Blueprint for Water Conservation

FY **2007 - 2012**

Public Draft – **May 2007**

San Diego County Water Authority

BLUEPRINT FOR WATER CONSERVATION

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EXECUTIVE SUMMARY

OVERVIEW

Development of reliable local resources is critical to maintaining San Diego's $150 billion annual economy and standard of living. It was just 17 years ago that San Diegans faced a 20 percent reduction in their imported water supplies because of a prolonged drought. At the time the region lacked reliable local resources and depended on a single supplier of imported water. Diversifying the region's water supply and increasing local water resources is the primary driving force for ensuring the reliability of San Diego County's future water supply. The San Diego Association of Governments (SANDAG) projects that by 2030, the region's population will grow by more than 1 million residents, with approximately two-thirds of the increased population resulting from in-county births. New supplies of water will be needed to serve that increasing demand. Water conservation is the cheapest new source of water. Currently, conservation accounts for 7 percent or 51,000 acre-feet of the region's water supplies (see Figure 1). The Water Authority's 2005 Urban Water Management Plan projects that conserved water will account for 12 percent, or more than 100,000 acre feet, of the Water Authority's future water portfolio and will be an important component of local resource development (Figure 2).

San Diego County Water Supply Portfolio: FY 2006 & FY 2030

Figure 1

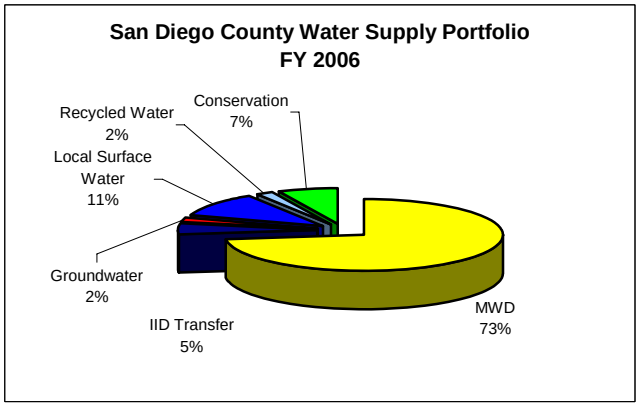
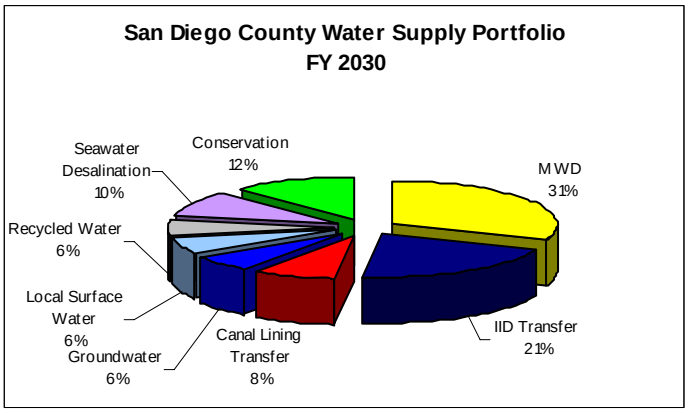


Figure 2



STRATEGIES TO SAVE WATER

As the regional wholesale supplier of water to San Diego County, the Water Authority has taken on the role of coordinating the region's activities and programs to save water. The Water Authority has worked closely with its member agencies to facilitate the installation of hundreds of thousands of water-saving devices in the region. With the active cooperation of the public and businesses, the region's water-providers have instilled a water conservation ethic in San Diego County. The Water Authority's member agencies, whose direct contact with the retail customers is crucial to implementing conservation, have co-funded these efforts along with the Water Authority and taken a pro-active stance in educating and working with their customers to save water.

The Water Conservation Garden, which opened to the public in 1999**,** has become one of the region's most important assets in educating, informing, and assisting the public, business, industry, and the landscape profession on outdoor water conservation practices. In recognition of the value of stakeholder input, the Water Authority and its member agencies hosted the First Water Conservation Summit in 2006. This event brought together representatives of government, business, and industry to jointly map a strategy for landscape conservation. It is through the combined and focused partnership between the Water Authority, its member agencies, the Water Conservation Garden and stakeholders that the region will achieve its goal of 100,000 acre-feet of saved water annually.

The purpose of this Water Conservation Five-Year Blueprint is to help the Water Authority, its member agencies, and the Water Conservation Garden comprehensively plan for and implement upcoming conservation efforts and programs. The programs included are designed to meet the requirements and strategies of:

- 2005 Urban Water Management Plan
- 2006 Post-Summit White Paper
- California Urban Water Conservation Council's Best Management Practices (BMP)
- Agricultural Efficient Water Management Practices (EWMP)
- AB 2717 Landscape Taskforce
- AB 1881

The Water Authority has outlined strategies for saving water in landscaping, indoor uses, and agriculture. Implementation of these strategies will significantly contribute to the region's efforts to diversify its water portfolio.

Landscape

The Water Authority will implement the Post-Summit White Paper's six key landscape strategies.

- Develop and adopt a regional model ordinance, which promotes and enforces landscape conservation practices.
- Create an industry cluster, comprised of landscape contractors and irrigation product manufacturers, to bring water-efficient landscape products, plants, and services to the market.
- Make water-efficient landscaping a financially attractive option.
- Support a professional landscaper certification program that customers can recognize and trust to ensure efficient operation and maintenance of irrigation systems.
- Craft a public outreach plan to bring water-saving landscape products and services to the market and to change the public's perception of water-efficient landscapes.
- Hold a Summit in 2007 to follow up on the recommendations from the 2006 Summit.

Indoor: Residential & Commercial, Industrial, Institutional

The Water Authority's indoor water-use efficiency strategy will continue effective device-based and audit programs that produce measurable savings.

- Monitor and expand device-based financial incentives to promote indoor conservation.
- Implement audit program for high-volume water-users to help reduce water use.
- Continue proven marketing efforts to increase participation in indoor residential and commercial programs.
- Partner with SDG&E in the indoor and commercial sector to increase the reach and effectiveness of the CII program.

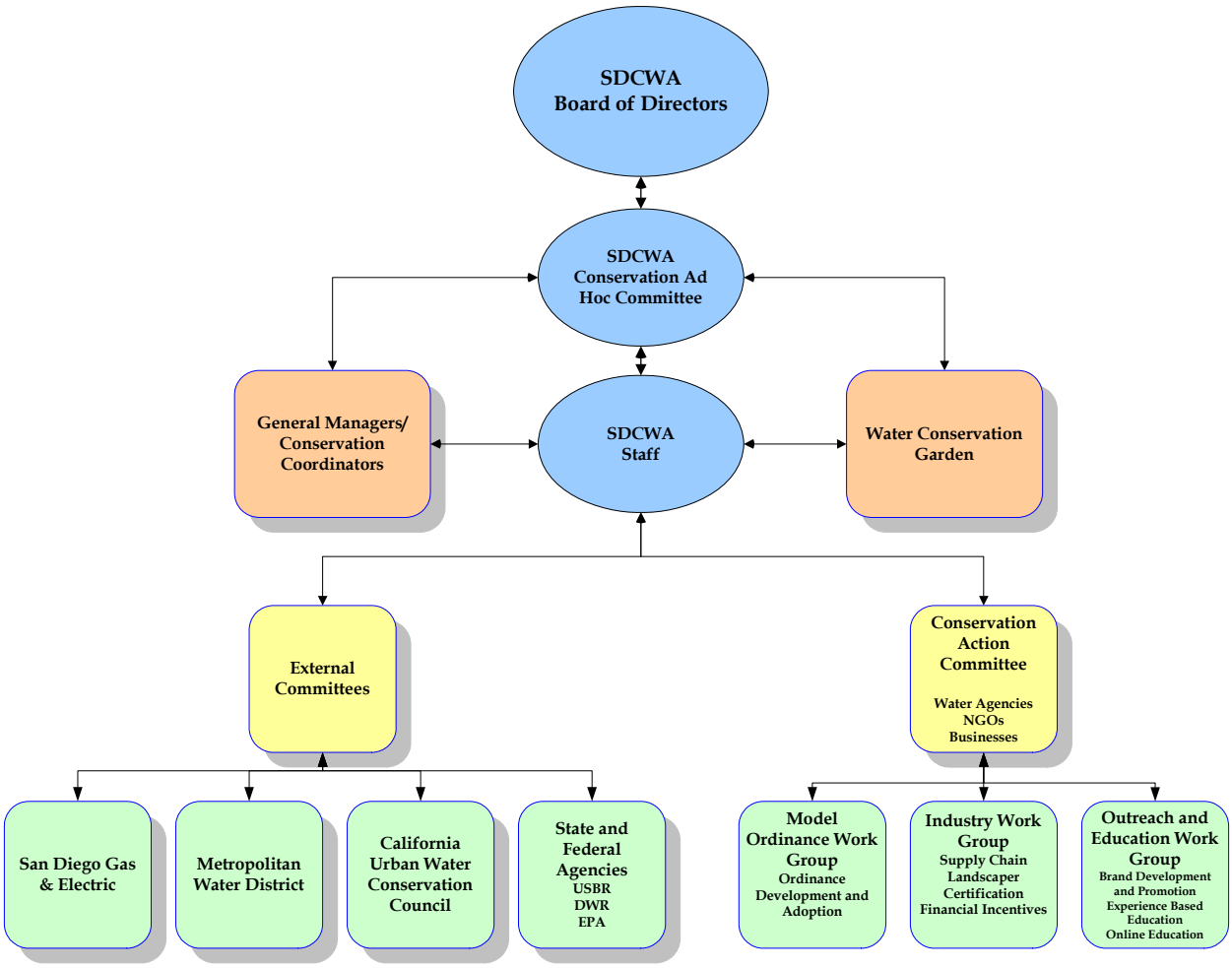
Agriculture

- Continue agricultural audit program to increase water efficiency on agricultural sites.
- Support research in agricultural water use efficiency.

ROLE OF THE PARTNERS

Only through long-term partnerships can the region achieve its goal of 100,000 acre-feet in annual savings. Working with its member agencies and the Water Conservation Garden, the Water Authority will implement the strategies outlined above. Water Authority staff will work with member agencies to develop and implement programs and with the Water Conservation Garden to educate the public on the "look, feel and smell" of low water use landscapes. It will also continue funding incentives, pooling technical information, and participating in partnerships with SDG&E, the California Urban Water Conservation Council, state and federal agencies, and Metropolitan Water District (MWD). Successful conservation requires active stakeholder participation. The Water Authority will work with the Conservation Action Committee and its industry, ordinance, and outreach and education workgroups to obtain stakeholder buy-in, create comprehensive landscape programs, increase participation in water use efficiency programs, and ultimately save more water. Key Conservation Action Committee participants include representatives of the California Landscape Contractors Association, the Building Industry Association, the Association of Landscape Architects and the Association of Compost Producers, among others. A complete listing of Conservation Action Committee and Work group members can be found on www.waterconservationsummit.com**,** and is shown in Appendix H. Figure 3 illustrates the working relationship between the Water Authority, its member agencies, the Conservation Ad Hoc Committee, the Water Conservation Garden, the Conservation Action Committee and its working groups.

Figure 3: Working Relationship Between Partners



IMPLEMENTATION: Action Plan: FY 2007-2012

This Five-Year Blueprint refocuses the region's water-savings efforts from the historic emphasis on indoor residential to outdoor and commercial, institutional and industrial water use. It takes into account the need to pilot-test, forecast savings, and evaluate results to ensure programs are cost-effective for the Water Authority, its member agencies, affected industries and homeowners. A summary of key action items is included in this document. For a complete description of Water Authority programs see Appendix G.

This is a stakeholder-intensive process and a dynamic document. New information and ideas will arise and this Blueprint and associated action items will be updated to make sure it remains relevant.

BLUEPRINT FOR WATER CONSERVATION

INTRODUCTION

Water conservation, the least expensive new source of water, accounts for 12 percent of the Water Authority's future water supply. It is a key feature of the region's supply diversification strategy and the development of local resources. Fifteen years of primarily indoor conservation efforts have saved more than 455,000 acre-feet of water and raised the public's awareness of the region's need to conserve. An additional 57,000 acre-feet in annual savings is projected by 2030. To realize those savings, the region must focus on outdoor conservation programs and indoor commercial, industrial, institutional programs. Landscape programs, in particular, present a greater implementation challenge, as they are primarily driven by behavior, not devices such as toilets and washers.

In recent years, the Water Authority and water agencies throughout the state tried several approaches to save water outdoors. Experience has shown that achieving success in outdoor programs requires greater stakeholder support and must be more comprehensive to realize the necessary long-term changes in behavior. In recognition of this, the Water Authority Board of Directors established a Conservation Ad Hoc Committee to direct efforts to convene the region's first Water Conservation Summit and provide policy guidance for the Water Authority's role in regional conservation activities. The Member Agency General Managers collectively recommended that the Water Authority host an Annual Water Conservation Summit. Input obtained from the Summit served as the basis for a White Paper, which outlined ways to save water outdoors; increase local water resources; and meet goals set by the Water Authority's Urban Water Management Plan. In November 2006, the Water Authority's Board of Directors endorsed the White Paper recommendations, which serve as the basis for many strategies in this Blueprint.

Indoor residential and commercial conservation efforts will remain focused on successful device-based incentives. Businesses that consume more water than they should will be offered audits that recommend ways to save water.

Agricultural audits to increase water-use efficiency will be continued as they make the best economic use of available water supplies and help reduce run-off.

Certain fundamental documents and actions that are driving these strategies include:

- 2005 Urban Water Management Plan (Appendix A)
- 2006 Water Conservation Post Summit White Paper (Appendix B)
- AB 2717 Landscape Taskforce and AB 1881 (Appendix C)
- California Urban Water Conservation Council's Best Management Practices (BMP) (Appendix D)
- Agricultural Efficient Water Management Practices (EWMP) (Appendix E)

This Five-Year Blueprint for Water Conservation (2007-2012) will help the Water Authority, its member agencies, and the Water Conservation Garden plan for and implement upcoming conservation efforts and programs. The strategies in the Blueprint are designed to meet regional water savings goals and further diversify the region's water portfolio.

CONSERVATION TARGET

To ensure that progress is made toward achieving conservation savings, the Board unanimously adopted conservation water-savings milestones. This Blueprint is designed to help the Water Authority and its member agencies meet the 2010 savings goal of 80,000 acre-feet per year. Currently, *51,000* acre-feet of water are saved annually. To stay on course to meet the region's growing needs, the Water Authority must save *80,000* acre-feet by **2010**, *94,000* acre-feet by **2020**, and *108,000* acre-feet by **2030**[1]. The Water Authority's water supply portfolios for 2010 and 2030 are provided below (Figure 1 & 2).

San Diego County Water Supply Portfolio: FY 2010 & FY 2030

Figure 1

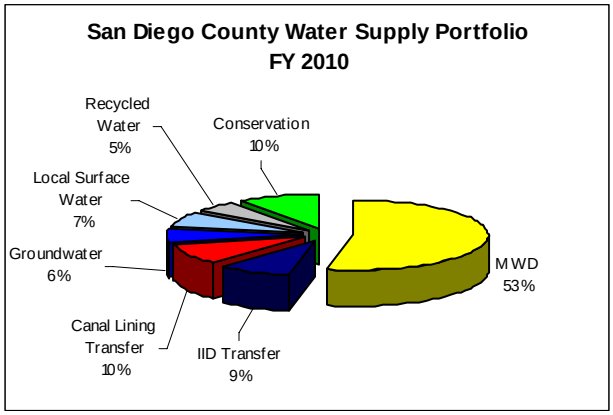
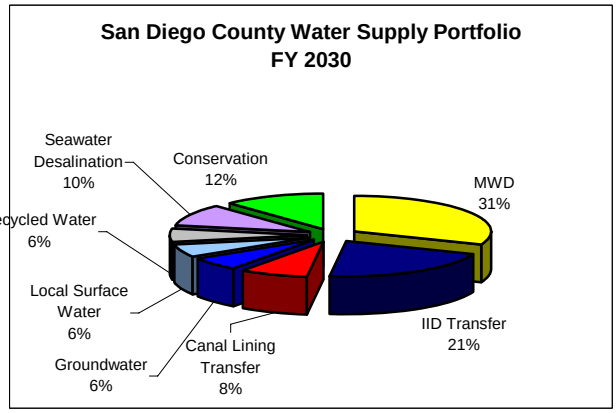


Figure 2



KEY STRATEGIES

The strategies listed below are designed to save water in the following areas: landscape, indoor residential and commercial, and agriculture. For detailed program information see Appendix G: Water Authority Water Conservation Programs.

Landscape

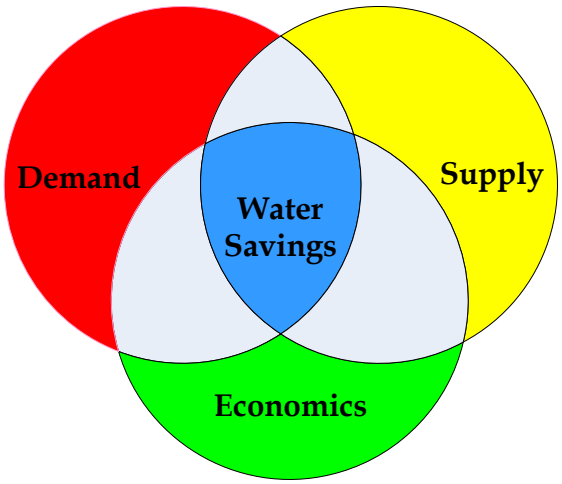
Following the Water Conversation Summit, three work groups made up of representatives of government, industry, and business, were created to help the Conservation Action Committee implement the White Paper's six key landscape strategies:

1. Model Ordinance Work Group
2. Industry Work Group
3. Outreach and Education Work Group

[1] 2005, San Diego County Water Authority Urban Water Management Plan.

Figure 3 illustrates the market-based idea that water-savings will result from making conservation financially viable for the landscape industry and water customers (economics); creating demand for water-efficient landscapes (demand); and bringing water-saving landscaping products and services to the market (supply).

Figure 3: Relationship between water savings, economics, demand, and supply



The six landscape strategies and related action items are listed below.

1. Develop and adopt a regional model ordinance, which promotes and enforces landscape conservation practices.

Action Items	Fiscal Year
Create Model Ordinance Work Group	2007
Draft model ordinance with assistance of the Model Ordinance Work Group.	2007
Create an ordinance input and outreach plan with timelines and approaches to obtain stakeholder and political support.	2007-2008
Work with stakeholders to gain input and political support.	2008
Encourage regional adoption of model ordinance with the help of the Outreach and Education Work Group.	2008-2009

2. Create an industry cluster to bring water-efficient landscape products, plants, and services to the market.

Action Items	Fiscal Year
Create an Industry Work Group.	2007
Work with Industry, and Outreach and Education Work Group to develop outreach plan consistent with branding	2008

Action Items	Fiscal Year
study to encourage manufacturers, nurseries, industry, and retailers to make water efficient products and plants available.	
Work with the Industry, and Outreach and Education Work Groups to implement landscape certification study recommendations.	2008-2009
Coordinate with the Industry Work Group to implement Smart Landscape incentive programs that encourage new landscape technologies.	2007-2012

3. Make water-efficient landscaping a financially attractive option.

Action Items	Fiscal Year
Work with Industry Work Group and SDG&E to develop and pilot measured savings programs for contractors, which provide incentives equal to the dollar value of the water saved.	2007-2008
Develop and implement a web-driven landscape measurement tool and water budget[2] program with member agencies.	2007-2012
Continue landscape audits but require that beginning in 2008 audits only be offered to irrigators that are 20 percent over their water budgets.	2007-2012
Continue financial incentives for irrigation hardware improvements through the Smart Landscape Grant Program. On July 1, 2008, provide funding to continue program after Department of Water Resource funds have been expended.	2007-2012
Institute pilot programs for residential smart controllers[3] to determine the most cost effective way to distribute and achieve savings.	2007-2008
Pass through MWD incentives for residential smart controllers to member agencies.	2008-2012
Continue financial incentives for replacement of natural turf with artificial turf for public spaces. Increase incentive in FY 2008.	2007-2012
Take steps to expand artificial turf program to residential customers through a residential pilot program and/or participation in MWD's new artificial turf program.	2008
Continue commercial smart controller voucher to make purchase of smart controllers financially viable.	2007-2009
Continue residential water use efficiency survey to help customers identify water waste and reduce water bills.	2007-2012

[2] A water budget is a water consumption target based on landscaped area and local evapotranspiration.
[3] A smart controller is an irrigation controller that uses historical or real time weather data to automatically adjust the irrigation schedule.

Action Items	Fiscal Year
Implement landscape auditor intern program to help member agencies with implementation of financially attractive incentives and programs.	2008
Work with MWD to maximize participation in landscape incentive programs.	2007-2012
Offer incentives for new construction via the California Friendly Home Program.	2008-2012

4. Support a professional landscaper certification program that customers can recognize and trust to ensure efficient installation and maintenance of irrigation systems.

Action Items	Fiscal Year
Working with the Industry Work Group, hire consultant to conduct landscape certification study and provide recommendations.	2007-2008
Develop plan and implement landscaper certification study recommendations with help from the Outreach and Education Work Group and the Industry Work Group.	2008-2012
Work with the Water Conservation Garden, community colleges, the landscape industry, and others to make professional training available to landscapers.	2008-2012

5. Craft a public outreach plan to bring water-saving landscape products and services to the market and to change the public's perception of water-efficient landscapes.

Action Items	Fiscal Year
Create Outreach and Education Work Group	2007
Hire consultant and conduct a market research study to develop a branding campaign	2007-2008
Develop and implement programs consistent with brand to promote the beauty, function, and necessity of water efficient landscapes.	2009
Implement on-line education consistent with branding.	2009
Create a one-stop on-line shop for water efficient information and products consistent with branding.	2009
Use the branding effort to support the supply chain for water efficient plants and products	2009-2012
Implement marketing and outreach necessary to support landscaper certification and training consistent with branding.	2009-2010
Continue support of and expand Water Conservation Garden efforts to North County.	2007-2012
Continue and expand the California Friendly Landscape Contest.	2007-2012

Action Items	Fiscal Year
Expand water agency sponsored recognition programs to include landscape professionals and public spaces.	2007-2008

6. Hold a Summit in 2007 to follow up on the recommendations from the 2006 Summit.

Action Items	Fiscal Year
Create a 2007 Summit Committee.	2007
Develop agenda and line up speakers for Summit.	2007
Host the 2007 Summit on October 12, 2007.	2008

Indoor: Residential & Commercial, Industrial, Institutional

The Water Authority's indoor water use efficiency strategy is to continue effective device-based and audit programs that produce savings. The specific strategies and related action items are listed below.

1. Continue device based financial incentives to promote indoor conservation.

Action Items	Fiscal Year
Continue high-efficiency clothes washer voucher for single-family residents in partnership with SDG&E.	2007- 2009
Work with SDG&E to install high-efficiency toilets in low-income housing if pilot program is approved by the California Public Utilities Commission.	2008
Continue direct installation of high-efficiency toilets in low-income homes if the pilot effort is successful.	2009
If determined to be cost-effective, implement an incentive for hot water distribution systems.	2010
Continue funding to meet demand and in 2008 increase funding for commercial devices.	2007- 2009
Continue to add proven water-saving devices annually to the available incentives list.	2007- 2009
Transition device-based programs to MWD's "Save a Buck" program.	2008 - 2009

2. Implement audit program for high water users to help them reduce their water use.

Action Items	Fiscal Year
Hire consultant and conduct 5-10 water/energy audits.	2007
Create a one-stop shop incentive program in conjunction with SDG&E for audit participants.	2008
Integrate qualifying CII audit participants into MWD's Industrial Process Improvement program.	2008-2012
Increase number of audits.	2008-2012

3. Continue proven marketing efforts to increase participation in indoor residential and commercial programs.

Action Items	Fiscal Year
Extend existing marketing contract for indoor and commercial conservation programs.	2008
Increase funding and expand overall marketing efforts for indoor programs	2008-2012
Market one-stop shop incentive in conjunction with SDG&E for audit participants.	2008-2012

4. Partner with SDG&E in the commercial and indoor sector to increase the reach and effectiveness of the CII program.

Action Items	Fiscal Year
Continue high efficiency clothes washer incentive.	2007-2012
Create a one-stop shop for CII incentives and audits.	2008

Agriculture

To improve water-use efficiency in the agricultural sector, the Water Authority will continue its agricultural water management program. The two strategies and related action items are listed below.

1. Continue agricultural audit program to increase water-use efficiency on agricultural sites.

Action Items	Fiscal Year
Renew contract with agricultural audit consultant.	2008
Increase funding to $50,000 to meet demand for agricultural audits.	2008
Require member agencies to co-fund the audit program.	2009
Hire consultant to evaluate audit program results.	2009
Submit 2008 Agricultural Water Management Plan.	2008

2. Support agricultural research to discover new ways to save water.

Action Items	Fiscal Year
Provide funds to agricultural audit consultant to conduct research in collaboration with state agencies and local growers.	2008
Work with local growers to implement research findings.	2009

PARTNERS

Implementation of water use efficiency programs and efforts requires collaboration with member agencies and the Water Conservation Garden. All of the Water Authority programs are implemented and developed with regular input from and coordination with member agency conservation coordinators and General Managers. The Water Authority's role in implementing the strategies is consistent with the Board's direction to:

- **Develop regional conservation policies and methods.**
- **Manage regional water use efficiency programs, incentive programs, and associated funding.**
- **Provide tools, training, and materials needed for member agencies to implement programs.**
- **Lead regional efforts to encourage local jurisdictions to adopt and implement landscape conservation ordinances.**
- **Coordinate regional water use efficiency efforts with state agencies, MWD, SDG&E, CUWCC, and other outside agencies.**
- **Participate and represent regional interests in the development of state and federal policies, legislation and regulation related to water-use efficiency.**

Member agencies will play a key role in implementing the strategies of the Blueprint. The member agencies' role will be to:

- **Educate customers on conservation practices.**
- **Implement indoor and outdoor conservation programs and make them available to their customers.**
- **Adopt water-conserving rates.**
- **Work with local jurisdictions to adopt and implement landscape conservation ordinances.**
- **Participate and represent local interests in the development of state and federal policies, legislation, and regulation related to water-use efficiency.**

The Water Conservation Garden will help the Water Authority and member agencies increase demand for water-conserving landscapes. The Garden's role will be to:

- **Promote water conservation in landscape through programs and exhibits that educate and inspire the public.**
- **Host garden festivals and plant sales.**
- **Teach homeowners how to conserve water outdoors.**
- **Work with the Water Authority and member agencies to promote landscape outreach events and education throughout San Diego County by:**
    - **Coordinating traveling outreach programs for children and adults.**
    - **Coordinating with other gardens and gardening organizations to educate the public on landscape conservation.**
- **Help with implementation of landscaper certification study recommendations.**

For more detailed information on the Garden see Appendix I
Funding partners such as MWD, SDG&E, and State and Federal agencies are important to the implementation of the Water Authority's conservation strategies. The Water Authority will continue to work with MWD by:

- **Participating in MWD's water-use efficiency incentive programs.**
- **Providing input into MWD's project advisory committee on new technologies.**
- **Moving new and innovative water-use efficiency methods forward through participation in MWD's enhanced conservation program.**
- **Collaborating in MWD's outreach and marketing efforts.**
- **Working cooperatively with MWD to influence statewide water use efficiency policies.**

For a full list of MWD incentives and programs see Appendix F.

The Water Authority will continue partnering with SDG&E on a joint incentive program for high-efficiency clothes washers based on hot water energy savings and a joint pilot study submitted to the California Public Utilities Commission (CPUC) under the Water Energy Partnership initiative for cold water-embedded energy savings. The Water Authority will also continue to work with SDG&E to identify new partnerships.

The Water Authority will continue its practice of applying for grant funds for water conservation from the Department of Water Resources (DWR), the Bureau of Reclamation (USBR), and the CALFED Bay-Delta Program. The Water Authority's current grant-funded projects include irrigation hardware upgrades; the x-ray incentive program; and the commercial, industrial, and institutional process improvements study.

STAFFING

Water Authority staff implements programs, coordinates with partners, and participates in statewide water conservation efforts. For an overview of efforts, programs, and responsibilities see Figure 4: Conservation Programs, Efforts, & Responsibilities.

The Water Authority will need additional staff resources to effectively implement new strategies in the areas of landscape, indoor residential and commercial, and agricultural conservation. Unlike device-based programs, landscape programs are more labor-intensive and require greater stakeholder facilitation and management. Successful attainment of the water conservation goals in the Urban Water Management Plan will require intensive stakeholder efforts and development, management, and funding of new and improved programs, such as satellite-based, web-driven water budgets; weather based irrigation-controllers; landscape incentive programs; and the continuation and expansion of the commercial, industrial and institutional programs for indoor and outdoor savings. Much has changed in the last two years. Figure 4 illustrates the existing, new, and significantly modified water conservation programs and stakeholder outreach efforts that are under the management of the Water Conservation group. Current programs or efforts are denoted through white boxes, modified programs are green, new programs or efforts currently being initiated are highlighted in yellow and future proposed programs are in blue. To

meet growing needs, two positions were added in FY 2007 bringing the total to 6 conservation staff members: 1) Assistant Water Resources Specialist (temporary employee) and 2) Principal Water Resources Specialist (Board approved in April 2007).

Water Authority staff's primary role is to implement water conservation programs. Much of the detailed work associated with program implementation is contracted out or is the responsibility of member agency staff. Significant coordination to meet the needs of member agencies and administer contracts is required. Staff oversight and management is required to ensure that contractors are working efficiently and are billing appropriately for the work done. In addition, quality control and inspections are required to ensure that devices being invoiced are installed per the criteria of the particular program. The Water Authority's programs receive funding from multiple sources and require invoice processing to pay the vendor and receive monies from each funding source. All invoicing is subject to audit by each of the funding providers.

Over the last year, it has become clear to the Water Authority and its member agencies that a successful transition from an emphasis on indoor conservation to landscape and commercial, institutional and industrial sectors will require: 1) extensive public and stakeholder outreach; and 2) involvement in the development and implementation of creative new programs. The coordination of these various stakeholder processes and the development of deliverables that help in the implementation of the strategies will require a significant level of effort and management. The post-Summit White Paper, which took member agency input into consideration, recommended that the Water Authority take the lead in coordinating the implementation of the strategies and managing the stakeholder-intensive activities of the Blueprint.

Staff also participates on statewide and regional committees to make sure that the Water Authority and its member agencies' interests are considered. Staff's participation in the California Urban Water Conservation Council's committees ensures that the development and revision of Best Management Practices (BMP) take into account local issues and political considerations. See Table 1 for a full list of committees in which staff participates.

Table 1: List of Committees & Associations

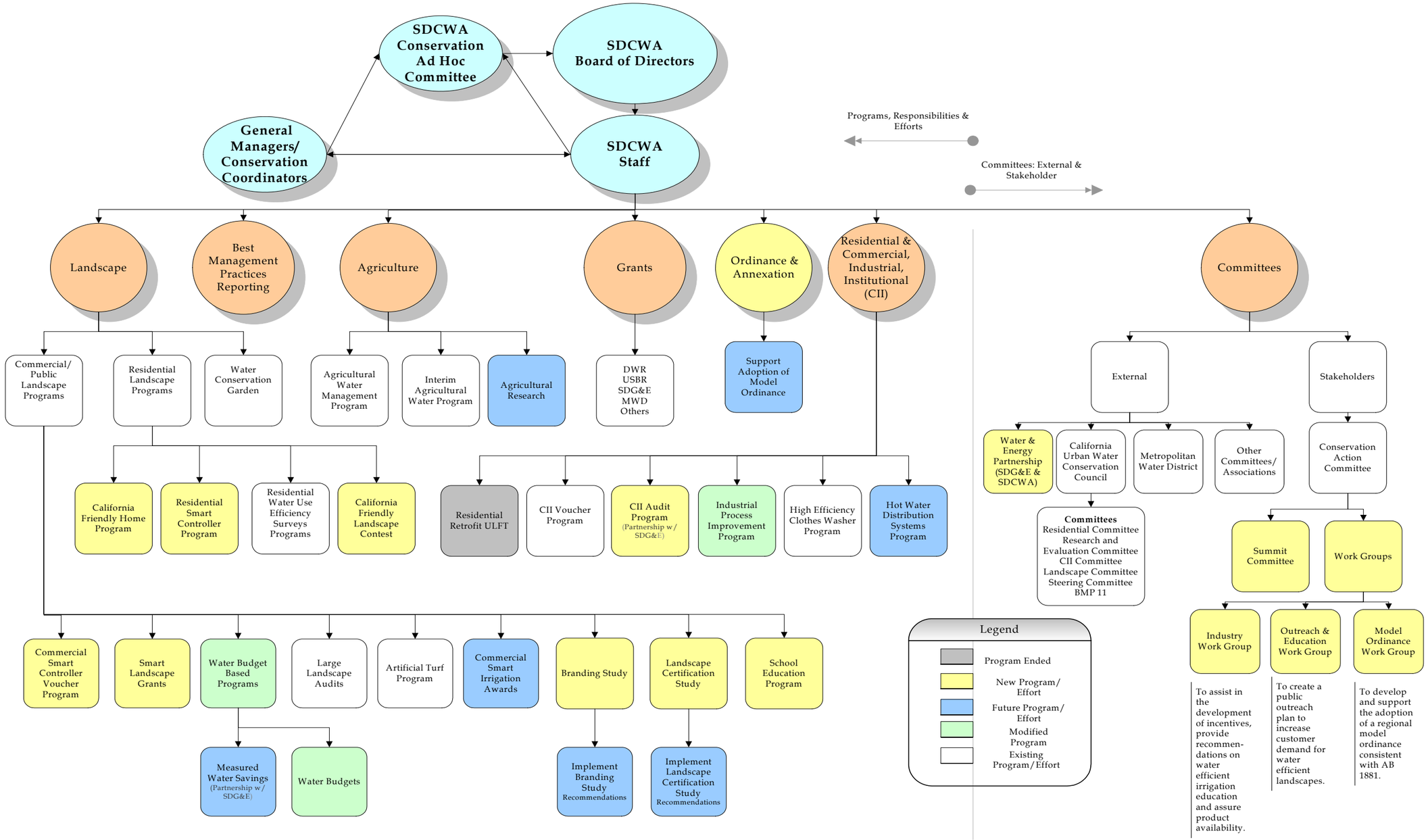
SDCWA Board Legislative, Conservation, & Outreach Committee	SDCWA Board Conservation Ad Hoc Committee	Conservation Action Committee (CAC)	CAC-Model Ordinance Work Group	CAC-Industry Work Group
CAC-Outreach and Education Work Group	2007 Summit Committee	Agriculture Water Management Committee	American Water Works Association-Water Miser Committee	California Irrigation Institute

California Landscape Contractors Association	California Urban Water Agencies	California Urban Water Conservation Council (CUWCC)	CUWCC-Residential Committee	CUWCC-Commercial Committee
CUWCC-Research and Evaluation Committee	CUWCC-Steering Committee	CUWCC-Landscape Committee	Consortium for Energy Council of San Diego	Irrigation Association
Water Energy Partnership	San Diego County Farm Bureau	MWD Project Advisory Committee		

Effective implementation of water budget-based programs will require additional staff resources at the member agencies. Water budget-based programs are staff-intensive and will require focused customer outreach. Water budgets are the most reliable way to save water and adequately measure the savings associated with the various landscape programs. At the Summit, the landscape industry's message was: "Tell us how much water we should use, make it financially viable, and we will find a way to save water." Water budgets will help agencies communicate to the landscape industry "how much water they should use." While the Water Authority can provide incentives and obtain outside funding for member agencies to participate in program implementation, additional staff resources at the member agency level are necessary to do the work associated with retail customer implementation.

Adequate staffing is necessary to maintain the momentum that arose from the Water Conservation Summit, support the efforts of the member agencies and other key stakeholder work groups, and properly manage water conservation programs. A specific Landscape Program will be created within the water conservation section to focus on working with the Conservation Action Committee, the three work groups that arose form the conservation summit, and the member agencies in implementing the new strategies for outdoor conservation savings. In addition to providing support to the various stakeholder committees, the new program will be responsible for working with the Water Conservation Garden.

Figure 4: Conservation Programs, Efforts, & Responsibilities



CONCLUSION

After 15 years of successfully implementing indoor water savings, it is now time to focus the region's efforts on outdoor water savings. The successful implementation of the Blueprint's strategies will require the assistance and active participation of member agencies and the Water Conservation Garden. The strategies outlined within this Blueprint are crucial to achieving a diversified water portfolio by developing local water supplies.

APPENDICES

APPENDIX A

URBAN WATER MANAGEMENT PLAN

URBAN WATER MANAGEMENT PLAN

Goals, Forecasting, & Evaluation

The San Diego County Water Authority's Urban Water Management Plan established a water-savings goal of 100,000 acre feet by 2030 and requires forecasting of water savings and ongoing program evaluation. Fourteen years after the region's first conservation efforts were implemented, annual savings equal to 45,000 acre feet per year were realized in San Diego County. To meet UWMP goals, savings will need to double over the next 23 years. Table A-1 presents a breakdown of projected future water-use efficiency savings with expanded implementation of residential, landscape, agricultural, commercial, industrial, and institutional water conservation programs.

Table A-1: Projected Water Use Efficiency Savings*

Demand Parameter	Water Conservation Savings (acre-feet per year)					
	Existing (2005)	2010	2015	2020	2025	2030
Existing Best Management Practices (BMPs)						
• Residential surveys	1,620	1,620	1,620	1,620	1,620	1,620
• Residential retrofits	8,100	8,100	8,100	8,100	8,100	8,100
• Landscape	3,520	18,850	21,790	24,780	27,740	30,720
• Clothes washer incentives	500	1,280	1,670	1,670	1,670	1,670
• Commercial/industrial/ institutional	2,260	3,330	5,060	6,800	8,530	10,270
• Toilet Incentives	17,550	23,620	23,620	23,620	23,620	23,620
Future BMPs and Efficiency Standards						
• Efficiency Standards	19,840	23,140	25,410	27,530	30,600	32,320
• Graywater	0	25	30	40	50	50
• On-demand heaters	0	5	10	15	20	25
Total Supplies	53,390	79,960	87,310	94,170	101,950	108,400

* *2005 Urban Water Management Plan* (Water Authority, 2005)

Forecasting of Water Savings

Forecasts will be generated using device-based savings calculations, water budgets, and direct measured savings attributable to processes and improvements. In the past, savings forecasts were based on device-based savings provided by industry or program-based

savings established via pilot programs. Landscape programs present challenges to these methods of forecasting, as landscape water savings are primarily behavior-driven. Individual program or device-based estimates will not accurately measure the synergistic effects of a comprehensive landscape savings program based on education, incentives, and outreach. Moreover, approaches such as outreach, education, and water-conserving rate structures that may be most effective in improving landscape water-use efficiency may not be readily measurable. The Water Authority will use satellite imagery to estimate the overall demand for efficiently managed landscapes and will then model actual water use to determine changes in actual landscape water demand. Change in landscape water demand over time may be attributed to the overall effectiveness of a comprehensive landscape program.

To address complexities involved with forecasting and measuring landscape program results, MWD began developing a statistical modeling tool that will capture the increment of savings attributable to education and outreach. The modeling tool will be available for beta testing in 2007. The Water Authority will evaluate applicability of the MWD model to the Water Authority's programs and approach.

Program Evaluation

The UWMP requires evaluation of real water savings and a cost- effectiveness assessment of each program. Water conservation programs start as ideas, which then are tested and evaluated through pilot studies, engineering analysis, manufacturer's studies, experimental data from other water agencies, university field trials, and similar efforts. Sources of data for Water Authority programs include field and laboratory studies from MWD, Department of Water Resources, Cal Poly, UC Cooperative Extension, CUWCC, AWWA, and other water agencies. The San Diego area has often provided data for these studies. In the future new programs will be launched based on data and pilot studies that support cost-effective savings.

To ensure cost-effectiveness to all parties and reduce concerns about free ridership, Water Authority programs must be cost-effective to member agencies, the Water Authority, and affected industries and demonstrate real savings. Future implementation of water conservation programs will require pilot testing, feasibility studies or market evaluations to determine the most effective implementation of the program.

APPENDIX B

WATER CONSERVATION SUMMIT WHITE PAPER

2006 Summit Planning Committee

Co-Chairs

Mark Weston
Helix Water District

Mike Uhrhammer
Padre Dam Municipal Water District

Members

John Amodeo
Vista Irrigation District

Katharine Auld Breece
Helix Water District

Teresa Chase
Olivenhain Municipal Water District

Roy Coox
Vista Irrigation District

Marty Eberhardt
Water Conservation Garden

Luis Generoso
City of San Diego

William Granger
Otay Water District

Cindy Hansen
San Diego County Water Authority

Brett Hodgkiss
Vista Irrigation District

Bill Jacoby
San Diego County Water Authority

Nora Jaeschke
N.N. Jaeschke, Inc.

Keith Lewinger
Fallbrook Public Utitlity Distrtict

David McCollom
Olivenhain Municipal Water District

Toby Roy
San Diego County Water Authority

Fern Steiner
San Diego County Water Authority

White Paper By

Mike Uhrhammer
Padre Dam Municipal Water District

Next Steps

Post-Symposium White Paper

2006 Water Conservation Summit

A Business/Government Symposium
To Develop Water Conservation Policies
And Practices For San Diego County

September 29, 2006
Joan Kroc Institute For Peace And Justice
University of San Diego

Hosted By The

San Diego County Water Authority

And Its 23 Member Water Agencies

2006 Water Conservation Summit

Next Steps

On September 29, 2006, the first annual Water Conservation Summit brought San Diego County water agencies together with land-use planning agencies and the businesses that design, build, supply, maintain and sell urban landscapes. The desired outcome of the symposium is to increase market supply and demand for water-efficient landscaping in San Diego County. The Summit's three panel discussions were designed to provide each Summit participant with the understanding and perspective to actively develop strategies and action plans during the afternoon break-out sessions. Participants were expected to come prepared, ready to contribute their expertise and ideas -- and they did. We want to say "Thank You" to the 243 registrants, panelists, sponsors, exhibitors and volunteers who made the Summit a resounding success. Their recommendations, presented on the following pages, establish the direction to take and the work that needs to be done.

"If we're going into a period of global warming; if we're going into a period where water resources are dangerously low; then the days where we simply used the resource at will -- and let's be honest, we as Americans are the most voracious users of natural resources anywhere in the world -- have got to change."

Pat Mulroy, General Manager
Southern Nevada Water Authority

Summit Participants

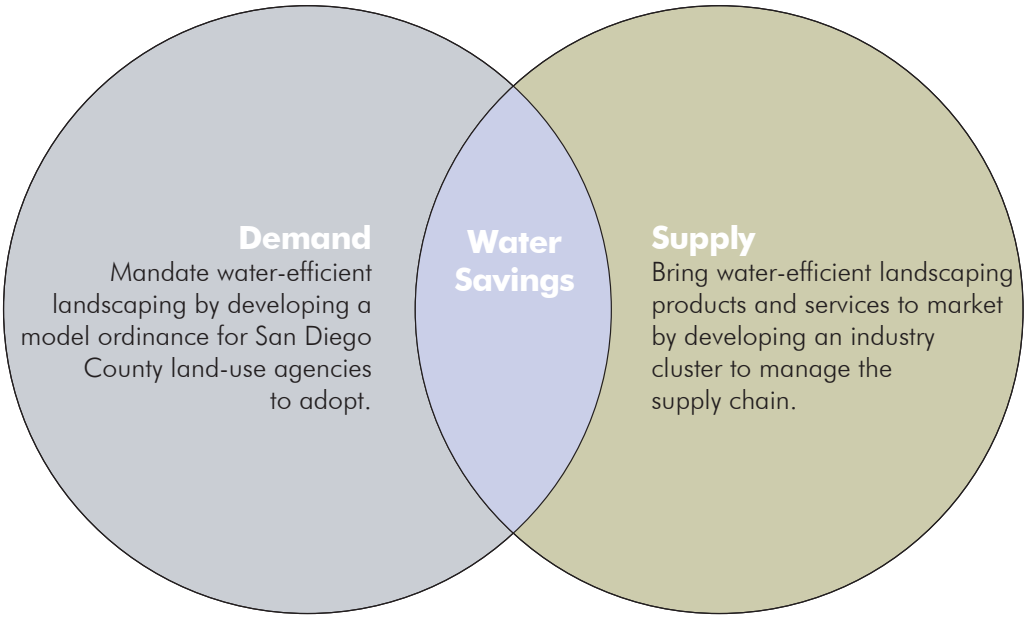
	Registrants	Panelists	Sponsors	Exhibitors	Volunteers	
Supply Chain *The companies that design, develop, supply and maintain the urban landscape.*						
Developers	4	1	1	1		
Land Use Planning Consultants	6					
Landscape Architects	7		1			
Landscape Designers	4	1				
Property Managers	5					
Landscape Contractors	23	2		1		
Growers	1	1				
Nurseries	6		1			
Irrigation	18	1	12			
Synthetic Turf	1					
Composting	1					
Government *The agencies that regulate landscape design and development.*						
Land-Use Planning Agencies	19					
Water Agencies	32	7	2	6	33	
Elected Officials	14					
Other Key Stakeholders						
Botanical Gardens			1	1		
Environmental Non-Profits	8	1				
Energy Companies			1	2		
Golf Courses	2					
Colleges & Educators	2			4		
PR & Marketing Consultants	4					
Media	2					
Other					3	
	160	**14**	**18**	**15**	**36**	**243 TOTAL**

"Give me a step-by-step approach to lower my water bill and I'll take a good look at it."

Next Steps

Our Approach: Market-Based Strategies

A collaborative approach between government and business is essential.



Why Develop A Model Ordinance?

Over 50% of residential water use is for landscape irrigation

AB 1881 mandates that land-use agencies enact water-efficient landscaping ordinances by 2010

Water-efficient landscaping ordinances will mandate that the development and landscaping industries adopt water-efficient practices.

With water-efficient landscapes, homeowners will save water, save money and save time

Why Develop An Industry Cluster?

To collaborate with land-use agencies and water agencies on developing a Model Ordinance

To develop employee training

To develop quality standards and a certification program that customers can trust

To assure product availability

To co-develop and share costs of marketing, advertising, and promotions

Post-Summit Action Plan

1. Working Groups

Convene volunteers and key individuals at the November 27 meeting of the Conservation Action Committee to create the Working Groups that will manage the Summit's recommended strategies:

1. Model Ordinance
2. Industry Cluster
3. Public Outreach
4. Incentives

2. New Perspective

Conservation strategies launched at the Summit are designed to produce 100,000 AFY of water for San Diego County at a fraction of the cost of engineering strategies. The cost effectiveness of a conservation approach must be communicated to elected officials and policy-makers.

3. Board Approval

Present Summit strategies at the November 30 meeting of the County Water Authority Board of Directors.

Who Might Be In The Industry Cluster?

Products	Services	Education	Enforcement
Growers	Developers	Water Conservation Garden	City & County Planning Staff
Irrigation Manufacturers	Builders	Community Colleges	City & County Inspectors
Soil Companies	Architects	Universities	Storm Water Agencies
Retail Nurseries	Designers	Extension Programs	Water Agencies
Big Box Retailers	Landscape Contractors	New School of Architecture	Elected Officials
	Property Managers	4H & FFA Programs	Department of Health
	HOAs	Master Gardeners	
	Appraisers	PR/Advertising Firms	
	Realtors	Media	

Next Steps

Strategy #1: Model Ordinance

All San Diego County land-use agencies must enact a water-efficient landscaping ordinance by 2010.

Recommendations	Responsibility	Timeframe
1. Create A Working Group The Model Ordinance Working Group will manage the development of a Model Ordinance for water-efficient landscaping in San Diego County. Include the Industry Cluster Working Group in the ordinance development process, and appoint a lead agency, such as SANDAG or the Water Authority, to implement the ordinance.	2006 Summit Committee	2006
2. Develop a Draft Ordinance The first draft of the Model Ordinance should include points specified by 2006 Summit participants: A. Satisfy AB 1881 requirements and incorporate AB 2717 Task Force recommendations B. Align San Diego County's Model Ordinance with Orange, Los Angeles, Ventura and Riverside County ordinances to facilitate development and landscaping companies which operate in this broader market. C. Allow turf while requiring and incentivizing 10%, 25% or 50% reductions in turf use. D. Include an urban forestry plan co-developed by the water and energy industries to beautify neighborhoods and align water and energy conservation. E. Link land-use agency approval processes for building permits, building inspections, business licenses and certificates of occupancy to compliance with Model Ordinance. F. Require land-use agencies and water agencies to install water-efficient landscaping in facilities, medians and other public spaces.	Model Ordinance Working Group Industry Cluster Working Group	2007
3. Coordinate Adoption of Model Ordinance Work with each land-use agency in San Diego County: A. Educate and develop support of elected officials, senior management and planning staff. B. Educate and develop support of affected industries. C. Distribute draft ordinance for input. D. Coordinate agency adoption of final ordinance.	Model Ordinance Working Group Industry Cluster Working Group	2008-2010

Strategy #2: Industry Cluster

Bring water-efficient landscaping products and services to market collaboratively and efficiently.

Recommendations	Responsibility	Timeframe
1. Create A Working Group At the 2006 Summit, the Building Industry Association (BIA) volunteered to chair the Industry Cluster Working Group. In this case, industry cluster is defined as the network of companies, government agencies, schools and non-profits needed to bring water-efficient landscaping products and services to market in San Diego County.	2006 Summit Committee	2006
2. Develop the Industry Cluster The purpose of an industry cluster approach is inter-industry collaboration to identify product and marketing synergies, and opportunities to increase efficiency through cost, risk and resource sharing. A. Define opportunities for collaboration, such as developers working directly with growers to produce the plants needed for a project; landscape contractors marketing growers and nurseries to their clients; irrigation manufacturers and nurseries collaborating to provide point-of-purchase education; or growers, nurseries and advertising agencies working together to design a plant labeling system. B. Develop performance and quality standards for companies participating in the cluster to facilitate trust and relationship building. C. Develop a website that positions the cluster as a valuable and trusted business resource for the development and landscaping industries and includes a list of members.	Industry Cluster Working Group	2007
3. Help to Create the Model Ordinance See Strategy #1. **4. Develop a Professional Certification** See Strategy #3.	Industry Cluster Working Group	2007

"If San Diego, Las Vegas and Phoenix are all growing, and we all share the same water, then we all need to use it more efficiently."

Strategy #3: Professional Education

Develop a professional certification that customers can recognize and trust.

Recommendations	Responsibility	Timeframe
1. Reduce Customer Risk Replacing a traditional landscape with a water-efficient landscape is a large investment, and a high-risk investment because training and expertise in water-efficient landscaping is not widespread within the landscaping industry. The landscaping industry should develop one professional certification program in water efficient landscaping that San Diego County residents and developers can recognize and trust. A. Conduct a Water Authority study on the development of this certification program. B. Model the courses developed by the Water Conservation Garden and endorsed by the CLCA, providing an integrated approach to plant selection, design and irrigation. C. Teach in Spanish and English languages. D. Provide different levels of difficulty and achievement for different levels of employee. E. Tie-in to the brand (See Strategy #5), such as "California Friendly Certified Expert." F. Replace current trade organization certifications in all consumer marketing.	Industry Cluster Working Group	2007
2. Make Training Available Develop a network of certification trainers and training venues that might include the Water Conservation Garden, community colleges, Metropolitan's Protector Del Agua program, the University of California extension program, and professional training consultants.	Industry Cluster Working Group	2007
3. Online Directory of Certified Companies Develop and maintain a user-friendly online directory of certified companies and professionals for use by residents and Industry Cluster members. A. Amend Model Ordinance in 2010 to mandate the hiring of certified companies and contractors only. (See Strategy #1)	Industry Cluster Working Group	2007 2010

Strategy #4: Public Education (1 of 3)

Create a public outreach plan to increase customer demand for water-efficient landscaping.

Recommendations	Responsibility	Timeframe
1. Create a Working Group The Education Working Group will manage the development of a branded public education campaign, and coordinate the actvities of all agencies and vendors involved.	2006 Summit Committee	2006
2. Branding Develop a branding program so that all public education, advertising and events reinforce a common message and increase brand awareness within San Diego County.		
A. Meet with Metropolitan Water District. If the California Friendly brand will be marketed heavily in San Diego County through 2010, then the California Friendly brand should be used for all public education and marketing.	Education Working Group	2007
B. Analyze the advantages and opportunities associated with using the USEPA's WaterSense brand.	Education Working Group	2007
C. Meet with existing educational resources to request their participation in the branding program. - Retail water districts - Water Conservation Garden - Quail Botanical Garden - San Diego County - City of San Diego landscape water calculator - Irrigation Assn. education program - Residential audit programs - CNPs - California Friendly Landscaping Contest - *Union Tribune* Homescape - Public service announcements		
D. Meet with big box retailers -- Home Depot, Lowes, Target and Wal-Mart -- to request their participation in the branding program.	Industry Cluster Working Group	2007
3. Brand Design With water-efficient landscaping, San Diego County homebuyers and homeowners are being asked to embrace a new idea of what a beautiful and functional yard is.	Public Education Working Group	2007-2010
A. Commission professional photographers to capture the beauty of water-efficient landscaping. Feature a series of signature images in all public education.		

Strategy #4: Public Education (2 of 3)

Create a public outreach plan to increase customer demand for water-efficient landscaping.

Recommendations	Responsibility	Timeframe
4. Brand Message A. Consider replacing the term "water conservation" with "water efficiency". While conservation is generally perceived as an emergency measure, most people would like to have a water efficient home and landscape that saves water, money and time. B. Provide residents with a new perspective on their water use by introducing them to drought issues and conservation measures in other Southwestern states. C. Teach residents that they over-water and introduce them to the value and use of a water budget approach. According to Metropolitan Water District, the 50-60 percent of Southern California's water supply that residents use for irrigation is equal to 84 inches of annual rainfall. That is the normal rainfall in the Amazon, four times the average rainfall in Honolulu and twice the average rainfall in Seattle (Los Angeles Times, 10/26/06). Beautiful and efficient landscapes can be maintained on the equivalent of 30 inches of annual rainfall. D. Provide residents with a step by step approach to water-efficient landscaping: from simple ways to begin to more complex steps, and low-cost steps to larger investments. E. Develop separate messages for homebuyers and homeowners regarding the lower cost of ownership and maintenance, and the higher sales value of a water-efficient home and landscape. F. Inform residents as to why they should only hire companies, professionals and contractors who are certified water-efficient landscaping experts. (See Strategy #3) G. Develop an awards program for early adopters of water-efficient landscaping. Highlight success stories and recognize winners for providing "the solution for San Diego's future." H. Develop educational materials and programs that introduce students to the brand, beauty, function and necessity of water-efficient landscsaping.	Education Working Group	2007-2010

Strategy #4: Public Education (3 of 3)

Create a public outreach plan to increase customer demand for water-efficient landscaping.

Recommendations	Responsibility	Timeframe
5. Provide One-Stop Shopping Every point of experience with water-efficient landscaping must be a gateway to more experiences, information and resources. Develop a brochure for contractors, retailers and realtors to provide to their customers that introduces San Diego's water-efficient landscaping brand and the online and physical locations of additional resources.	Education Working Group	2007-2010
6. Provide Experience-Based Education Provide professionals, residents and students with water-efficient landscapes throughout San Diego County where they can see, smell and experience the beauty of the water-efficient and California native plant palette. A. Introduce people to the Water Conservation Garden. Design ways for people to experience the changing beauty of the garden in the early morning, at twilight and at night. B. Require land-use agencies, water agencies, and developers to install water-efficient landscaping in public spaces, facilities and medians throughout San Diego County. (See Strategy #1) With signage and literature, make each point of experience a gateway to more information. C. Continue the annual California Friendly Landscape Contest to encourage development of water-efficient landscapes throughout San Diego County. Develop a year-round series of hosted bus tours introducing residents to contest winners and their success stories. Coordinate with garden clubs and environmental groups.	Education Working Group Ordinance Working Group	2007-2010 2007-2010
7. Provide Online Education The internet provides a 24/7/365 resource for San Diego County residents to learn about water-efficient landscaping. Develop a branded website that provides a gateway to other sites and includes the following information: - Professional photographer signature images - Design ideas and downloadable templates - Shopping guide of certified companies and professionals - Personal gardening stories and photographs - User blog - User knowledgebase	Education Working Group	2007-2010

Next Steps

Strategy #5: Financial Incentives

Make water-efficient landscaping a financially attractive option.

Recommendations	Responsibility	Timeframe
1. Create a Working Group The Incentive Working Group will study various financial incentives to motivate customers and industry to install water efficient landscaping.	2006 Summit Committee	2006
2. Incentive Programs While financial incentives on a device based approach have been effective in indoor conservation, Summit participants indicated that a different approach to issuing incentives would be more appropriate for outdoor conservation. The industry said "Tell us how much we should use, make it financially viable, and we will find a way to do it." They suggested that incentives be tied to a water budget based approach.	Incentives Working Group	2007-2008
3. Motivational Rate Structures The industry indicated that water conserving rate structures are essential to motivate customers to conserve. Most San Diego County water agencies have adopted water conservation rate structures and will continue to refine those rates as the cost of water increases. Two potential structures may be very effective: A. Tiered Rates Most San Diego County water agencies currently have tiered rate structures, which focus the highest rates on the greatest water use. B. Water Budget Based Rates GIS mapping and new software make it possible for water agencies to compare a customer's actual water use with the projected water use for their specific landscaping. Providing this information to customers is a first step in educating the customers about how to be more efficient. This technology will also make a water budget based rate a viable option for those water agencies who choose to use this approach.	Ordinance Working Group	2007-2010

"The more trees in a neighborhood, the less water and energy residents need. Water and energy utilties should work together on an urban forestry plan."

Next Steps

Strategy #6: 2007 Summit

Analyze, plan and improve water efficiency strategies on an annual basis.

1. Create a Committee Create a committee that will meet in January to begin planning the 2007 Water Conservation Summit.	2006 Summit Committee	2006
2. Improve the 2007 Summit Format Incorporate the following recommendations from the *2006 Summit Participant Survey* in the planning and design of the 2007 Summit.	2007 Summit Committee	2007

A. 2006 Summit Strengths

Diversity of participants	23 (39%)
Well organized	11 (20%)
Pat Mulroy's talk	9 (16%)
Good speakers	8 (14%)
Informative	5 (8%)
Break-out sessions	3 (5%)

B. 2006 Summit Areas for Improvement

Needed longer break-out sessions	21 (45%)
More Q&A time	9 (19%)
Too long	4 (9%)
More information and examples	3 (6%)
Clearer Summit goal and summary	2 (4%)
More audience diversity	2 (4%)
Discuss new technology	2 (4%)
Less overlap in break-out sessions	1 (2%)
Less politics	1 (2%)
Summit started slow	1 (2%)
Direct it more to homeowner	1 (2%)

C. 2007 Summit Recommendations

Results and follow up from first Summit	11 (27%)
Continued discussions and plans	7 (18%)
Longer break-out sessions	6 (16%)
More participation	6 (16%)
More products and technology	3 (8%)
Education and community outreach	3 (8%)
Water budget focus	2 (5%)
Held at Cuyamaca Water Garden	1 (3%)
Discuss recycled water	1 (3%)
Fewer panel speakers	1 (3%)

APPENDIX C

AB 2717, THE LANDSCAPE TASKFORCE, AND AB 1881

AB 2717, THE LANDSCAPE TASKFORCE AND AB 1881

AB 2717 and the Landscape Task Force

AB 2717 was adopted in 2004. The provisions of AB 2717 required the California Urban Water Conservation Council to convene a stakeholder task force to evaluate and recommend proposals by December 31, 2005 for improving the efficiency of water use in new and existing urban irrigated landscapes in California. Based on this charge, the Landscape Task Force was created. The Task Force adopted a comprehensive set of 43 recommendations. These recommendations were taken into consideration in the development of the Blueprint. The top 12 recommendations from the Task Force are listed below:

1) Adopt water-conserving rate structures.
2) Reduce the ET adjustment factor in the model landscape ordinance
3) Enforce and monitor compliance of local ordinances with the model ordinance.
4) Require dedicated landscape meters.
5) Encourage use of recycled water in urban landscapes.
6) Require local ordinances to be at least as effective as the model ordinance.
7) Increase people's awareness of the importance of landscape water-use efficiency and inspire them to action.
8) Require Smart Controllers.
9) Adopt and enforce statewide prohibitions on overspray and runoff.
10) Provide training and certification opportunities to landscape and irrigation professionals.
11) Support upgrading the CIMIS (California Irrigation Management Information System) Program
12) Adopt performance standards for irrigation equipment.

Other key recommendations of the AB 2717 Task Force that have been incorporated into this Blueprint include: promote a regional approach to landscape water-use efficiency standards; maintain the model ordinance water budget approach; support establishment of water budgets based on landscape area via remote sensing; require irrigation audits for landscapes that are 20 percent over their water budget; and provide incentives to customers with large landscapes to implement appropriate actions to reduce demand.

AB 1881

In 2006, AB 1881 was adopted. This legislation requires the following:

1) By January 31, 2009, Department of Water Resources must approve and distribute an updated model landscape ordinance to all local agencies (cities and counties) and other interested parties.
2) By January 1, 2010, local agencies must adopt a water efficient landscape ordinance that is at least as effective in conserving water as the updated model ordinance. The model ordinance will apply to agencies that do not adopt a water efficient landscape ordinance. and must be enforced by the local agency.
3) The model ordinance shall:
   - Encourage use of water-conserving plants and provide conditions for use of certain plant species.
   - Include a water budget component that establishes the maximum amount of water to be applied.
   - Promote use of consistent local ordinances in neighboring areas.
   - Encourage the on-site capture and retention of storm water.
   - Include provisions for the use of smart controllers.
   - Include references to local, state, and federal laws and regulations regarding standards for water-conserving irrigation equipment.
   - Include provisions for on-site soil assessment and soil management plans that include grading and drainage to promote healthy plant growth and to prevent excessive erosion and runoff.
   - Seek to educate water-users on the efficient use of water.
   - Encourage the use of economic incentives to promote the efficient use of water.
   - Include provisions for landscape maintenance practices that foster long-term landscape water conservation.
   - Include provisions to minimize landscape irrigation overspray and runoff.
4) By January 11, 2012, all irrigation controllers sold must meet performance standards established by the Department of Water Resources.
5) By January 1, 2008, water purveyors must require dedicated landscape meters for all new services with more than 5,000 square feet of irrigated landscape.

APPENDIX D

CALIFORNIA URBAN WATER CONSERVATION COUNCIL (CUWCC) BMPS

CALIFORNIA URBAN WATER CONSERVATION COUNCIL (CUWCC) BMPS

Best Management Practices (BMPs)

The Water Authority's programs will continue to comply with the CUWCC's Best Management Practices (BMPs), and staff will continue to participate actively in the CUWCC and its committees to ensure that the Council's policies take into account the San Diego region's interests. Water Authority programs are designed to help member agencies comply with the BMPs. The BMPs were developed and incorporated into a memorandum of understanding for water agencies and environmental groups that was initially signed in December 1991 by nearly 100 urban water agencies and environmental groups. By signing on to the MOU, urban water agencies agree to make a good faith effort to implement BMPs for water conservation. The current BMPs are listed below in Table D-1. Table D-2 outlines BMP compliance.

Table D-1: CUWCC BMPs

BMP Number	BMP Description	Applies to Retailers	Applies to Wholesalers
1	Residential Water Surveys	Yes	No
2	Residential Plumbing Retrofits	Yes	No
3	System Water Audits, Leak Detection	Yes	Yes
4	Metering and Commodity Rates	Yes	No
5	Large Landscape Audits	Yes	No
6	High Efficiency Washing Machines	Yes	No
7	Public Information	Yes	Yes
8	School Education	Yes	Yes
9	Commercial, Industrial and Institutional	Yes	No
10	Wholesale Agency Assistance	No	Yes
11	Conservation Pricing	Yes	Yes
12	Conservation Coordinator	Yes	Yes
13	Water Waste Prohibition	Yes	No
14	Residential ULFT Replacements	Yes	No

In addition to providing support for the implementation of BMPs, staff participates on the CUWCC Steering Committee and as the region's representatives on the following CUWCC subcommittees: AB 2717 Landscape Committee, Commercial, Industrial and Institutional Committee, Residential Committee, Landscape Committee, Research and Evaluation Committee, PBMP subcommittee and various project advisory committees for updating BMPs. Through active participation on these panels, the Water Authority ensures that policy changes take into consideration the interests of the Water Authority and its member agencies.

Table D-2: Compliance with BMPs – 2003 & 2004

BMP	Description	Statewide Reporting Units in compliance	Statewide Exemption Requests	San Diego region Reporting Units in Compliance (total 17)
1	Residential Surveys	32	7	1
2	Residential Retrofits	60	7	16
3	System Water Audits	113	2	14
4	Metering	164	1	17
5	Landscape	33	9	1
6	Res. Clothes Washers	151	7	17
7	Public Information	160	0	17
8	School Education	144	0	17
9*	CII	35	6	6
11	Rates	147	2	13
12	Conservation Coordinator	159	0	17
13	Waste Prohibitions	31	1	4
14	ULFTs	66	5	15

Wholesalers are required to comply with BMP 10. This BMP requires wholesalers to provide:

- financial incentives or equivalent resources that are beneficial and mutually agreeable to their retail agencies when cost-effective from the wholesaler's perspective
- conservation-related technical support to retail agencies
- staff to answer programmatic questions and to work with member agencies to adopt water shortage allocation policies that encourage conservation rather than discourage it.
- all or any part of the conservation-related activities required of member agencies, when agreeable to member agencies.

Proposed BMP Updates

Eleven of 15 BMPs are under revision to ensure continued relevance and further enhance water-use efficiency efforts. Water Authority staff is actively participating in the revision to ensure that the interests of the Water Authority and its member agencies are taken into consideration.

APPENDIX E

EFFICIENT WATER MANAGEMENT PRACTICES

EFFICIENT WATER MANAGEMENT PRACTICES

Status of Implementation

The Water Authority is a signatory to the Agricultural Water Management Council (AWMC), which implements the Memorandum of Understanding for Efficient Water Management Practices (EWMPs) by Agricultural Water Suppliers in California. By joining the AWMC, signatories voluntarily agree to implement all cost-effective EWMPs. EWMPs are best management practices for agricultural water suppliers and users to conserve water. Table E-1 shows the EWMPs that have been implemented and those that have not, due to lack of applicability. The Water Authority files a regional plan on the behalf of all member agencies every 5 years.

Table E-1: Efficient Water Management Practices – Implementation

	EWMP	Implemented	Demonstrably Inappropriate
List A: Generally Applicable	1. Adopt a Water Management Plan	X	
	2. Designate a Water Conservation Coordinator	X	
	3. Provide Water Management Services	X	
	4. Improve Communication	X	
	5. Evaluate the Need for Changes in Policies	X	
List B: Conditionally Applicable	1. Facilitate Alternate Land Use		X
	2. Facilitate Recycled Water Use	X	
	3. Facilitate Financial Assistance	X	
	4. Facilitate Voluntary Transfers	X	
	5. Line or Pipe Canals	X	
	6. Increase water ordering and delivery flexibility	X	
	7. Construct, Operate Tailwater/Spill Recovery systems		X

APPENDIX F

METROPOLITAN WATER DISTRICT (MWD) PROGRAMS

METROPOLITAN WATER DISTRICT (MWD) PROGRAMS

MWD operates a number of water conservation programs that benefit the San Diego region. MWD's conservation goals are met through active conservation efforts, code-based savings, public outreach, and price effects. MWD's active conservation efforts include a number of incentive programs, which are listed in Table F-2. The Water Authority manages member agency participation in the MWD programs and is the primary contracting agency with MWD.

MWD Grant Funding

MWD applies for and receives a significant amount of outside funding on behalf of its member agencies. MWD's programs are funded through the Water Stewardship Fund, grant funding from State and Federal agencies, and funding from the energy sector for embedded energy savings. A summary of the grant funding received by MWD through 2005 is shown in Table F-1.

Table F-1: MWD Grant Funding

Funding Source	Program/Project	Funding Amount	Description	Status
CALFED	Residential HEW	$925,000	Increase rebate amount	Completed
	Protector del Agua	$100,000	Course development	Completed
	CII	$34,000		
Prop 13	HEW	$2,500,000	Increase rebate amount	
	ET Controllers	$1,800,000	Initiate rebates	Final reports being done
CPUC (w/CUWCC)	Pre Rinse Spray Valves	$3,800,000	Direct install program	
USBR	CA-Friendly Landscapes	$242,000	New Home landscape program	
	Synthetic Turf Pilot	$220,000		
	CII Region wide	$250,000	Increase rebates and cover administration	Completed
	Protector del Agua	$75,000	Develop web classes	Completed
	Landscape Market Analysis	$50,000		
	City makeover	$50,000	Public landscapes	Ongoing
Prop 50	Residential HEW	$1,660,000	Increase rebate amount	

Funding Source	Program/Project	Funding Amount	Description	Status
	CA-Friendly Cities	$423,000	Public landscapes	
	HET	$1,000,000		
	Protector del Agua	$77,500	Develop web classes	Completed

MWD's programs are described in more detail below.

Save A Buck

Through its "Save a Buck" Program, MWD offers rebate incentives to customers of participating member agencies for commercial/industrial water saving devices; toilets; and landscape controllers and equipment. In addition to providing incentives, MWD covers all of the administrative costs of the program. The Water Authority has not participated in this program, but plans to do so in the next year. This will eliminate the requirement for the Water Authority and member agencies to provide matching funds to pay for administrative costs.

Water Use Accountability

This program provides funding for training and water-use reports to dedicated meter customers, their landscape contractors, and property managers enrolled in water budget programs. Water agencies participating in MWD's California Friendly Landscape Classes program receive $2.50/acre enrolled in a water budget and agencies providing their own training receive $3.50/acre enrolled. The three-way notification has effectively precluded the Water Authority and member agencies from participating because customers do not wish to include the landscaper in the notification. Participation in this program requires a contract with a MWD member agency.

Measured Water Savings

MWD provides incentives that cover up to half of the cost of the equipment upgrades upon verification of water savings. MWD will contract either with the member agency or the end-use customer for this incentive. Similar to other landscape programs, water agencies providing their own landscape training receive an incentive of $195/acre-foot saved and agencies participating in MWD's Protector del Agua program receive $156/acre-foot saved. The protracted payback period, reimbursement of only half the cost of equipment, and exclusion of labor costs has discouraged potential participants.

Residential Outdoor Survey Program

MWD partially funds residential outdoor surveys. A basic single-family survey is reimbursed at $12.50 per site. An additional $8 is provided for landscape evaluations of sites without an irrigation timer and $18 for sites with an irrigation timer. A contract is required for this program.

California Friendly Landscape Classes

MWD provides on-site and web-driven classes on efficient landscape water management for landscape professionals and residential customers in both English and Spanish. The Water Authority's member agencies have offered this free training to many of their customers. Agencies may provide equivalent training via their own staff or vendor to receive a higher level of reimbursement for landscape-related programs. The City of San Diego is the only Water Authority member agency that provides its own training. No contract is required to receive this service.

Industrial Process Improvement Program

MWD offers financial assistance to local industries to encourage investments in water-saving process improvements. MWD will provide $195 per acre foot by paying the lesser of the following: a) $3.00 per 1,000 gallons of actual water saved during a one-year monitoring period; or b) 50 percent of the project's water-related process improvement costs. MWD also may buy down the project cost to reduce the simple pay-back period to two years. MWD will contract directly with the customer for participation in this program.

Enhanced Conservation Program

MWD offers funding to member agencies that implement innovative conservation pilot programs. MWD issues a request for proposals and selects projects for grant funding. The Water Authority has been awarded two Enhanced Conservation grants. One will provide funding to Rincon del Diablo Municipal Water District for a pilot residential water budget program and the other will provide funding for community college students in horticulture programs to intern at water agencies in water conservation programs. The Water Authority will enter into contracts with MWD for this funding and will continue to apply for future enhanced conservation funding.

Innovative Conservation Program

This program provides grants awarded on a competitive basis to public and private innovators for research of new water-conserving devices, technologies, and systems to quantify savings. This research could potentially lead to pilots in the Enhanced Program or the Core program.

Artificial Turf

In 2007, MWD's Board approved funding for an artificial turf incentive program. The details of this program are still being developed with input from member agencies. The Water Authority will expand and improve its artificial turf program by incorporating the MWD's incentives.

Device Incentives

MWD offers device incentives to its member agencies. The regional program in San Diego is administered by the Water Authority and co-funded by MWD, the Water Authority and its member agencies. Devices currently funded for all programs and the amount of the incentives are listed in Table F-2 below.

Table F-2: MWD Incentives

Device/Item	Current incentive based on $195/AF up to 100 percent of Cost of Device
Residential Indoor	
Ultra-Low-Flush-Toilet (ULFT)	$60
High-Efficiency Toilet (HET)	$165
HET Upgrade/New Construction	$30
High-Efficiency Clothes Washer (HEW)	$75
Single-family survey	$12.50
Landscape	
Residential Irrigation Evaluation (w/o timer)	$8
Residential Irrigation Evaluation (with timer)	$18
Residential Weather Based Controller (WBIC) (less than one acre)	$80
WBIC More than 12 stations	$6.50 per station
Residential WBIC (one acre or larger)	$630 per acre
Commercial WBIC	$630 per acre
Water Use Accountability (WUA), if MWD pays for Professional Protector del Agua (PPDA) training	$2.50 per acre
WUA, if another agency provides training	$3.50 per acre
Measured Water Savings (MWS), MWD Pays PPDA	$156/acre-ft
MWS, if another agency provides training	$195/acre-ft
Landscape Survey Program	$215/acre surveyed
Rotating Nozzle for pop-up spray heads	$4/nozzle
Commercial technologies	
Ultra-Low-Flush-Toilet (ULFT)	$135
High-Efficiency Toilet (HET)	$165
High-Efficiency Commercial Washer (HEW)	$130
Cooling Tower Controllers	$625
pH Cooling Tower Controllers	$1,900
Pre-rinse Spray Valves	$60
Water Brooms	$150
Zero Water Urinals (ZWU)	$400
High-Efficiency Urinals (HEU)	$200
HEU New Construction	$60
ZWU New Construction	$120
X-ray Processing	$3,120
Connectionless Food Steamers	$485/compartment
Industrial Process Improvements	$195/acre-ft
Steam Sterilizer Retrofits	$1,900

California Friendly Home Program

MWD completed a successful pilot program, which focused on promoting water-efficient landscapes through incentives for new construction. Landscape guidelines used in this pilot have been incorporated into Riverside County's Model Ordinance and will be considered when developing San Diego's regional Model Ordinance. Incentives are provided to builders of single family and multi-family sites for the incremental cost of equipping model homes with water efficient fixtures and landscapes that exceed current code requirements. The Water Authority anticipates making these incentives available to developers in San Diego. Applicable incentives are listed in Table F-3 below:

Table F-3: California Friendly Home Program for New Construction Incentives

Single-family Detached Projects		
Water-Efficiency Measure	**Model Homes**	**Production Units**
California Friendly Landscape (2,000 sq. ft. max.)	$0.80/sq. ft.	N/A
"Smart" Irrigation Controllers	$200	480
Rotating Nozzles for Pop-up Spray Heads	$4	$4
High-efficiency Toilets	$100 (3 unit max.)	$30
High-efficiency Clothes Washer (Water Factor $\leq$ 6.0)	$400	$75
Multi-family Projects & Home Owner Association Areas		
California Friendly Landscape (10,000 sq. ft. max.)	$0.80/sq. ft.	N/A
"Smart" Irrigation Controllers (Irrigated Area Only)	$630/acre	$630/acre
Rotating Nozzles for Pop-up Spray Heads	$4	$4
High-efficiency Toilets	$100 (3 units max.)	$30
High-efficiency Clothes Washer (Water Factor $\leq$ 6.0)	$400	$130

Outdoor Conservation Outreach Effort

In addition to its incentive programs, MWD also conducts a multi-million dollar outreach campaign to educate customers about efficient landscape design and irrigation. The effort includes: regional advertising; the bewaterwise.com website; installation of water-efficient landscapes in public places through the City Makeover program; broad-based

community outreach through Heritage Landscape Forums; and outreach to retail and wholesale nurseries to promote California Friendly Plants.

APPENDIX G

WATER AUTHORITY WATER CONSERVATION PROGRAMS

WATER AUTHORITY WATER CONSERVATION PROGRAMS

The Water Authority's water conservation programs are designed to increase water conservation to meet UWMP goals and ensure a reliable water supply. The Water Authority manages water conservation programs in the following areas: landscape; indoor residential and commercial, industrial and institutional; and agriculture. Additionally, staff manages the outreach and education efforts designed to ensure the success of the Water Authority's water conservation programs. The Water Authority meets regularly with member agencies and Water Conservation Garden staff to develop, modify and implement programs, to address local needs. These programs are described in more detail below.

LANDSCAPE PROGRAMS

The Water Authority's proposed landscape programs and efforts aim to increase the supply of and demand for water-efficient landscaping in a manner that supports the economic viability of the landscape industry and is most cost-effective for water agencies and their customers. At the Summit, the landscape industry's message was: "Tell us how much water we should use, make it financially viable and we will find a way to save water." Water budget-based programs are the cornerstone of the Water Authority's future programs, as they communicate how much water should be used and provide financial incentives based on the amount of the water saved; hence, the more water saved, the more money is provided . The Water Budget program will be used to prioritize other landscape program efforts to direct resources to those sites that can provide the greatest water savings. It is estimated that most sites in the region use 50% more water than they actually need[4].

Water Budgets

Program Description

A water budget is a water consumption target based on landscaped area and local evapotranspiration. At the request of member agencies and upon approval from the Board, the Water Authority purchased multi-spectral imagery to enable member agencies to perform landscaped area measurements, and retained a consultant to develop a web-driven water budget program to aid agencies in communicating landscape water needs to their customers. The new water budget program will enable agencies to: 1) measure landscapes using infrared satellite imagery from a remote site; 2) easily upload consumption data using existing agency data formats; 3) query programs for water-wasters; and 4) communicate water budget to all dedicated water customers. Per its member agencies' direction, the Water Authority is purchasing customized software that it can host on its servers, if necessary. At this time, the Water Authority has opted to have the consultant host the application.

Member Agency Participation

Successful implementation of water budgets hinges on the efforts of the Water Authority's member agencies to enroll large landscape customers in the program and

[4] Based on detailed results from the City of San Diego's Commercial Landscape Survey Program.

maintain customer data. Incentives to help agencies defray costs associated with enrolling customers will be provided. The Water Authority is proposing member agency incentives based on every acre enrolled, funding for landscape interns to aid with landscape area measurements, and to co-fund on-site verifications. This will be added to the Water Budget incentive currently provided by MWD. The Water Authority anticipates the need to conduct on-site verifications for 20% of the 16,000 dedicated meters in the county. Enrollment will be phased in over five years, initially targeting dedicated meter sites larger than five acres and ultimately encompassing dedicated and mixed meter sites larger than ¼ acre. Residences will be assigned water budgets as well. The Water Authority will work with member agencies to conduct studies and review other water agency programs to determine how to assign water budgets to individual residences in the most efficient manner possible.

Required Studies and Pilot Programs

Studies will be needed to develop approaches to determine the estimated water budget for single-family homes with at least one-quarter acre of landscaping to streamline assigning water budgets for smaller parcels. The Water Authority will evaluate the existing End Use Study conducted by the American Water Works Association Research Foundation and other studies underway in Orange County to determine if a study specific to San Diego County will be needed to establish water budgets for residential parcels between one-quarter and one acre. Pilot studies, such as the one proposed by Rincon del Diablo, are also needed to assess the feasibility of enrolling smaller parcels into a water budget program.

Required Contracts

The Water Authority has a contract with the selected consultant, Civic Resource Group, for development of the web-driven water budget program. Contracts with participating member agencies will also be required to provide member agency incentives to implement water budget programs. The Water Authority also must sign new MOUs with all 24 participating member agencies to continue collaboration on landscape programs. If deemed necessary, the Water Authority will retain a consultant to perform a study to establish water budget guidelines for residential parcels in excess of one-quarter acre. A new consultant contract is needed to assist agencies in conducting on-site landscape area measurements.

Large Landscape Audit

Program Description

Large landscape audits are designed to assess the efficiency of irrigation systems and will be available to customers that have more than one acre of irrigated landscape, use water in excess of water budget targets, and have been pre-screened by their respective member agency. An audit assesses the following: 1) distribution uniformity; 2) sprinkler head conditions; 3) soil conditions; 4) hydrozones; 5) plant types, and 6) irrigation schedule.

MWD provides an incentive of $215/acre surveyed for BMP 5 qualified audits. Starting in 2008, audits will be used to target and obtain savings from water-users that are exceeding their water budgets.

Member Agency Participation
The Water Authority treats agencies that provide their own audits and surveys no differently than its program contractor. Agencies are reimbursed at a rate equivalent to the contractor. Quality site service provided by the member agency delivers a landscape technical service along with a strong agency conservation message. Additionally, it familiarizes agency staff with field issues and their customers. This practice should be encouraged as long as the member agency meets the same standards and provides the same verification as that required of the contractor.

Required Contracts
Contracts are necessary with a consultant and member agencies that opt to provide their own audits and surveys. The Water Authority will need to sign new MOUs with all participating member agencies to continue collaboration on landscape programs. The existing contract with the current Consultant expires on June 30, 2007. An amendment to extend the duration or an RFP will be necessary.

Smart Landscape Grant

Program Description
Grants to fund irrigation hardware upgrades are available until June 30, 2008 or until funds are exhausted, whichever comes first. After existing grant funding is exhausted, additional funds will be needed to continue this successful grant program. Future funding will be focused on those users that can provide the greatest savings through participation in the program. Currently, commercial, multi-family, public, and industrial sites are eligible for $2,500 per irrigated acre, up to $5,000. Public sites are eligible for $2,500 per irrigated acre, up to $10,000. The landscaped area is measured for each participating site and required to enroll in a water budget program, upon the program's availability. To participate, sites must meet the following criteria:

- Minimum of one acre of irrigated landscape.
- Existing in-ground irrigation system, with a controller.
- Site located within the San Diego County Water Authority's service area.
- Consent to participate in the water budget program.

An assessment of grants issued as of June 30, 2007 will be completed by late ***August 2007*** by Water Authority staff. This assessment will look to identify trends, and any improvements in the program. To attain or sustain reasonable levels of savings, participants will be enrolled in the water budget program.

The Water Authority's contractor manages the funding for the program, issuance of incentives, and inspections of completed projects except when inspections are conducted by member agencies.

Member Agency Participation
As with all conservation programs, the member agencies that market the program in addition to the Water Authority's regional marketing have realized the greatest customer participation. Some member agencies perform their own inspections under the same standards as the contractor and are paid by the Water Authority in lieu of payment to the contractor. This practice will be encouraged as it provides a technical service, delivers the agency conservation message, and familiarizes the member agency with the field issues surrounding grants, WBICs and water budgets.

Required Studies and Pilot Programs
One year after completion of the grant program, a consultant will be retained to perform an analysis of the water savings and other costs and benefits of the program at an estimated cost of $50,000. In the original grant request, it was stated that the Water Authority would pay for this service. An amendment to the grant agreement to enable the grant to pay for all or part of the analysis will be requested.

Required Contracts
The contract with the consultant operating the program expires on June 30, 2007 . The Water Authority is looking to extend the contract to June 30, 2008. Contracts with the member agencies for program participation, co-funding for the administration fee and reimbursement of the Water Authority's share of funding for inspection must be renewed by July 1, 2007. One year after the grant program concludes, the Water Authority will retain a consultant to perform a program analysis.

Smart Controllers

Program Description
The Water Authority will continue its incentive for commercial smart controllers, but will evaluate the effectiveness of the residential program prior to continuing residential distributions or a residential voucher program with an increased incentive. Smart controllers are irrigation controllers that use historical or real-time weather data to automatically adjust the irrigation schedule. Initial voucher efforts for commercial and residential controllers produced minimal results due to the lack of availability of smart controllers and an unattractive voucher incentive. The Water Authority, in partnership with MWD and its member agencies, began hosting distribution of free residential smart controllers, with and without training sessions. Early results were mixed due to lower than anticipated installation rates of the weather monitors. An assessment of the residential program's effectiveness is being completed at this time. The Water Authority will continue to apply for grant funds to study the direct installation of smart controllers. Future funding will be provided in the form of mini-grants for those member agencies that wish to try new and innovative approaches to distributing and installing residential

smart controllers. The Water Authority will also continue to pass through MWD residential smart controller funding to member agencies and will update programs based on study and pilot results.

The commercial voucher program was also enhanced to provide higher incentives and require training of installers to reduce improper programming. An assessment of the program will be completed by July 2007. The primary targets for the smart controller voucher incentive are commercial, multi-family, public, and industrial sites meeting the following criteria:

- Minimum of 2,000 square feet of irrigated landscape.
- Existing in-ground irrigation system with a controller.
- Site located within the Water Authority's service area.

Member Agency Participation Member agencies may participate by encouraging customers to take part in the commercial smart controller program, applying for mini-grants for residential controllers, and offering MWD incentives to customers. Member agencies will also provide input into any future modifications to smart controller programs.

Required Studies or Pilots
An assessment of the residential smart controller program is necessary to evaluate the cost effectiveness of the program. An assessment of the commercial smart controller program is necessary to evaluate the accuracy of smart controller programming. Member agencies are encouraged to pilot new approaches to residential smart controller programs.

Required Contracts
New MOUs will also need to be signed with all participating member agencies to continue collaboration on landscape programs. MOUs will be required with member agencies that conduct smart controller pilot studies.

Artificial Turf

Program Description
The Water Authority will continue to provide artificial turf incentives for public spaces of about $100/AF of water saved, but instead of basing the incentive on 10 years of saving, future incentives will assume 15 years of savings. A regulation football field with turf end zones and sidelines will receive about $14,400, or about 1% of the total cost to install artificial turf at $18/sq.ft. Although this incentive is small in proportion to the total costs, a guaranteed incentive from a public entity serves as a strong magnet to attract matching donations. Schools and parks choose artificial turf as it provides playability 100% of the time, reduces sports injuries and related liabilities, and decreases the need for maintenance, water, fertilizer, and run-off. No artificial turf incentives have been provided for residential customers in the past, but there is interest in developing a residential artificial turf program. The Water Authority will provide funding to member

agencies in the form of mini-grants for pilot studies needed to determine the viability of a residential artificial turf program. The pilots will be used to establish requirements for a full-scale program. The Water Authority will also work with MWD to take full advantage of funding under MWD's new artificial turf program.

Required Contracts
No contracts are needed as the one-page application submitted by the school or park and the invoice serves as the contract. MOUs will be required with member agencies that participate in MWD's artificial turf program and with member agencies that conduct artificial turf pilot programs.

Residential Water Use Efficiency Survey

Program Description
Surveys will be available to help owners of single-family residences identify ways to reduce their water bills. During a survey, notations are made of anything that needs to be repaired or improved to improve water-use efficiency. The customer is left with a punch list of things to fix and a package of educational materials.

Required Studies and Pilot Programs
No studies or pilots are anticipated.

Required Contracts
New MOUs will need to be signed with all participating member agencies to continue collaboration on landscape programs. The existing contract with the current Consultant expires on June 30, 2007. An amendment to extend the duration or an RFP will be necessary.

California Friendly Home Program for New Construction

Program Description
Incentives will be offered to developers of single and multi-family housing to encourage the construction of water conserving homes. Model homes will receive an incentive of $2,500, if the landscape is in accordance with program guidelines, and high-efficiency toilets and washers, and smart controllers are installed. Production units will receive incentives for smart controllers, high-efficiency toilets, high-efficiency washers, and rotating nozzles.

Member Agency Participation
Member agencies will be encouraged to participate and market the program in conjunction with the Water Authority and MWD.

Required Studies and Pilot Programs
None

Required Contracts
The Water Authority will need to sign new MOUs with all member agencies to encompass the California Friendly Home program by July 1, 2007. An amendment to the Voucher consultant's contract is also required.

Model Landscape Ordinance

Description
After the adoption in 1990 of AB 325, which required the adoption of local landscape ordinances at least as effective as the Statewide Model ordinance, local agencies such as the County of San Diego, City of San Diego, City of Chula Vista and City of Carlsbad adopted and actively enforced their own landscape ordinances. However, many local agencies adopted ineffective ordinances or used the model ordinance by default and have not actively enforced their ordinances.

In 2005, AB 1881 required the State Department of Water Resources to update the statewide model ordinance by January 1, 2009. By January 31, 2010, local agencies must adopt an ordinance and submit it to DWR along with the local agency's findings that its water-efficient landscape ordinance is at least as effective as the model ordinance. The Water Authority is working with the CAC Ordinance Workgroup to develop a local ordinance specific to San Diego County that may be adapted and adopted by local agencies as their model landscape ordinance. The ordinance will build on the existing ordinances, include all of the requirements of AB 1881, and be consistent with the state model ordinance.

Landscaper Training and Certification

Description
Landscape training and certification was highlighted at the Water Conservation Summit in September 2006. The landscape industry recognized that there were numerous programs available and that the efforts were not cohesive. The California Urban Water Conservation Council is looking at this issue as well. As a result of the budget authorization and the feedback from the Summit, the Water Authority is conducting a study to obtain an analysis of all local and statewide programs to train and certify landscapers. The study will include research of all statewide and local education opportunities, including those offered by community colleges, landscape professional organizations, and other entities. The consultant will work with the Conservation Action Committee workgroups to develop recommendations for local training and certification of landscapers. Based on the study, the Water Authority may participate in providing training and certification or may recognize and promote the training and certification efforts of others. The Water Authority will work with groups such as the California Landscape Contractors Association, Irrigation Association, Water Conservation Garden, and local community colleges to advance programs that provide training and certification.

The Water Authority will also offer incentives to landscapers to encourage participation in training and certification programs.

RESIDENTIAL AND COMMERICAL, INSTITUTION, & INDUSTRIAL INDOOR PROGRAMS

Indoor and commercial savings will be achieved through device-based voucher incentives and audit programs such as the: 1) multi-family high-efficiency toilet program; 2) high-efficiency clothes washer program; 3) CII Voucher Program; and 4) CII Audits. The programs are described in more detail below:

Multi-family Toilet Voucher

Program Description

The multi-family voucher incentive will continue beyond March 31, 2007 to further encourage water use efficiency in untapped areas. Ultra low flush toilet incentives for multi-family will be phased out on June 30, 2007. Although incentives for multi-family toilets have been around for several years, they've been slow moving due to lack of HET inventory, little marketing, and unattractive incentives. As the number of high efficiency toilets has increased, more interest in the programs has been generated. Increasing the incentive from $165 to $215 for multi-family is anticipated to increase participation. If substantial interest is not generated it may be necessary to further increase the incentive. With the close of the toilet program for residential retrofits, marketing efforts will focus on multi-family high-efficiency toilet vouchers.

Member Agency Participation

Member agencies will be encouraged to continue participation in HET/ULFT incentives for multi-family sector.

Required Studies and Pilot Programs

In FY 08, if approved by the California Public Utilities Commission, the Water Authority will partner with SDG&E on a pilot program to install approximately 2,500 HETs in low-income households. This program will be funded by the Water Authority, MWD, and SDG&E. If the program is successful and SDG&E and MWD continue to participate, the Water Authority will continue this program in the FY 09.

High-Efficiency Clothes Washer Incentive Program

Program Description

The Water Authority will continue to partner with San Diego Gas & Electric Company (SDG&E) to provide $175 towards the purchase of high efficiency clothes washers. The Water Authority's partnership with SDG&E calls for incentives for 30,000 residential HEWs through December 31, 2008.

Member Agency Participation

Twenty-one Water Authority member agencies participate in the washer program, Agencies promote the program on their websites, water bills, on-hold phone messages, and in newsletters. The agencies co-fund the program, with the Water Authority and MWD.

Required Studies and Pilot Programs
None are required.

Hot Water Distribution Systems

Program Description
If determined to be cost effective, the Water Authority will offer incentives for hot water distribution systems which are placed near the point of use, reducing the time to used to flush cold water from the plumbing system. Water Authority participates in an advisory group for a Lawrence Berkeley Laboratory (LBL) study on water and energy savings of hot water distribution systems. Previous studies have been inconclusive on the amount of water savings for these systems. Use of on demand hot water heaters can also result in significant energy savings. This program may only be cost effective when done in conjunction with energy saving incentive programs.

Member Agency Participation
There is no member agency participation at this time. Water savings must be verified before a program is developed. The City of San Diego did participate in a pilot study for hot water savings.

Required Studies and Pilot Programs
The study being performed by LBL is scheduled to be completed by the end of calendar year 2008.

CII Voucher Program

Program Description
A variety of point-of-purchase vouchers will be offered to businesses purchasing water-efficient equipment to generate further water savings. Vouchers are available for the following: ultra-low-flush toilets, high-efficiency toilets, single-load and multi-load high efficiency commercial clothes washers, cooling tower controllers, pH cooling tower controllers, pre-rinse spray valves, water brooms, zero water urinals, high-efficiency urinals, x-ray processing units, and connectionless food steamers. Products continue to be added to the list each year as manufacturers accelerate their efforts to bring water- and energy-efficient products to the market. This program has the potential for significant cost effective savings and will be a focus of the Water Authority in the future.

In FY 08, the CII voucher program will be transitioned to MWD's Save A Buck program to save the Water Authority and its member agencies the administrative costs associated with managing the program. Under Save a Buck, MWD covers the overhead costs of qualified projects.

The Water Authority/SDG&E partnership and water audit program will be used to encourage increased participation in device incentive programs.

Member Agency Participation
Twenty member agencies participate in the CII Voucher Program. At this time, the Water Authority and its member agencies co-fund this program without MWD participation. Member agencies assist in marketing the program in their respective service areas .

CII Audits

Program Description
Site-specific devices and processes are examined via CII Audits to assess the potential for both water and energy savings at the customer's site. Based on audit results, a plan is developed and provided to the customer outlining specific cost-effective measures for saving water and energy. The audits conducted to date show significant cost-effective improvements. The customer is offered the appropriate voucher incentives and encouraged to participate in MWD's IPI program to provide funding for the appropriate incentives.

Member Agency Participation
Member agency staff visits to the highest water-users within their service area can provide a critical link to the success of the CII Audit Program. However, this is not always practical in the CII sector. Developing diverse avenues of communication (*i.e.* trade allies) can give added credibility to the program.

Required Studies and Pilot Programs
The Water Authority, in conjunction with Otay Water District, conducted audits in 2005 for industrial/commercial improvements at the Otay State Prison, Delimex and Barrett prison for $40,000. If all water-saving recommendations were implemented, there would be a combined indoor water savings of 123,949,534 gallons, 447 acre-feet, per year. Additional audits will be conducted in 2007. The Water Authority is participating with SDG&E in a pilot program for joint water/energy audits and incentives. In the water/energy pilot, SDG&E customer service representatives are assisting the Water Authority to market the joint audits and incentives to customers.

MWD's Industrial Improvement Program (IPI)
MWD's IPI Program offers financial assistance to local industries to encourage investment in water-saving process improvements. The program is open to all public and private commercial and industrial users within MWD's service area. Financial assistance is provided for documented water savings derived from projects implemented under the

program that meet the minimum qualifying criteria. MWD works closely with Water Authority and member agency staff to implement and fund improvements, but can contract to provide the incentives directly with the customer.

AGRICULTURAL PROGRAMS

Agricultural Water Management

Program Description

The goals of the agricultural program are to increase water-use efficiency, make the best economic use of available water supplies, and reduce run-off. Mission Resource Conservation District (RCD) also uses the agricultural audit as a means to link growers to state and federal financial assistance programs and to link appropriate candidates for recycled water use to the local provider. Since 1990, the Water Authority has provided free irrigation system evaluations to agricultural properties with two or more acres of irrigated crops or groves and no-cost, micro-irrigation education for grove workers. Services are provided by Mission RCD under contract to the Water Authority. The estimated 56,000 acres of agriculture located within the Water Authority service area account for most of the $1.53 billion farm gate value in San Diego County. In addition to irrigation audits, the Water Authority has contributed to agricultural research projects managed by Mission RCD and UC Cooperative Extension. The Water Authority funds these efforts to ensure compliance with the region's Agricultural Water Management Plan and Efficient Water Management Practices.

Member Agency Participation

Agriculture audits are performed at a cost of $950 per audit to the Water Authority. No funding is required from member agencies, which support this program by referring customers to the service or with marketing. This program is costly to operate and savings are often difficult to concisely measure with mixed meters, deficit irrigation, changing crop patterns, and savings obtained from improved efficiency. Upon completion of a cost-benefit analysis, co-funding will be considered. Until the mid-1990s, agricultural member agencies routinely paid for about one-half of program costs.

Required Studies and Pilot Programs

The number one priority is to determine actual savings and other benefits from the Agricultural Audit Program. This will require an additional contract with an independent entity for analysis.

The second priority is to determine actual irrigated agricultural acreage. This has long been a difficult number to define as farming operations are often small and non-traditional, and are not captured by normal identification methods such as pesticide applicators permits. With the completion of the regional analysis of irrigated acreage using remote-sensing technology for both landscape and agriculture, the region will at last know the actual size of the agricultural entity.

Required Contracts

The contract for this service expires June 30, 2007 and will need to be renewed. The contract for the agricultural audit program is awarded to Mission RCD on a sole-source basis as a series of competitive bids found no interested parties. Mission RCD may be awarded the contract on a sole-source basis as it is a government agency. Contracts will need to be signed with Mission RCD and participating member agencies if co-funding is required of them.

An additional contract will be needed to determine actual water savings and other benefits from the agricultural audit program. It is recommended that this work begin in FY 08/09.

OUTREACH AND EDUCATION EFFORTS

The Water Authority conducts targeted marketing efforts for each conservation incentive program by working with suppliers and vendors to actively encourage participation in the incentive program. In addition, the Water Authority has a comprehensive public outreach effort for landscape conservation that incorporates stakeholder participation, activities of the Water Conservation Garden, work with member agencies, the Water Authority's website, and general public outreach efforts. In an effort to promote landscape conservation, the Water Authority will continue its support of the Water Conservation Garden, the California Friendly Landscape Contest, professional landscape awards, which highlight efficient irrigation practices, and conservation outreach at the San Diego County Fair.

The Water Authority will hire a consultant to conduct a branding study that will provide a framework for future landscape outreach efforts. The study will evaluate other existing branding efforts such as MWD's "California Friendly" and EPA's "WaterSense" to determine how the Water Authority should coordinate with these other programs. The study will also include focus groups of customers to evaluate customer response to various approaches and messages conveyed through outreach efforts. The results of the branding study will provide a basis for future regional outreach efforts.

APPENDIX H

CONSERVATION ACTION COMMITTEE

CONSERVATION ACTION COMMITTEE

Conservation Action Committee: Purpose and Role

Conservation Action Committee (CAC), created in 2002, is comprised of business, industry, and planning agencies. The purpose of the committee is to obtain support for ideas in water conservation and to promote public awareness through communication. The Committee consists of representatives from the public and private sector and oversees the activities of the three working groups – Model Ordinance, Industry, and Outreach and Education.

Participants

Conservation Action Committee

Name	Company/Affiliation
Alan Pentico	San Diego County Apartment Association
Andrew Davis	Accurate WeatherSet
Andrew Kleis	City of San Diego Stormwater Program
Ann Ellis	Building Industry Association
Bill Jacoby	San Diego County Water Authority
Brendan Reed	City of Chula Vista, Dept of Conservation and Environmental Services
Brent Reyes	Vista Irrigation District
Brian Maynard	Brickman/California Landscape Contractors Association
Carolyn Schaffer	Dudek and Associates
Catherine Smith	Collaborative Services
Cathleen Pieroni	City of San Diego Water Department
Cecilia Padres	County of San Diego
Cherie McColley	Common Interest Development Consultants
Chris Roesink	Hunter Industries
Christine Sloan	Department of Planning and Land Use, County of San Diego
Cindy Hansen	San Diego County Water Authority
Dan Noble	Association of Compost Producers
David Kahler	Department of Planning and Land Use, County of San Diego
Dawn Braddy	Community Associations Institute
Debby Fahrner	San Diego County Water Authority
Deborah Jones	

Name	Company/Affiliation
Don Schultz	Water Conservation Garden
Doug Sain	Sain Communications
Elaine Carreno	Solana Center
Eric Larson	San Diego Farm Bureau
Fred Thompson	San Diego County Water Authority Board
Gary Arant	Valley Center Municipal Water District
Gary Gelinas	Water2Save
Glen Schmidt	Schmidt Design Group , American Society for Landscape Architects
Guy Stivers	Dudek and Associates
Herman Collins	Collins Strategic Group
Inge Bisconer	Mira Costa College/TORO
Jan Tubiolo	San Diego Xeriscape Council
Javier Vargas	Landscape Contractors
Jeanne Deaver	Santa Fe Irrigation District
John Johnson	San Diego County Water Authority, Board Member
John Wiedmann	Metropolitan Water District of Southern California
Jon Vencil	San Diego Regional Energy Office
Justin Haessly	Mission Resource Conservation District
Kate Breece	Helix Water District
Kathy Copley	Lightfoot Planning Group
Kathy Stetson	Valley Center Municipal Water District
Keith Lewinger	Fallbrook Public Utility District/San Diego County Water Authority, Board Member
Kelly Mooney	San Diego County Water Authority
Krysten Rosenthal	City of San Diego
Larry Breitfelder	Otay Water District, Board Member
Linda Flournoy	Sustainable World
Linda Pratt	City of San Diego Environmental Services Dept
Luis Generoso	City of San Diego Water Department (Co-Chair)
Marisa Lundstedt	City of Chula Vista
Mark Huntley	Irrigation Association
Mark Robak	Otay Water District
Mark Weston	Helix Water District
Marty Eberhardt	Water Conservation Garden

Name	Company/Affiliation
Mary Venables	Planning and Building Department, City of Chula Vista
Mayda Portillo	San Diego County Water Authority
Meena Westford	US Bureau of Reclamation
Melissa McChesney	Padre Dam Municipal Water District
Michelle Ventura	Ventuscape Designs
Mike Uhrhammer	Padre Dam Municipal Water District
Nan Sterman	Plant Soup, Inc.
Neil Goldstein	Easy Turf
Nora Jaeschke	Chair
Pam Rega	Otay Water District
Pam Slater-Price	County of San Diego
Richard Diaz	County of San Diego, Public Works
Rob Hutsel	San Diego River Foundation
Rob McGann	California Landscape Contactors Association/ Hydro-Plant, Inc.
Robert Ellis	Seascape Sur Estates
Rose Smutko	San Diego County Water Authority
Sara Agahi	County of San Diego, Public Works
Sandra Lozano	Sweetwater Authority
Scott Molloy	Building Industry Association
Stephen Kapp	San Diego Regional Energy Office
Stephanie Ewalt	Solana Center
Steve McLean	Hydroscape Products, Inc.
Sue Mosburg	Sweetwater Authority
Susan Varty	Olivenhain Municipal Water District
Teresa Chase	Olivenhain Municipal Water District
Toby Roy	San Diego County Water Authority
Tom Larson	Dudek and Associates
Vickie Driver	San Diego County Water Authority
William Granger	Otay Water District

Industry Work Group

Name	Company/Affiliation
Inge Bisconer	Mira Costa College/Toro
Andrew Davis	Accurate WeatherSet
Vickie Driver	San Diego County Water Authority
Linda Flournoy	Sustainable World
Sergio Graham	West Turf (Chair)
Eric Larson	Farm Bureau
Brian Maynard	Brickman/California Landscape Contractors Association (Chair)
Rob McGann	Hydro-Plant, Inc/California Landscape Contractors Association (Chair)
Scott Molloy	Building Industry Association
Dan Noble	Association of Compost Producers
Debby Fahrner	San Diego County Water Authority
Mayda Portillo	San Diego County Water Authority
Chris Roesink	Hunter Industries
Kyrsten Rosenthal	City of San Diego
Don Schultz	Water Conservation Garden
Guy Stivers	Dudek and Associates

Model Ordinance Work Group

Name	Company/Affiliation
Scott Molloy	Building Industry Association (Chair)
Larry Breitfelder	Otay Water District, Board Member
Teresa Chase	Olivenhain Water District
Kathy Copley	Lightfoot Planning Group
Richard Diaz	County of San Diego, Public Works
Jeanne Deaver	Santa Fe Water District
Ann Ellis	Building Industry Association
Linda Flournoy	Sustainable World
Gary Gelinas	Water2Save
William Granger	Otay Water District
David Kahler	County of San Diego
Rob McGann	California Landscape Contractors Association/Hydro-Plant, Inc.
Sue Mosburg	Sweetwater Authority
Dan Noble	Association of Compost Producers
Cecilia Padres	County of San Diego
Alan Pentico	San Diego County Apartment Association
Glen Schmidt	American Society of Landscape Architects (Chair)
Dennis Shepard	North County Cemetery District
Christine Sloan	County of San Diego Watershed Planning
Rose Smutko	San Diego County Water Authority
Mary Venerables	City of Chula Vista

Outreach and Education Work Group

Name	Company/Affiliation
Kate Breece	Helix Water District (Chair)
Larry Breitfelder	Otay Water District, Board Member
Elaine Carreno	Solana Center
Jeanne Deaver	Santa Fe Irrigation District
Vickie Driver	San Diego County Water Authority
Marty Eberhardt	Water Conservation Garden
Stephanie Ewalt	Solana Center
Linda Flournoy	Sustainable World
Neil Goldstein	Easy Turf
Bill Jacoby	San Diego County Water Authority (Chair)
Deborah Jones	Solana Center
Stephen Kapp	San Diego Regional Energy
Melissa McChesney	Padre Dam Municipal Water District
Scott Molloy	Building Industry Association
Kelly Mooney	San Diego County Water Authority
Sue Mosburg	Sweetwater Authority
Dan Noble	Association of Compost Producers
Brendan Reed	City of Chula Vista
Pam Rega	Otay Water District
Brent Reyes	Vista Irrigation District
Toby Roy	San Diego County Water Authority
Catherine Smith	Collaborative Services
Nan Sterman	Plant Soup, INC.
Jan Tubiolo	San Diego Xeriscape Council
Mike Uhrhammer	Padre Dam Municipal Water District
Michelle Ventura	Ventuscape Designs

APPENDIX I

WATER CONSERVATION GARDEN

WATER CONSERVATION GARDEN

The Water Conservation Garden is a joint powers authority (JPA) of the Water Authority, Helix Water District, Otay Water District, Padre Dam MWD, City of San Diego, Sweetwater Authority, and Grossmont-Cuyamaca College District. The Garden operates under a Board of Directors made up of representatives from each of the participating agencies. It is funded by participating agencies, donations, and grants. It is located on 4.5 acres on the campus of the Cuyamaca Community College in El Cajon and attracts more than 30,000 people per year. The facility is a hands-on, back-yard example of how Xeriscape concepts can provide a direct and substantial benefit to San Diego County homeowners. The Garden's mission is to promote water conservation in landscape through excellent programs and exhibits that educate and inspire the public. Class offerings include subjects such as public seminars in water efficient landscaping, arts and crafts, green industry topics, children's programs, and landscape professional training. The Garden also hosts several events each year including a spring garden festival, a fall festival, and California Friendly plant sales. Staff from the Garden participate and represent the Garden in outside events such as the San Diego County Fair, Earth Day, and the Spring Garden show at Del Mar.

In 2005, the Water Authority Board formed the Conservation Ad Hoc Committee to assist with the evaluation of the Water Authority's programs and conservation efforts. The Ad Hoc Committee recognized the value of the Water Conservation Garden as a regional resource and supported sharing the Garden's expertise and expanding its activity to the northern parts of the county to maximize its value. Expansion of the Garden's outreach to North County service areas will require additional resources and funding beyond what is currently contemplated by the JPA Board.