level of conservation measure implementation will provide needed assurance that existing water supplies are being used efficiently before new supplies are made available through additional storage or improved conveyance.

- **Include both market and regulatory mechanisms** - Market mechanisms are characterized by use of incentives (or disincentives) offered to encourage water users to optimize the efficiency of their water use. Examples include low interest loans, tax credits, water pricing, and water markets. Regulatory mechanisms are characterized by use of laws, regulations, contract provisions, or other constraints implemented to prohibit inefficient uses or require efficiency measures.

- **Emphasize market mechanisms over regulatory mechanisms** - The use of regulatory mechanisms can cause defensive responses from urban agencies and inhibit the desired result of greater levels of water use efficiency. The use of regulatory mechanisms may be limited to

that of an enforcement tool for agencies that do not respond to incentives or market mechanisms.

- **Achieve a higher level of BMP implementation, and by more agencies** - This is related to the establishment of a "floor" level of conservation and the need to ensure a strong conservation component. A higher level of BMP implementation would demonstrate the commitment to water use efficiency that will be an essential component of a Bay-Delta solution. Additionally, water savings from BMPs implemented by more agencies is necessary for added reliability in future water supplies.

- **Review implementation of landscape water conservation BMPs** - Tremendous water savings potential exists with landscape water conservation. There may be significant opportunities for additional landscape conservation through market mechanisms, further public education, basing water rates on evapotranspiration or lot size, stronger enforcement of existing laws and regulations, or other measures. Implementation of landscape BMPs should be reviewed to better understand potential water savings and mechanisms that can be used to achieve it.

- **Help agencies understand the value of conservation** - Many agencies fail to see the value of implementing conservation measures. This includes the value to their customers as well as the greater value to society and the environment. Some of the belief results from the lack of common language used to define demand projections and to determine potential savings from conservation measures. Use of integrated resource planning methods and common approaches to cost-effectiveness determinations will help agencies understand the value of conservation and make more educated decisions regarding implementation of such measures.

- **Offer help in financing conservation programs** - Many agencies want to implement conservation practices but are limited by their inability to secure access to capital funds. In addition, concerns of an agency over potential rate increases that would be associated with capital improvements leads to further lack of implementation. Providing assistance with financing of conservation programs can help minimize potential rate increases as well as provide an easily accessible source of capital funds.

- **Encourage the removal of disincentives** - Many water agencies and water users are discouraged from implementing conservation measures as a result of various disincentives. Disincentives can include poorly planned drought water allocation plans, negative impacts to agency operation budgets, as well as others. Removal of these disincentives can allow agencies and their customers to implement conservation measures that otherwise could not be justified.

Tools

The July 25 draft paper described 13 tools--actions or programs--that might be considered as part of a CALFED approach to urban water conservation. It appears that most of these tools should have a place in an urban approach. The table below lists the tools described previously, with check marks denoting those that are most promising for inclusion.

TOOL	INCLUDED?
1. California Urban Water Conservation Council	✔
2. Water Right Permit Conditions.	✔
3. Legislative Changes to State Water Code	?
4. CVP/SWP Contract Provisions	✔
5. Low Interest Loans or other Financial Incentives	✔
6. Tax Credits and Rebate Programs	
7. Technical and/or Planning Assistance	✔
8. A. Water Use Tax	
B. Non-compliance Fee	✔
9. Bond Pooling	✔
10. Other Pricing Provisions	
11. Drought Water Bank Conditions	✔
12. Conditions for Transfers of Marketed Water	✔
13. Conservation Certification Process	✔

Many of these tools address the same objectives, and inclusion of such overlapping tools may seem redundant. However, experience has shown that implementation of existing tools is usually imperfect: not all agencies respond to market incentives to the same degree, compliance with existing law is not universal, and so on. A considerable degree of redundancy is intentionally included in this set of most promising tools in order to help assure that their implementation would meet the objectives.

These tools are centered around support for the California Urban Water Conservation Council. The Council can serve as a forum for the continuing refinement of BMPs and the dissemination of information on implementation and evaluation of these practices. The Council can also provide peer review of the adequacy of agencies' conservation programs and compliance with the terms of the urban MOU. Other tools support the Council's role or provide for enforcement in those instances when water agencies do not take advantage of the benefits and assistance available through the Council.

In the discussion below, original tool numbers from the July 25 draft paper are used for consistency. For each tool, the discussion includes a description of its use, the purpose it could serve, and a preliminary list of issues that would need to be resolved.

1. *Tool:* **California Urban Water Conservation Council** - The CUWCC would continue its role to aid in the implementation of BMPs by providing technical, planning, and educational assistance to urban suppliers. In addition, the role of the CUWCC would be expanded to include evaluation of water conservation programs of urban suppliers with respect to the terms of the urban MOU. The CUWCC could identify signatory agencies that are complying with the MOU, and recommend to the State Water Resources Control Board that these agencies be certified as meeting the MOU terms.

Purpose: To provide necessary technical, planning, and educational assistance to urban water agencies to support the effective implementation of cost-effective and technically feasible water conservation measures; to facilitate enforcement of conservation requirements by providing clear information on implementation to the SWRCB.

Issues: The CUWCC would need additional funding to expand its certification role. Could CALFED agencies provide this funding?

Would CUWCC evaluation for certification be limited to MOU signatories? How would efforts of other agencies be evaluated?

The MOU set a schedule for implementation. Should there be sanctions imposed for agencies not meeting this schedule, or should a new schedule be set?

BMP implementation levels were set in 1991, in the context of a different process. Are they appropriate, or should they be adjusted?

If the CUWCC evaluates compliance with the MOU, how would other required elements of an agency's urban water management plan be evaluated?

Should CALFED agencies -- DWR and USBR -- make certification recommendations regarding MOU implementation by their contractors? Regarding agencies served by their contractors?

13. *Tool:* **Conservation Certification Process** - The water conservation efforts of urban water agencies (wholesaler and retailer, public and private) would be certified by an approved certification body, most likely the State Water Resources Control Board. Failure to receive certification would result in application of a graduated series of actions to ensure efficient use. Certification would only be granted to an agency if it has developed an adequate water management plan, and implementation is occurring at or above the minimum acceptable rate. Failure to prepare a plan, implement it, or maintain a rate of implementation would result in loss of certification and associated consequences.

Purpose: To assure a high level of water use efficiency among urban water agencies; to provide a mechanism to ensure efficient use even among agencies that do not respond to incentives and market forces.

Issues: Is the SWRCB the appropriate agency to certify?

Does the SWRCB have the necessary authority to certify and enforce sanctions for non-compliance? Can it be depended upon to take enforcement actions?

Is there an appropriate array of graduated sanctions available to the SWRCB? What are they?

Should certification be based on compliance with terms of the urban MOU (whether an agency is a signatory or not) or compliance with terms of the Urban Water Management Planning Act?

Should this process apply to all California water suppliers? Those required to prepare urban water management plans? Only those agencies that use water from the Bay-Delta watershed?

How often should certification or review of agencies' efforts occur?

3. *Tool:* **Legislative Changes to the State Water Code** -- Changes in State law may be necessary in order to implement tools 1 and 13 above.

5. *Tool:* **Low Interest Loans or other Financial Assistance** -- The State of California has issued a series of bonds to provide low-interest loans for water conservation. Proposition 204 would provide an additional $25 million for water conservation and groundwater recharge programs. Additional funding may increase the implementation of beneficial conservation programs.

Purpose: Low interest loans provide an incentive for agencies to implement conservation programs. By reducing the cost of financing conservation measures, such loans make more conservation measures cost-effective.

Issues: Should loans only be available to agencies that are certified, or is that counter-productive? Should loan recipients be required to gain and maintain certification during the loan period?

What other types of financial assistance should be made available? Should cost sharing grants be made available? If so, who provides the funding?

7. *Tool:* **Technical and Planning Assistance** -- Both USBR and DWR provide limited technical and planning assistance, and provide funding for other organizations such as Cal Poly, irrigation districts, and resource conservation districts to provide additional assistance. Additional technical assistance may increase the implementation of beneficial conservation programs.

Purpose: Helps ensure that agencies have the necessary information to carry out good water management planning and implement cost-effective conservation programs.

Issues: What is an adequate level of funding for technical assistance?

What role should the CUWCC play in providing technical assistance? Should CALFED help to fund this role?

Who should provide the main source of technical assistance? Should it be directly through DWR or USBR or indirectly though local or more specialized institutions?

9. *Tool:* **Bond Pooling** -- Bond pooling is a method of financing conservation projects by enabling several agencies to join in a single bond issuance. CALFED agencies would actively facilitate bond pools.

Purpose: Pooling may help agencies secure lower bond rates and lower issuance costs, and simplify the bond issuance process by allowing several agencies to share the burden of the effort.

Issues: Is there sufficient need or interest in pooling to warrant bond pools for urban water conservation?

What agency should take the lead in arranging a pool?

Should CALFED's role be more of a promoter of existing bond pools rather than attempting to create an additional pool?

8(b). *Tool:* **Non-compliance Fee** -- A fee would be charged to agencies that do not receive certification or have not completed an adequate urban water management plan.

Purpose: A non-compliance fee would provide a strong market incentive for agencies to implement cost-effective conservation programs; the fee could serve as one of the graduated set of SWRCB enforcement tools.

Issues: What legal authority would be necessary to charge such a fee?

How would the fee amount be set?

Who would receive the fees? How would the fee money be spent?

At what level of graduated enforcement would fees be implemented?

11. *Tool:* **Drought Water Bank Conditions** -- Conditions would be placed on agencies as a prerequisite to participation in a State Drought Water Bank. Current DWR policy states that "The proposed Drought Water Bank will not make water available to any urban area unless the water supplier in that area is implementing BMPs according to the schedule in the MOU." Conditions such as receiving certification, compliance with the Urban Water Management Planning Act, or other conditions would be required to participate in the Bank.

Purpose: Provides a strong incentive for agencies to develop and implement strong conservation programs in advance of drought periods.

Issues: Agencies without conservation programs may find it impossible to catch up to the schedule in the MOU. Would/should DWR deny these agencies access to water

bank water during a drought? Would a severe (eg. 500%) surcharge be more implementable? Is there legal authority to impose such a surcharge?

Could agencies that are implementing other "approved" conservation plans but who are not signatory to the MOU be allowed access to the bank?

12. *Tool:* **Conditions for Transfer of Marketed Water** -- Agencies wishing to buy water through transfers would be subject to conditions prior to approval of the transfer, such as certification by the SWRCB. Agencies that did not meet the conditions could not received transferred water.

Purpose: Provides a strong incentive for agencies to develop and implement strong conservation programs in advance of receiving transferred water.

Issues: Is there legal authority to impose such conditions?

Should the same condition be placed on agencies wishing to sell water?

2. *Tool:* **Water Rights Permit Conditions** -- When issuing new water right permits, the SWRCB may condition such permits with requirements. Examples might be for the permit holder to maintain certification with the Board, or implement terms of the urban MOU.

Purpose: Permit conditions would help ensure that any new diversions are used as efficiently as practicable.

Issues: Should new permit applicants be held to the same standard as other users, or asked to meet even higher standards of efficiency on the basis that each additional diversion causes a greater level of environmental stress?

4. *Tool:* **CVP/SWP Contract Provisions** -- The state and federal water projects have contracts with numerous agricultural and urban water suppliers to provide surface water supplies. The projects would adopt policies of integrating water use efficiency concepts into contract provisions whenever the inclusion of such concepts can be negotiated.

Purpose: Contract provisions would help ensure that there is efficient use of water that CALFED agencies deliver to their contractors.

Issues: Negotiation of contract provisions might result in varying and inconsistent terms for different contractors.

Could the state and federal projects be sanctioned if they deliver water to agencies that are not implementing cost-effective conservation measures?

Would existing requirement, such as CVP conservation plans or urban water management plans, satisfy new provisions?

Table 1 - Comparison of Tools to Objectives

Objective	Available Tools *(see key below)*										
	1	2	3	4	5	7	8b	9	11	12	13
1 Preserve local flexibility	✔	✶		✶	✔	✔		✔	✶	✶	✔
2 Ensure a strong conservation component in the Bay-Delta solution	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
3 Include the strengths and benefits of the CUWCC and the urban MOU	✔		✶			✔					✔
4 Provide some type of assurance that a high "floor" level of conservation implementation will occur	✔	✔	✔	✔			✶		✔	✔	✔
5 Include both market and regulatory mechanisms	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
6 Emphasize market mechanisms over regulatory mechanisms	✔				✔	✔	✔	✔			
7 Achieve a higher level of BMP implementation, and by more agencies	✶	✔		✔	✶	✶	✔	✶	✔	✔	✔
8 Review implementation of landscape water conservation BMPs	✔					✔					✔
9 Help agencies understand the value of conservation	✔					✔					
10 Offer help in financing conservation programs	✶				✔	✔	✶	✔			✶
11 Encourage the removal of disincentives	✔					✔					✔

✔ = tool directly meets objective

✶ = objective is an indirect result of tool

Available Tools

1 California Urban Water Conservation Council
2 Water Rights Permit conditions
3 Legislative changes to State Water Code
4 CVP/SWP contract provisions
5 Low interest loans or other financial assistance
7 Technical and/or planning assistance
8b Non-compliance fee
9 Bond pooling
11 Drought Water Bank conditions
12 Conditions for transfers of marketed water
13 Conservation Certification Process