

October 5, 2005

Tam M. Doduc, Chair and Members
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Dear Ms. Doduc and Members of the Board:

We are pleased to provide you with the enclosed 2004 Annual Report for the California Urban Water Conservation Council. This report is our annual update to the State Water Resources Control Board on the status of Council activities and Best Management Practice (BMP) implementation by signatories to the *Memorandum of Understanding Regarding Urban Water Conservation in California* (MOU). The report covers Council activities for the calendar year 2004 as well as BMP implementation by signatories during the period of July 1, 2002 to June 30, 2004.

Some highlights of our 2004 accomplishments:

- Provided data to the California Energy Commission (CEC) to enable the successful adoption of new product efficiency standards for residential clothes washers and pre-rinse spray valves.
- Worked closely with the California Bay Delta authority staff to prepare a four-year evaluation of water use efficiency program activity.
- Received a grant from the U.S. Environmental Protection Agency to quantify the environmental benefits associated with conservation programs.
- Assisted in the passage of AB 2572 (statewide metering legislation) and AB 2717 (Landscape Task Force).
- Provided commentary to the Department of Water Resources on application criteria for the Proposition 50 Water Use Efficiency grant program.
- Conducted workshops to brief local water agencies on the water and land use assessment requirements of SB 610 and SB 221.
- Analyzed four new potential best management practices.
- Completed a major study evaluating the potential leakage of toilet flappers.
- Continued work on the highly successful low-flow pre-rinse spray valve program, which installed 5,310 devices in 2004.
- Added 16 new Council members for a total of 327 members in 2004.
- Conducted professional workshops with industry experts on water use and conservation, BMP reporting, and revenue impacts of conservation.

We hope that you will find this report informative. If you have any questions, please contact us at 916-552-5885.

Sincerely,



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Executive Director



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In 2004 the Council was honored with one of the 20 2003 Flex Your Power Energy Efficiency Awards presented to businesses, government agencies, nonprofit organizations and individuals that had demonstrated exceptional leadership and extraordinary contributions to advance energy efficiency in California.

In the **Education & Outreach** category, the Council was recognized for its ongoing commitment to energy efficiency efforts achieved through water savings (the state's largest user of energy is pumping and treating water) and programs focused on water efficiency practices. In addition, the Council worked closely with Flex Your Power to develop a statewide rebate consumer information website that went online in 2004.

CALIFORNIA URBAN WATER CONSERVATION COUNCIL

Annual Report

2004

&

Best Management Practices Summary Report

2003 - 2004



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PART I: ADMINISTRATION AND PROJECT FUNDING

Signatories

As defined in the Memorandum of Understanding Regarding Urban Water Conservation in California (MOU), the Council consists of three groups:

Group 1: Water suppliers:

Any entity, including a city, which delivers or supplies water for urban use at the wholesale or retail level.

Group 1 Signatories to the MOU are required to implement the Council’s 14 Best Management Practices for water conservation listed in Table 2. These BMPs are periodically revised through a collaborative process with Group 2 members.

Group 2: Public advocacy organizations:

A non-profit organization:

- (i) whose primary function is not the representation of trade, industrial or utility entities, and*
- (ii) whose prime mission is the protection of the environment or who has a clear interest in advancing the BMP (Best Management Practices) process.*

Group 3: Other interested groups:

Any other group that does not fall into one of the two groups above.

Table 1: Year-by-Year Council Signatory Growth*

Year	Group 1	Group 2	Group 3	Total
Fiscal Year 1991 – 1992	96	14	22	132
Fiscal Year 1992 – 1993	4	0	4	8
Fiscal Year 1993 – 1994	12	1	2	15
Fiscal Year 1994 – 1995	11	0	4	15
Fiscal Year 1995 – 1996	12	0	4	16
Fiscal Year 1996 – 1997	3	0	6	9
Fiscal Year 1997 – 1998	8	0	8	16
Fiscal Year 1998 – 1999	6	2	11	19
Interim 1999	3	2	1	6
Calendar Year 2000	7	7	15	29
Calendar Year 2001	2	3	14	19
Calendar Year 2002	9	0	7	16
Calendar Year 2003	3	0	16	19
Calendar Year 2004	0	1	10	11
Adjusted Total	180	30	117	327

* Attachment A lists the signatories of the Council by name. Group 1 signatories are divided into wholesale and retail water suppliers. During 2004, Council membership increased by 11 members.

Table 2: Council MOU Urban Water Conservation Best Management Practices

#	BMP	Requirements
1	Water Survey Programs for Single and Multi Family Residential Customers	Survey 15% of residential single-family and 15% of multi-family customers within 10 years.
2	Residential Plumbing Retrofit	Retrofit 50% of residential housing constructed prior to 1992 with low-flow showerheads, toilet displacement devices, toilet flappers and aerators; or achieve 75% saturation of the water agency service area and be able to prove it statistically.
3	System Water Audits, Leak Detection and Repair	Audit the water utility distribution system regularly and repair any identified leaks; check yearly to see that water loss is less than 10%.
4	Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections	Install meters in 100% of existing unmetered accounts within 10 years; bill by volume of water use; assess feasibility of installing dedicated landscape meters.
5	Large Landscape Conservation Programs and Incentives	Prepare water budgets for 90% of commercial and industrial accounts with dedicated landscape meters; provide irrigation surveys to 15% of mixed-metered customers.
6	High-Efficiency Washing Machine Rebate Programs	Provide cost-effective customer incentives, such as rebates, to encourage purchase of machines that use 40% less water per load. Number of clothes washers required is based on the total dwelling units x .048; up to a third fewer machines required if all of them are super high-efficiency (6.0 or less water factor).
7	Public Information Programs	Water utilities to provide active public information programs to promote and educate customers about water conservation.
8	School Education Programs	Provide active school education programs to educate students about water conservation and efficient water uses.
9	Conservation Programs for Commercial, Industrial, and Institutional Accounts	Provide a water survey of 10% of these customers within 10 years and identify retrofit options; OR reduce water use by an amount equal to 10% of the baseline use within 10 years.
10	Wholesale Agency Assistance Programs	Provide financial incentives to water agencies and cities to encourage implementation of water conservation programs
11	Conservation Pricing	Eliminate non-conserving pricing policies and adopt pricing structure such as uniform rates or inclining block rates, incentives to customers to reduce average or peak use, and surcharges to encourage conservation.
12	Conservation Coordinator	Designate a water agency staff member to have the responsibility to manage the water conservation programs.
13	Water Waste Prohibition	Adopt water waste ordinances to prohibit gutter flooding, single-pass cooling systems, non-recirculating systems in all new car wash and commercial laundry systems, and non-recycling decorative water fountains.
14	Residential Ultra-Low-Flush Toilet Replacement Programs	Replace older toilets for residential customers at a rate equal to that of an ordinance requiring retrofit upon resale.

Budgets and Project Funding

Attachment C contains the Year 2004 Council Budget, which was approved by the Plenary membership in December 2003. Actual expenditures as of December 31, 2004 are also provided in Attachment C. Specific changes to the budget are listed below.

DWR/ USBR/ CALFED Cooperative Agreement

The Council's \$1.5 million cooperative agreement with the Department of Water Resources (DWR), the U.S. Bureau of Reclamation (USBR), and the California Bay-Delta Authority (CBDA) was increased by \$195,000 in 2003 to upgrade the Best Management Practices (BMP) reporting database so that it can be used by DWR Office of Water Use Efficiency staff for information on urban water use and cumulative savings for each of the quantifiable BMPs. Additional work included analyzing database information on urban water supply and water use as well as the costs associated with implementing BMPs. Data from the reporting database were used to prepare the CBDA Water Use Efficiency Program's Year Four Comprehensive Report, including projections of water savings under various funding scenarios.

The DWR and CBDA portions of the agreement were completed in 2004. The remaining USBR portion will be completed by February, 2006.

EPA Environmental Benefits Study

The U.S. EPA awarded the Council a \$100,000 grant to develop, for the first time, a method to quantify the environmental benefits and costs resulting from the implementation of water efficiency programs. To date, the environmental values in cost-benefit analyses have been largely ignored, principally because of a lack of available methods to determine such values. Because water efficiency can yield substantial environmental benefits, it is important to include them in the utility avoided cost analysis for determining the cost-effectiveness of a proposed BMP.

There are two distinct pieces to this project: refining the definitions of avoided costs and developing methods to quantify environment benefits and costs. The resulting model will integrate both of these into a more comprehensive tool for water agencies to use when calculating the cost-effectiveness of a proposed BMP. The Council is also working with the American Water Works Association to include the environmental benefits model in the AWWA's Integrated Resources Management Project 2935, which could result in national conservation benefits.

H2ouse Website Grants

The Council received \$35,000 from the USBR - Lower Colorado River Region and \$64,000 from the U.S. Environmental Protection Agency (EPA) to completely rework the landscape portion of the Water Saver Home (www.h2ouse.org) website. A plant database of water efficient plants and extensive landscape design information were both added. Also added was a water budget calculator where the user can calculate the indoor and outdoor water use of a home. The project was completed in 2004.

CPUC Grant for Pre-rinse Spray Valves

During 2003 the Council achieved the program goal of installing 16,900 pre-rinse spray valves in restaurants and food service establishments throughout the State. Undertaken in partnership with over 30 water agencies, and funded by a \$2.3 million grant from the California Public Utilities Commission (CPUC), the program has achieved remarkable water and energy savings. (See also BMP 9, under Specific BMP Activities.)

In 2003 the CPUC agreed to provide the Council with \$2.97 million in additional funding for a Phase 2 of the program to install an additional 20,000 valves. Under Phase 2, 5,310 spray valves were installed in 2004.

Governance

Council Administration

Attachment D provides an organization chart of the Council's governance structure. Some highlighted governance activities in 2004 include:

- The Council expanded its office space in order to accommodate its growing staff.
- The Steering Committee authorized the hiring of an Assistant Director.
- The Steering Committee created a Dues Revision PAC to study the membership dues structure, particularly for Groups 1 and 3. Following work by this PAC, the dues restructuring for Group 1 members was approved by the plenary in December, 2004.
- The Communications Committee was reinstated.

Steering Committee

The Steering Committee is the Executive Board of the Council, and as such manages the financial and governance issues of the organization. Attachment E identifies the members of the 2004 Steering Committee. In addition to revising the Council Governance Policies, the Steering Committee added a new staff position of Assistant director, in accordance with a recommendation of an Executive Management Review

completed in 2003. The position will be filled in 2005. The Committee also made updates to the Employee Handbook to incorporate recently-enacted legislative requirements.

The Steering Committee also adopted a protocol for the “At Least As Effective As” option (ALAEA) contained in the MOU which allows water agencies to substitute equivalent programs for individual BMPs. A specific procedure for this was required by the CALFED Bay Delta Authority as one of the necessary supporting documents for the water use efficiency certification program envisioned in the CALFED Record of Decision. The adopted ALAEA protocol would allow a water agency to implement an alternative water conservation measure in lieu of a specific BMP if the expected water savings from the proposed approach are equal to or exceed the expected water savings.

The Steering Committee continued to provide guidance and assist in the implementation of the Council’s Strategic Plan which was revised in 2003. Attachment B contains the 2003-2005 Strategic Plan.



Council Staff as of December, 2004. Left to right: Molly Garcia, Katie Shulte Joungh, Jeffrey Hughes, Mary Ann Dickinson, and Beth Ernsberger. (Not pictured: Chris Meares.)

PART II: COUNCIL ACTIVITY ON BEST MANAGEMENT PRACTICES

Amendments to the MOU

Because the California Energy Commission (CEC) adopted efficiency standards for clothes washers, the Council revised its BMP 6 (High-Efficiency Clothes Washers) to be more stringent than the adopted legal standard. The revised BMP 6, which began implementation in July, 2004, creates financial incentives for the purchase of higher efficiency washers than the CEC standard. The Council also worked with the Consortium for Energy Efficiency to develop an official list of clothes washers meeting the new water factor standard, which is now posted on the Council's website at http://www.cuwcc.org/Efficient_Clothes_Washers.lasso.

BMP 10 (Wholesale Agency Assistance to Retail Agencies) was revised to clarify compliance and reporting requirements. A section was added to BMP 10 requiring wholesale agencies to notify retail agencies in writing asking them if they desire technical or financial assistance.

Substantial amendments to several other BMPs were being developed for future adoption.

Specific BMP Activities

BMP 1: Residential Water Surveys

The Council continued to examine whether it should revise the current BMP 1 language to more adequately address outdoor water use. The Residential Committee had been evaluating the success and cost-effectiveness of home water survey programs and recommended that a new BMP be crafted to deal with outdoor irrigation specifically. The BMP 1 Revision Project Advisory Committee is devising language for a new BMP 15 to address residential landscape water use. It is expected that this BMP will be adopted in 2005, perhaps in conjunction with recommendations which might be made by the AB 2717 Landscape Taskforce.

BMP 4: Metering

The Council supported AB 2572, passed in 2004 (see General Outreach), which requires that all residential customers be metered and billed by volume of water used. Consequently, BMP 4 may become redundant if not amended to add other elements such as dedicated irrigation metering.

BMP 5: Large Landscape Conservation

Assembly Bill 2717 was signed into law in 2004 and requested that the Council establish a task force to make recommendations leading to improved landscape water use efficiency. These improvements will help ensure a reliable water supply for the

State, increase the sustainability of urban landscapes, and reduce environmental costs and damage. Under AB 2717, the task force will recommend revisions to State Model Landscape Ordinance (AB325) and make recommendations regarding:

- Water budgets for irrigated landscaped areas;
- Standards, training & certification for landscape personnel;
- Incentives & disincentives for water conservation;
- Labeling requirements & performance standards for irrigation equipment.

The Council will assemble a stakeholder task force, facilitate meetings, provide administrative staff support, coordinate fundraising (AB 2717 did not provide funding), draft the landscape task force report, hold public review meetings and print the final report.

The task force will submit its final report with recommendations to the Governor and Legislature by December 2005. The report will contain recommendations for legislative, administrative, regulatory changes; BMP revisions; information, education, training; and other programs to improve landscape water savings statewide.

BMP 6: High-Efficiency Clothes Washers

In 2004 the Council produced an analysis for the California Energy Commission (CEC) evaluating a proposed statewide efficiency standard which would require a maximum “water factor” (the number of gallons per cubic foot of wash load) for all new residential clothes washers. The Council calculated that a savings of over 2.6 million acre feet of water would result by 2019 from a “water factor” standard of 8.5 effective in 2007 and 6.0 effective in 2010. After deliberation, the CEC adopted the water factor standards as proposed for residential clothes washers.

Because the CEC adopted both commercial and residential clothes washer water factor standards which will go into effect in 2007, the Council revised its existing BMP 6 language. In July, 2004 the Council began implementation of the new revised BMP 6, which created financial incentives for higher efficiency washers than the standard adopted by CEC. The Council also worked with the Consortium for Energy Efficiency to develop an official list clothes washers meeting the new standards, which is now posted on the Council’s website at http://www.cuwcc.org/Efficient_Clothes_Washers.lasso.

BMP 9: Commercial, Industrial and Institutional Water Conservation



As mentioned in the Budget section, the Council received funding from the CPUC to extend its successful pre-rinse spray valve program, which markets free spray valves directly to restaurants and other food service businesses and installs the valves at no charge to the restaurant owner. Each spray valve has a lifetime savings estimate of 250,000 gallons over a five-year life expectancy. An additional \$2.97 million was secured for

2004 and 2005 to install 20,000 more valves. More than 5,000 valves were installed in 2004.

The Council also worked with the CEC to adopt statewide efficiency standards for spray rinse valves. The standard adopted by the CEC is the same flow rate (1.6 gallons per minute) as the spray valves which have been successfully installed statewide. Because of the Council's collection of water and energy savings as well as consumer satisfaction information, the CEC was able to determine that the standard was feasible and cost-effective.

BMP 11: Conservation Pricing – Water Rates

A BMP 11 Revision Committee was convened to refine the definition of conservation-oriented rate structures. The Committee worked to define the scope of needed changes and to develop a course of action; further work will be done on BMP 11 in 2005.

Proposed BMP 16: Performance Track

This proposed BMP would allow water agencies the option of implementing conservation programs yielding water savings equivalent to or greater than the water savings expected from implementing all of the fourteen BMPs in Exhibit 1 of the MOU. Presumably, by following the "performance track" option, conservation programs could be designed and implemented in any way deemed effective and acceptable to an agency's service area. The Council will convene a special meeting in 2005 to discuss this proposal.

Potential BMPs

In 2003, the Council began work on a three-year project funded by the U.S. Bureau of Reclamation to evaluate new and existing potential Best Management Practices (PBMPs) for urban water conservation. The project is evaluating and researching PBMPs and producing annual reports summarizing costs and water savings information. The project is identifying which existing PBMPs should: a) be removed from further research; b) be refined and made more specific in scope and objective; or c) undergo an assessment of water savings and economic potential.

In 2004 the Council completed the first annual report entitled *A Report on Potential Best Management Practices*, which provides an initial evaluation of the following PBMPs:

- Weather-based irrigation controllers (including ET controllers)
- Pre-rinse spray valves for food service
- X-ray film processor recycling units
- Steam sterilizer retrofits (medical industry)

BMP Reporting by Council Signatories

In the fall of 2000, the Council launched a database-backed online reporting system that allows signatories to enter BMP implementation data directly into the Council's website. *Reporting is voluntary and the information is checked for errors by the Council but it is not verified for accuracy.* This Annual Report contains data for Fiscal Years 2003 and 2004. The Council requests that its signatories report bi-annually, although the information is collected on an annual basis. 1999 and 2000 were the first two years that the reporting database became operational. Summary data prior to 1999 have been entered by agencies for historical tracking purposes, and this summary information is included for reference purposes in the current BMP reports. Individual agency reports are public information and may be viewed at: http://bmp.cuwcc.org/bmp/read_only/list.lasso

The Council defines a reporting unit for purposes of simplifying BMP reporting. Generally, each Group 1 signatory is a single reporting unit, but there are exceptions. First: where a Group 1 water agency has multiple service areas, each service area becomes a different reporting unit. Second: where a Group 1 water agency is both a wholesaler and retailer of water, each becomes a different reporting unit.

Reporting units enter information on those best management practices that relate directly to the reporting units' responsibility. Retail reporting units report on 13 of the 14 best management practices, as they are not required to report on BMP 10, Wholesale Agency Assistance Programs. Table 3 compares BMP reporting requirements for retail and wholesale reporting units.

Table 3: Comparison of Retail and Wholesale BMP Reporting Requirements

	Best Management Practice	Retail Reporting	Wholesale Reporting
1	Water Survey Programs For Single-Family Residential and Multi-Family Residential Customers	Yes	
2	Residential Plumbing Retrofit	Yes	
3	System Water Audits, Leak Detection And Repair	Yes	Yes
4	Metering With Commodity Rates For All New Connections and Retrofit Of Existing Connections	Yes	
5	Large Landscape Conservation Programs And Incentives	Yes	
6	High Efficiency Washing Machine Rebates	Yes	
7	Public Information	Yes	Yes
8	School Education	Yes	Yes
9	Conservation Programs for Commercial, Industrial, and Institutional Accounts	Yes	
10	Wholesale Agency Assistance		Yes
11	Conservation Pricing	Yes	Yes
12	Water Conservation Coordinator	Yes	Yes
13	Water Waste Prohibition	Yes	
14	Residential ULFT Replacement Programs	Yes	

BMP Reporting Results for 2003-2004

Attachment F lists the signatories filing some or all of their FY 2003 and 2004 BMP reports. Attachment G lists the signatories that did **not** file BMP reports for 2003 or 2004 as of August 30, 2005. Attachment H presents summary reports on individual BMP data. Specific agency reports are public information and may be viewed at: http://bmp.cuwcc.org/bmp/read_only/list.lasso

There are several caveats to note. First, the reporting results summarized herein include only data formally submitted to the Council by MOU signatories. Thus, there is water agency urban conservation activity that is not included here. Second, the data compilations are based on self-reported data provided by the signatory water suppliers. *Although checked for errors, the data have not been verified as accurate.* The data has been aggregated for summary purposes.

BMP Data Highlights for 2003-2004

In 2004 there were 250 signatory Reporting Units in the BMP reporting database. The following information summarizes highlights of the urban water conservation activity undertaken by the MOU signatories which reported during this period:

- *82% of Council reporting units submitted one or more of their BMP Reports (Attachment F).*
- *42 reporting units have not submitted for 2003 or 2004 as of August 30, 2005 (Attachment G).*
- *Council members represent 74% of urban water use in California (Figure 1).*
- *Non-reporting Council members represent 11% of urban water use in California.*

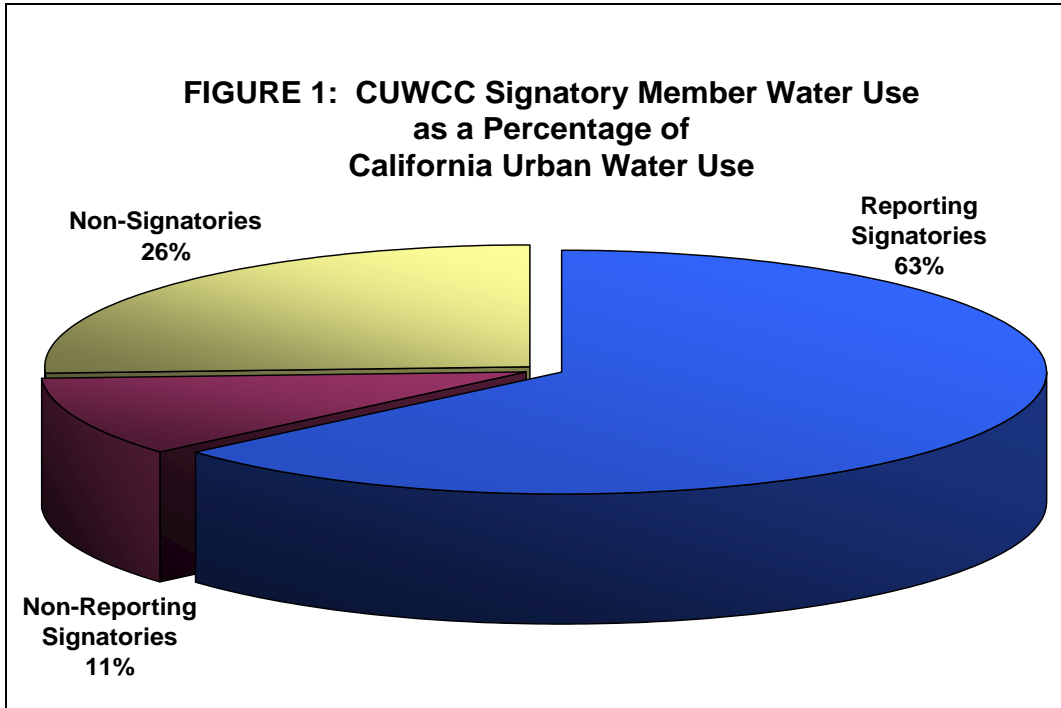


Figure 2 illustrates the percentage of Council member agencies submitting BMP reports by BMP for years 2001-2004.

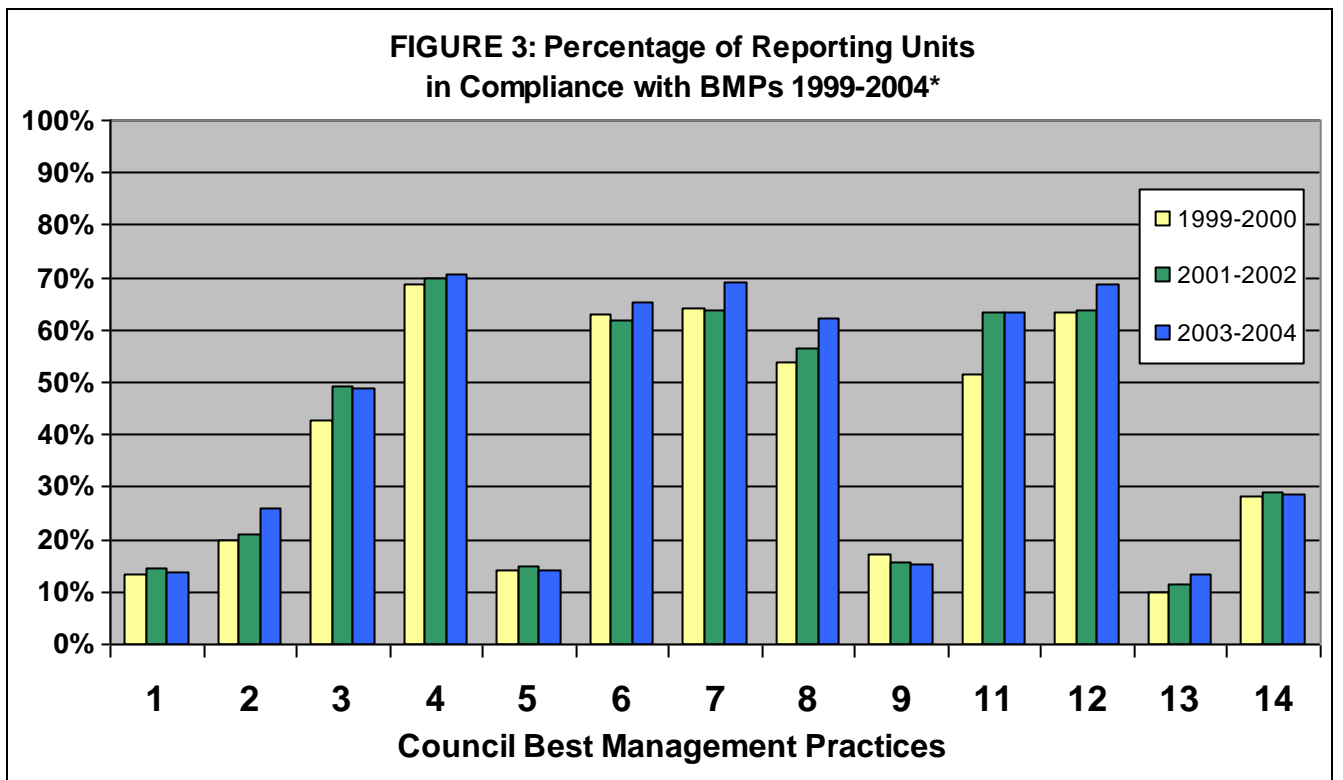
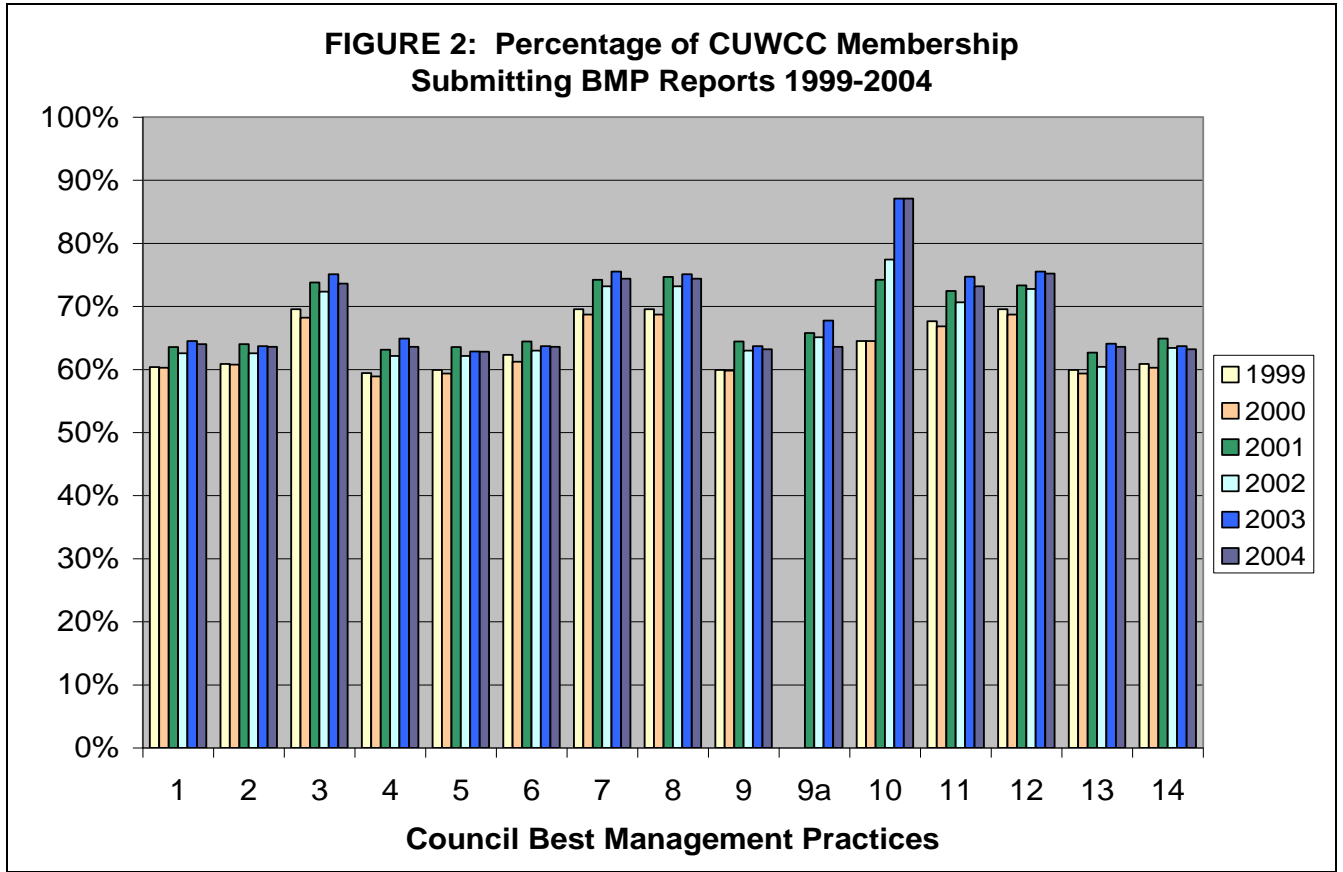
Figure 3 shows the percent of agencies in compliance with the Council MOU by BMP for years 2001-2004.

Figures 4 & 5 present the types of rate structures that agencies use for billing their residential customers for years 2001-2004. This relates to the implementation of BMP 11 Conservation Pricing.

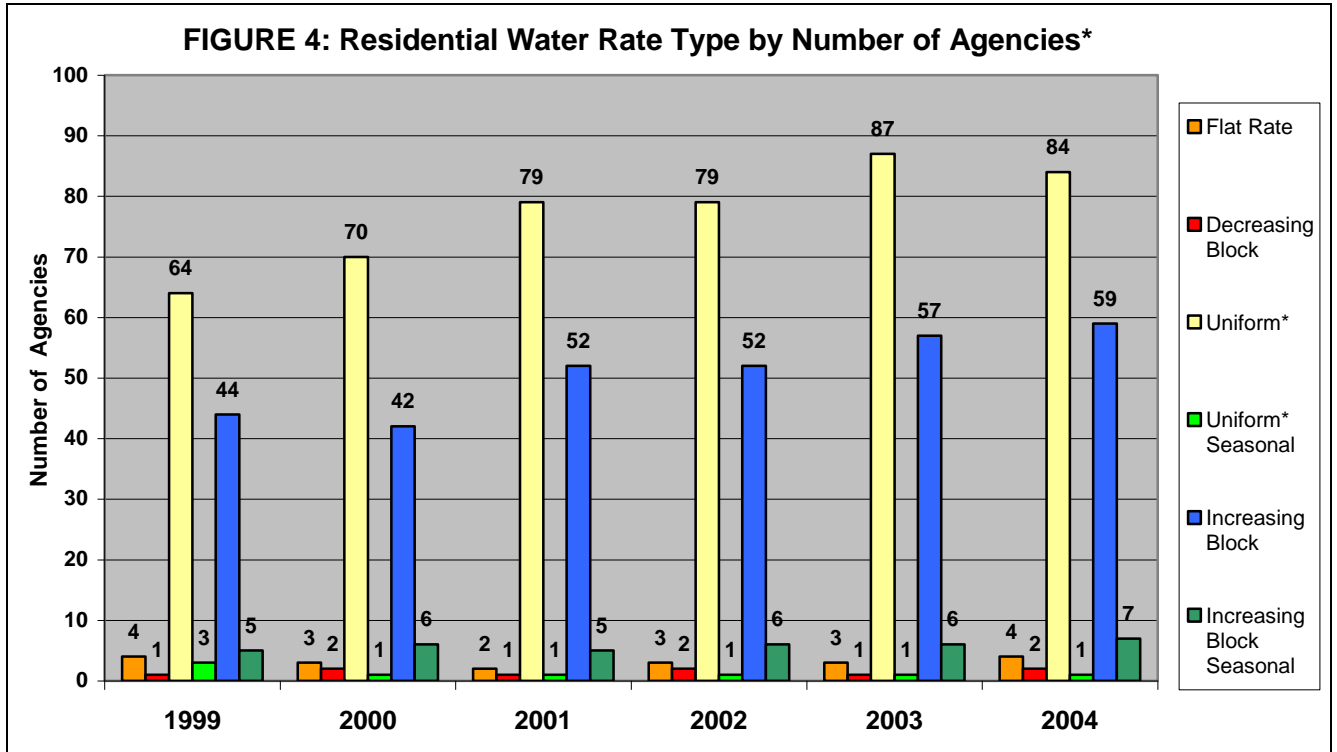
Table 4 summarizes some of the conservation milestones achieved by Council member agencies

Attachment H provides all the signatory member BMP reports (agency data combined for each report) and the progress made for BMPs 1-14, including water savings estimates for quantifiable BMPs 1, 2, 4, 5, 6, 9A, and 14.

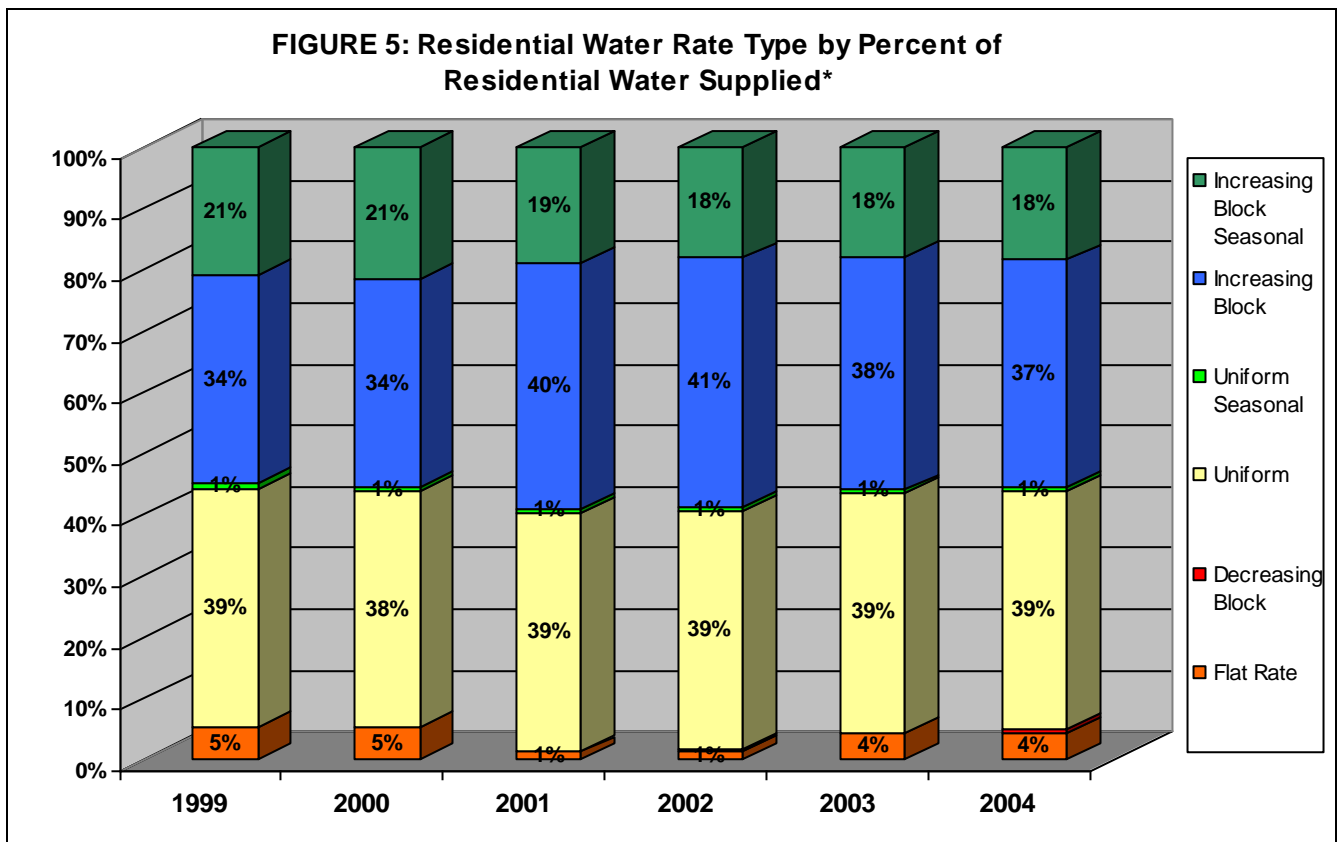
In some cases the data reports also summarize the grand total for all years, based on the historical information entered in the database by the signatories. For example, for BMP 1 (Residential Surveys), total surveys completed in 2004 for single-family residences were 46,557. The grand total for all single-family surveys completed since 1991 when the MOU was signed is 576,742.



* Evaluation for compliance is done every two years. All information is self-reported and not verified. BMP 10, Wholesale Assistance, does not have a compliance report.



*Data based on Signatory Agencies self-reporting on BMP 11 that provide residential service. Uniform rates are volumetric rates.



*Data based on Signatory Agencies self-reporting on BMP 11 that provide residential service. Uniform rates are volumetric rates.

California Urban Water Conservation Council
Annual Report Year 2004

Table 4: Conservation Milestones

BMP	Report*	2003 Reporting Year	2004 Reporting Year	Water Savings 1991 - 2004 (AF)
BMP 1	Single Family Surveys Completed:	38,932	46,577	70,203
	Multi-Family Surveys Completed:	10,164	27,645	
BMP 2	Single Family Low Flow Showerheads Distributed:	47,550	59,215	46,306
	Multi-Family Low Flow Showerheads Distributed:	15,705	34,243	
BMP 3	Miles Retail Distribution Pipes Surveyed for Leaks	8,241	10,156	N/A
	Percent Retail Distribution Pipes Surveyed for Leaks	15%	19%	
BMP 4	CII Accounts Retrofitted w/ Dedicated Irrigation Meters	947	1,063	13,535
BMP 5	Number of Irrigation Accounts with Budgets:	17,590	19,472	269,819
	Budgeted Water Use in AF	77,002	110,327	
	Actual Water Use in AF	52,638	70,687	
BMP 6	Suppliers with clothes washer rebate programs:	109	109	6,576
	Number of rebates awarded:	42,948	50,113	
	Total value of rebates awarded:	\$ 5,275,600	\$ 5,608,960	
BMP 7	Expenditures for public information programs:	\$ 6,229,840	\$ 10,167,249	N/A
BMP 8	Expenditures for school education programs:	\$ 5,048,160	\$ 5,447,925	N/A
BMP 9	Number of Commercial & Industrial incentives awarded:	15,746	15,801	274,356
	Value of incentives awarded:	\$ 1,798,210	\$ 2,101,586	
BMP 10	Wholesale Agency Program Expenditures:	\$35,049,270	\$ 38,402,060	N/A
BMP 11	Percent of <i>retail</i> revenue from volumetric rates:	87%	83%	N/A
	Percent of <i>wholesale</i> revenue from volumetric rates:	100%	100%	N/A
BMP 12	Total Number of Conservation Coordinator FTE's	421	446	
BMP 13	Agencies Prohibiting Gutter Flooding	82%	81%	
BMP 14	SF & MF ULFTs replaced:	153,977	141,113	
	All ULFTs replaced since 1991:		2,338,121	652,611
TOTAL WATER SAVINGS (AF)				1,333,406

* All information is self-reported by each agency and is not verified for accuracy. Individual agency reports are public information and may be viewed at http://bmp.cuwcc.org/bmp/read_only/list.lasso

BMP Implementation Exemptions

Section 4.5 of the MOU allows for water supplier exemptions from the best management practices when they qualify under three specific criteria:

- Implementation of the BMP is not cost-effective for the water supplier;
- Adequate funds are not available to the water supplier to implement the BMP;
or
- Implementation of the BMP is not within the legal authority of the water supplier or there are legal and institutional barriers to implementing the BMP.

As part of the CALFED cooperative agreement funding received in 2002, the Council is developing an exemption protocol for use by the State Water Resources Control Board in a possible certification program. The protocol would define more precisely the terms under which BMP exemptions could be granted. The protocol will be submitted to CALFED in 2005.

PART III: TECHNICAL ASSISTANCE

The Council provides general technical assistance in addition to its specific work on Best Management Practices. Some of the projects listed below are the result of specific grants; other projects are part of the general Council work plan.

In 2004, the Council provided technical assistance to its members and the public. Table 5 below summarizes the requests for assistance by BMP.

Table 5: Technical Assistance Provided to Members

Subject	Number of Inquiries
BMP 1: Residential Surveys	10
BMP 2: Residential Plumbing	14
BMP 3: Water Loss Management	5
BMP 4: Metering	5
BMP 5: Landscape	25
BMP 6: High Efficiency Clothes Washers	35
BMP 7: Public Information	3
BMP 8: School Education	7
BMP 9: Commercial, Industrial and Institutional	102
BMP 10: Wholesaler Support	2
BMP 11: Pricing	10
BMP 12: Conservation Coordinator	1
BMP 13: Water Waste Prohibition	5
BMP 14: ULFT	97
BMP Certification	5
BMP Cost Effectiveness Analysis	11
BMP Exemptions	13
BMP Reporting	177
BMP Savings Evaluation	8
Conservation Program Planning	41
General CUWCC Information	50
Potential BMPs	9
Water Supply Planning	23
Total	658

During 2004 the Council also pursued numerous areas of research funded by the Department of Water Resources, the U.S. Bureau of Reclamation, the U.S. Environmental Protection Agency, and the Council member agencies. Studies included:

- Environmental Benefits Study funded by USEPA and USBR through CALFED
- Water Utility Avoided Cost Study, funded by USBR through CALFED & EPA
- PBMP Research Investigation funded by USBR through CALFED/USBR
- BMP Costs and Savings Study Update funded by USBR through CALFED CAFED
- AWWARF Water Budget Rates Study

- Revenue Impact of Rates Report
- Weather Based Irrigation Controller Evaluation funded by Proposition 13 through DWR
- Distribution System Water Loss Case Studies

The Council additionally contracted with indoor water use expert John Koeller to work on national plumbing standards, maximum performance testing and high efficiency toilets (HETs). John Koeller also produces the Council's WaterLogue Newsletter.

The WaterLogue Newsletter



The Council continued its online newsletter publication, *The WaterLogue*, on water efficiency products and emerging technologies. Two new *WaterLogue* issues were posted on the website in 2004. The *WaterLogue* covers news about plumbing technology, including water conservation improvements in manufacturing, and programs that support the use of water-saving devices. Subjects covered in 2004 included Unified North American Requirements (UNAR) for toilet fixtures, wet cleaning (an environmentally sound, water-based replacement for dry cleaning technology), and water standards for appliances based on the Energy Star^R program.

Toilet Flapper Study

Toilet replacement programs have been a mainstay of California water conservation programs for about 15 years. During this time, one of the major questions has been: Do the projected water savings persist for the expected 20-year economic life of the fixture? To answer this question, five California water utilities conducted an in-residence study directed at determining how older 1.6-gallon toilet fixtures were performing and how frequently toilet flappers were being replaced. Potential flapper vulnerability from such factors as aging, degradation from in-tank cleaning tablets, tampering and replacement was examined. The resulting Toilet Flapper Study was printed in 2004.

Technical Assistance Consultants

Annually a Council committee competitively reviews the qualifications of water conservation consultants and approves them for use on Council projects or for member water agency projects. A Request for Qualifications (RFQ) is issued for consultants with specific experience in best management practices, planning, and cost-effectiveness analyses. The 2004 list of 36 approved consultants was made available for downloading in the Technical Resources area of the Council website. Also available was a roster that classified these consultants both by their area of expertise and by their expertise for specific BMPs. Signatories consequently have access to dozens of qualified consultants who can help plan, design, implement and evaluate best management practices.

Virtual Water Saver Home Website



Launched in January 2002, the Water Saver Home (www.h2ouse.org) website is a user-friendly site for consumers to learn how they can reduce their water use in and around the home. In 2003, the Council expanded the scope of the website by beginning work on a detailed landscape component. This work was funded by \$35,000 from the U.S. Bureau of Reclamation and \$64,000 from the U.S. Environmental Protection Agency. The landscape component was completed in 2004. In 2004, The Water Save Home website received an average of 338,323 hits per month, and a monthly average of 13,005 unique visits. Since the website's launch, there have been 4,059,871 total hits and 156,066 total visitors.

Updated Council Website

Many additions and updates were made to the Council website in 2004:

- New studies were made available to download from the Product News/Technical Information page such as *Functioning of Aging ULF Toilets in Tucson AZ*, *National Multiple Family Submetering and Allocation Billing Program Study*, *Potential Best Management Practices (PBMP) Report*, and *Toilet Flush Volume Study (Durham)*.
- Standards were added including *The Unified North American Requirements (UNAR) for toilet fixtures* and *High Efficiency Toilet (HET) Definition*.
- The High Efficiency Clothes Washer lists for BMP 6 were updated in the Product News section.
- Quarterly Reports were added for the Pre-Rinse Spray Valve Program.
- Several "Articles of Interest" were added in the Technical Resources section. These included the *CII Water Use Survey Program*, *Submetering, Allocation Billing* and the *Waterwise Landscaping Ordinances Paper*.

In 2004, the Council's website received an average of 59,594 hits per month, and a monthly average of 1,793 unique visits. Since the website's launch there have been 715,123 total hits and 21,515 total visitors:

Cost-Effectiveness Workshops

In October, the Council held four cost-effectiveness workshops to help urban water conservation professionals perform cost-effectiveness analysis of Best Management Practices (BMPs). Participants were introduced to the concepts and methods used to evaluate the benefits and costs of individual BMPs. Sixteen people attended in San Diego, 21 attended in Carson, 22 attended in Sacramento, and 20 attended in Oakland.

Water Conservation Coordinator Training

The Council conducted a Water Conservation Coordinator training class in August to help train water agency program staff in BMP program implementation and to help prepare members for the American Water Works Association's Water Conservation Practitioner Level 1 Certification Exam. Fifty-three people attended the training, which was held in Carlsbad.

BMP Reporting Workshop

The Council held five workshops to instruct MOU signatories in using the BMP reporting website. In the workshops, members learned to navigate the website and submit reports on their implementation of the water efficiency BMPs. The main topics discussed at these workshops included:

- Defining reporting units of signatories
- Account setup and log-in
- The home page layout
- One-time reporting forms: Signatory/Reporting Unit Profile, Base Year Data, and BMP Activity History
- Filling out and submitting the annual BMP report forms
- The difference between retailer and wholesaler reporting
- Summary reports using the BMP data
- Coverage requirement reports

Eleven people attended the workshop in Santa Rosa, 22 attended in Escondido, 9 attended in Oakland, 13 attended in Los Angeles, and 8 attended in Sacramento.

Revenue Impacts of Conservation Workshops

Cosponsored with the California Department of Water Resources, these workshops provided mechanisms to help agencies meet their long-term water supply and rate stability goals. Topics covered included managing revenue stability through rate design, the effect of pricing on water consumption, and the incorporation of future capital investment in rate structure design. The information provided assists agencies in preparing their Urban Water Management Plans and creating demand management programs. 49 people attended in Los Angeles and 37 people attended in Oakland.

SB 221/SB 610 Water Supply Planning Workshops

The Council and the California Department of Water Resources (DWR) sponsored five workshops on the Implementation of SB 221 and SB 610 (Water Supply Planning). Since January 2002, the "show me the water" laws – SB 221 and SB 610 – have required land-use agencies and water suppliers to provide substantive information pertaining to water supply prior to approving large development projects.

The workshops assisted land-use planners, water supply planners, consultants, developers and others interested in learning how to prepare a water supply assessment or verification for large development projects. Guest speakers shared local experiences, challenges and solutions to meeting the requirements of these bills. The workshops provided step-by-step guidance and information on:

- Integrating SB610 requirements with the California Environmental Quality Act (CEQA) for projects requiring an Environmental Impact Report, Negative Declaration or Mitigated Negative Declaration
- Integrating the requirements of SB221 with the Subdivision Map Act process
- Preparing a Water Supply Assessment pursuant to SB 610 and a Water Supply Verification pursuant to SB 221
- Using the Urban Water Management Plan as a source document
- Case studies on Water Supply Assessments

Twenty three people attended in San Diego, 22 in Santa Rosa, 71 in Sacramento, 46 in San Jose, and 64 in Fountain Valley.

Assistance to the California Energy Commission

The Council worked with the California Energy Commission (CEC) to set product efficiency standards. Water efficiency standards were set for residential clothes washers in February, 2004. A Water Factor of 8.5 will be required for all new clothes washers sold in California as of 2007; the standard drops to a water factor of 6 by 2010. The Council provided analyses of water savings as well as information on incentives offered by water agencies through their rebate programs.

Federal approval will be required prior to the clothes washer standards taking effect, as the Federal Energy Policy Act of 1992 allows only the Federal Government to regulate residential clothes washers unless a state exemption is approved. The CEC filed a petition for the exemption, and the Council assisted the CEC staff in this effort.

In 2004 the CEC also set standards for pre-rinse spray valves. As of January 2006, all models manufactured and sold in California must have a flow rate equal to or less than 1.6 gpm at 60 psi.

Federal Water Labeling Program

The Council continued working with the U.S. Environmental Protection Agency (EPA) to develop a national water labeling program for appliances. The program will promote water-efficient products to consumers in a manner similar to the existing Energy Star^R program, which promotes energy-efficient products.

PART IV: GENERAL OUTREACH

In 2004, the Council's Executive Director represented the Council in the following capacities:

- Member, California Water Plan Advisory Committee (Bulletin 160-2003)
- Member, California Bay Delta Authority's Water Use Efficiency Subcommittee and Urban Measurement Work Group
- Member, Water Management Committee of the Association of California Water Agencies and Co-Chair of the Water Use Efficiency Subcommittee
- Expert witness at a Water Rights Hearing before the State Water Resource Control Board.
- Member, American Water Works Association Research Foundation's Project Advisory Committee on water use efficiency in integrated resource planning.
- Participant at EPA Water Product Labeling Meetings
- Participant at hearings of the California Energy Commission on product efficiency standard setting
- Speaker at meetings of the California Golf Course Owners Association and Pacific Southwest Maintenance Management School
- Exhibitor and participant at the ACWA Conference
- Speaker/presenter at the following events:
 - AWWA Conference
 - Green Building Conference
 - California Irrigation Institute Annual Meeting
 - Water Sources Conference
 - Lake Arrowhead Community Service District Public Workshop
 - CA-NV AWWA Joint Instrumentation Conference (JIC)
 - New Mexico Water Annual Conference

AB 2572 – Water Meter Installations

The Council supported the successful passage of Assembly Bill 2572, which requires that water meters be installed in residential and nonagricultural buildings and that customers be charged for their usage based on volume of water used. The bill was signed by the Governor in 2004.

Proposition 50 Water Use Efficiency Grant Funding

The Council prepared several Prop 50 project proposals in 2004 which will be submitted to DWR in early 2005. If selected the Council should begin these projects in early 2006. Some of the proposal topics include:

- Technical Assistance to Water Agencies enhancement of services;
- One Stop Rebate Program aimed at smaller agencies with no existing rebate programs for a variety of water efficient products;

- Statewide Pilot Rebate Program for installing and evaluating Cooling Tower Conductivity Meters;
- “Water Star” labeling program in California to test and label water efficient products (program to be developed with EBMUD);
- Green Building Program to develop design standards to build super water efficient homes which could qualify as “Water Star” homes.

Excellence Awards

The Council awarded its two annual Excellence awards in memory of two outstanding water conservation leaders. The Michael Moynahan Award for Statewide Innovations was presented to Jonathan Clay, Ronnie Cohen, Jim Metropulos, and Ronald Stork – as a team – for their efforts in bringing water service metering and volumetric billing to all California communities under AB 2572.

The Llana Sherman Award for Local Innovations was presented to both Charlie Pike of the Regional Water Authority and Julio Sanchez of ConserVision for their long term commitment to local water conservation programs.

Certificates of Recognition were presented to the IEUA Building Team, John Koeller and Meena Westford as nominees for the Michael Moynahan Award. Nora Jaeschke, Virginia Porter and Susan Varty were presented with Certificates of Recognition as nominees for the Llana Sherman Award.