

# Overview

## Draft Urban Water Use Measurement Implementation Approach

### Section I: Background

#### **Purpose**

As California's water resources have become increasingly scarce, diverse stakeholder groups have recognized the importance of measurement to state and federal agencies trying to manage a much-in-demand resource.<sup>1</sup> Measurement can assist state and federal agencies in their efforts to achieve the following four key *water management objectives*:

1. Provide better information on statewide and regional water use to support planning;
2. Allow users to undertake and demonstrate the effects of water use efficiency measures;
3. Facilitate valid water transfers; and
4. Help the State more effectively administer the existing water rights system.

Recognizing the potential impact of water use measurement on these overarching objectives and the intense stakeholder interest in this topic, the August 2000 CALFED Record of Decision called for the California Bay-Delta Authority's (CBDA or Authority) Water Use Efficiency (WUE) Program to take a closer look at measurement, determine what is needed, and, as appropriate, put forward legislative or other strategies to bolster the current approach.

#### **CBDA efforts to date**

Based on this ROD commitment, Authority staff undertook a series of interviews with stakeholders and technical experts in the urban water arena and convened an informal ad hoc stakeholder work group (the Urban Water Use Measurement Staff Work Group). The Work Group has served as a sounding board for Authority staff in their efforts to: 1) define "appropriate" urban water use measurement,<sup>2</sup> and 2) develop an implementation approach based on this definition.<sup>3</sup> This technically focused, staff-level work is ongoing. Authority staff intends to present a draft implementation approach to CBDA advisory and decision-making bodies in March or April 2004 (see section III below).

#### **Guiding considerations and principles**

Authority has based its efforts to craft a new strategy for measuring urban water use on: an assessment of the need for improved measurement, declared water measurement policy of the state of California, industry practice and standards, the practicality and feasibility of the steps involved, and anticipated long-term state water management benefits. Staff has also been guided by the following *overarching principles*:

- Use legislative remedies only when necessary;
- Streamline and rationalize state and federal reporting requirements;
- Acknowledge and account for smaller water suppliers' resource limitations;
- Seek parity – not symmetry – across agricultural and urban sectors; and
- Stress incentives over penalties.

### Section II: Key Elements

Authority staff has taken a comprehensive look at urban water use measurement needs in the areas of urban water purveyor supplies (both surface water and groundwater) and deliveries

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<sup>1</sup> CA Water Code calls for water to be put to beneficial use and for measures to be taken to prevent waste.

<sup>2</sup> The most current draft definition may be found on the CBDA website (<http://calwater.ca.gov/Programs/WaterUseEfficiency/WaterUseEfficiencyUrbanWaterMeasurementAdHocWorkgroup.shtml>).

<sup>3</sup> A parallel process is moving forward on the subject of appropriate *agricultural* water use measurement.

and urban wastewater discharger collection and discharge. Current thinking suggests five main areas where change is needed most. These critical needs – detailed below – apply most directly to the State’s overarching water management objectives as they relate to statewide planning and water use efficiency.

## Critical Needs

### 1. *State standards/protocols for recording/reporting urban water use*

Description of need: Current state regulations require water suppliers to provide data in multiple formats and to multiple agencies. These requirements can place an unnecessary burden on water purveyors. Moreover, as there are no overarching standards and protocols to guide the way purveyors compile this data, the value of the information to the State is greatly diminished due to inconsistencies across water supplier data.

Actions under consideration: Authority staff proposes to standardize how urban water purveyors compile and provide data to the State. Working closely with local water purveyors and other concerned stakeholders, the Department of Water Resources (DWR) would establish standards and protocols for collecting, recording, and reporting urban water measurement data and develop an electronic system for receiving, compiling, storing, managing, quality-checking, and making available this data. Efforts would be made to eliminate data recording and reporting redundancies. The timeframe for implementing these standards/protocols – still to be determined – would take purveyor constraints into account. Authority for this action would come from existing agency authorities.

### 2. *Metering of urban customer deliveries*

Description of need: For decades, many of California’s diverse regions have pursued a policy of metering urban water purveyor customer water deliveries. Empirical research conclusively demonstrates that metered water service coupled with volumetric pricing can reduce water demand by 20-25% or more.<sup>4</sup> Currently, approximately 7% of urban water deliveries in the state have no requirement to meter.

Actions under consideration: Authority staff proposes requiring the use of suitable water meters at all customer connections to the water delivery system. As this will impose significant costs for urban water purveyors with large numbers of unmetered customer connections,<sup>5</sup> funding and timeline for implementing this action will take into account local constraints and considerations such as local cost-effectiveness. Legislative action is expected to be required.

### 3. *Reporting of urban water source and delivery data*

Description of need: As part of its responsibilities to “plan for the orderly and coordinated control, protection, conservation, development, and utilization of the water resources of the state,”<sup>6</sup> DWR is required by law to release assumptions and other estimates used for the California Water Plan (e.g., current and projected population, current and projected water uses for various user categories). To determine this information, DWR administers annually a survey of about 700 urban water purveyors. DWR has indicated that the present approach suffers from several shortcomings, including incomplete or improperly filled out surveys and data that is at times unreliable.

<sup>4</sup> CALFED Water Use Efficiency Program Staff Work Group on Urban Water Use Measurement -- Compilation of Background Information on Current Urban Water Use Measurement Practices, Costs, and Benefits. March 31, 2003.

<sup>5</sup> Statewide costs have been estimated at approximately \$250 million.

<sup>6</sup> Cal. Water Code, § 10004.

**Actions under consideration:** Authority staff proposes that urban water purveyors report water sources and customer deliveries data *annually* to the State (for most water purveyors, this constitutes an increase in the frequency of reporting from every five years to every year). These reports should include monthly production data and monthly or bi-monthly (every two months) customer delivery data. They should also conform to the state water data collection, recording, and reporting protocols. Legislation may be necessary to assure compliance with existing requirements or as part of defining a specific authority to impose detailed reporting requirements. A size threshold for exempting smaller purveyors from the reporting requirement will be established to account for cost-benefit considerations. The timeframe for implementing this action will take into account the water management benefits of improved information and the economic and logistical constraints that increased reporting requirements pose for urban water purveyors.

#### **4. Groundwater Assessment**

**Description of need:** State water planners currently have an incomplete understanding of water withdrawal and consumption by groundwater users. This pertains in particular to non-adjudicated basins, which constitute the majority of groundwater basins in the state. This impedes the State's (and regional/local government's) ability to plan for growth and more effectively manage groundwater resources in times of drought.

**Actions under consideration:** Authority staff proposes that the State (DWR) perform continuous regional characterization of groundwater net usage in all sub-basins statewide. This would enable the State to better monitor the overall status of groundwater in the state. It would not entail any additional measurement of individual self-supplied groundwater use outside of what is already required in adjudicated and managed basins. Implementation of this action would be coordinated with ongoing revisions to the California Water Plan. Performing this assessment falls under DWR's existing responsibilities; no new legislation or regulation is anticipated.

#### **5. Research and adaptive management programs**

**Description of need:** Improving the state's ability to forecast and plan for future urban water demands requires a fuller understanding of how water is used in urban areas and how this is changing over time due to evolving land use patterns, demographics, technology, and economics. Previous State Water Plan Updates have been characterized by the use of very general and simplified assumptions to predict future urban water demand.

**Actions under consideration:** Authority staff proposes a two-pronged strategy to address this concern:

- a. *Research Program:* State agencies would work with water purveyors and universities/research organizations to develop and sustain an urban water use research program. The CBDA Science Board would establish a priority list for research to be performed. Among the current research items designated as having the highest priority is measurement of irrigated landscape water use.
- b. *Adaptive management:* State agencies (CBDA Science Board working in conjunction with DWR and other State Water Plan actors) would identify and pursue adaptive management needs for measurement as appropriate over time. This adaptive management program would serve to evaluate the adequacy of urban water use information available and the effectiveness of the measurement actions adopted.

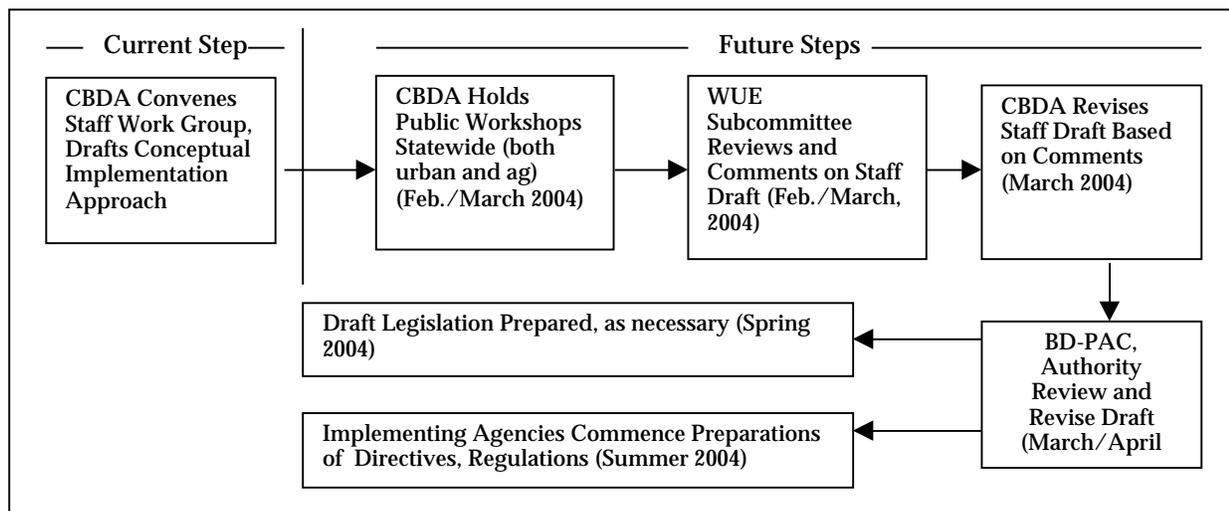
## Other Elements

Additionally, staff anticipates that a final implementation approach will reiterate the importance of ongoing measurement activities, such as the requirements that urban water purveyors measure water sources and production, wastewater dischargers measure and report wastewater discharges, self-supplied groundwater users in adjudicated basins measure and report per existing judicial rulings, and groundwater substitution transfer permittees measure and report groundwater use per existing state agency guidance. As well, staff is still refining critical components of its approach, such as assurances, cost estimates and implementation timelines.

## Section III: Anticipated Process and Timeline

The approach outlined in this document is a staff-driven proposal informed by numerous discussions with CBDA agencies and with a diverse subset of urban water supplier and environmental stakeholders. The approach will be further reviewed and refined through a public process that will include informal briefings with affected communities as well as formal review and discussion with CBDA public advisory bodies and Authority. (See Figure 1 below.)

**Figure 1: Expected Process to Develop an Urban Water Use Measurement Implementation Approach**



Key steps in the process include the following:

- **Public Outreach Meetings.** CBDA will initiate a series of discussions with affected stakeholder communities to elicit wider reactions to and feedback on the proposed implementation approach. This review, which may coincide with public review of a parallel proposed implementation approach for agricultural water use measurement, is expected to include regional rollout sessions throughout the state.
- **CBDA Policy-Level Review.** WUE staff will discuss its recommended approach with various CBDA advisory and decision-making bodies, including the WUE Subcommittee, the Bay-Delta Public Advisory Committee, and the Authority.

Following these discussions, Authority staff will work with state policymakers, as necessary, to put forward an implementation approach. This approach will likely necessitate state legislative changes, administrative changes, or both.