

**MEETING OF THE
BOARD OF DIRECTORS OF THE
MUNICIPAL WATER DISTRICT OF ORANGE COUNTY**

Jointly with the

PLANNING & OPERATIONS COMMITTEE

March 14, 2016, 8:30 a.m.

MWDOC Conference Room 101

P&O Committee:

Director L. Dick, Chair

Director S. Hinman

Director J. Finnegan

Staff: R. Hunter, K. Seckel,
H. De La Torre, K. Davanaugh, J. Berg

Ex Officio Member: W. Osborne

MWDOC Committee meetings are noticed and held as joint meetings of the Committee and the entire Board of Directors and all members of the Board of Directors may attend and participate in the discussion. Each Committee has designated Committee members, and other members of the Board are designated alternate committee members. If less than a quorum of the full Board is in attendance, the Board meeting will be adjourned for lack of a quorum and the meeting will proceed as a meeting of the Committee with those Committee members and alternate members in attendance acting as the Committee.

PUBLIC COMMENTS - Public comments on agenda items and items under the jurisdiction of the Committee should be made at this time.

ITEMS RECEIVED TOO LATE TO BE AGENDIZED - Determine there is a need to take immediate action on item(s) and that the need for action came to the attention of the District subsequent to the posting of the Agenda. (Requires a unanimous vote of the Committee)

ITEMS DISTRIBUTED TO THE BOARD LESS THAN 72 HOURS PRIOR TO MEETING --

Pursuant to Government Code section 54957.5, non-exempt public records that relate to open session agenda items and are distributed to a majority of the Board less than seventy-two (72) hours prior to the meeting will be available for public inspection in the lobby of the District's business office located at 18700 Ward Street, Fountain Valley, California 92708, during regular business hours. When practical, these public records will also be made available on the District's Internet Web site, accessible at <http://www.mwdoc.com>.

INFORMATION ITEMS (The following items are for informational purposes only – background information is included in the packet. Discussion is not necessary unless a Director requests.)

1. REPORT ON DEVELOPING MWDOC'S 2015 URBAN WATER MANAGEMENT PLAN
2. STATUS UPDATE ON THE OC RELIABILITY STUDY – MARCH 2016
3. UPDATE ON DISTRIBUTION SYSTEM WATER LOS CONTROL TECHNICAL ASSISTANCE FOR MEMBER AGENCIES

4. STATUS REPORTS
 - a. Ongoing MWDOC Reliability and Engineering/Planning Projects
 - b. WEROC
 - c. Water Use Efficiency Projects
 - d. Water Use Efficiency Programs Savings and Implementation Report
5. REVIEW OF ISSUES RELATED TO CONSTRUCTION PROGRAMS, WATER USE EFFICIENCY, FACILITY AND EQUIPMENT MAINTENANCE, WATER STORAGE, WATER QUALITY, CONJUNCTIVE USE PROGRAMS, EDUCATION, DISTRICT FACILITIES, and MEMBER-AGENCY RELATIONS

ADJOURNMENT

NOTE: At the discretion of the Committee, all items appearing on this agenda, whether or not expressly listed for action, may be deliberated, and may be subject to action by the Committee. On those items designated for Board action, the Committee reviews the items and makes a recommendation for final action to the full Board of Directors; final action will be taken by the Board of Directors. Agendas for Committee and Board meetings may be obtained from the District Secretary. Members of the public are advised that the Board consideration process includes consideration of each agenda item by one or more Committees indicated on the Board Action Sheet. Attendance at Committee meetings and the Board meeting considering an item consequently is advised.

Accommodations for the Disabled. Any person may make a request for a disability-related modification or accommodation needed for that person to be able to participate in the public meeting by telephoning Maribeth Goldsby, District Secretary, at (714) 963-3058, or writing to Municipal Water District of Orange County at P.O. Box 20895, Fountain Valley, CA 92728. Requests must specify the nature of the disability and the type of accommodation requested. A telephone number or other contact information should be included so that District staff may discuss appropriate arrangements. Persons requesting a disability-related accommodation should make the request with adequate time before the meeting for the District to provide the requested accommodation.



Item No. 1

INFORMATION ITEM

March 14, 2016

TO: **Planning & Operations**
(Directors Dick, Hinman, Finnegan)

FROM: Robert J. Hunter
General Manager Staff Contact: Harvey De La Torre

SUBJECT: Report on Developing MWDOC's 2015 Urban Water Management Plan

BACKGROUND

The State of California requires all water suppliers (including wholesalers), either publicly or privately owned, that provide water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet annually to submit an updated Urban Water Management Plan (UWMP) with the Department of Water Resources (DWR) at least once every five years; in years ending in five or zero. Due to the passage of SBx7-7, 20% reduction by 2020 water use efficiency requirement, the 2015 UWMP submittal deadline is July 1, 2016 (six months later). This submittal deadline was put in place to provide agencies time to calculate their year-end 2015 population for their gallon per capita per day (gpcd) water usage. Not to submit an updated UWMP will prevent a water supplier from being eligible for DWR-administered state grants & loans and drought assistance.

As done for the 2010 UWMP, MWDOC led the effort to facilitate a group of twenty-three retail agencies, including the three MET member agency cities in Orange County to retain one consulting firm- Arcadis to assist in updating their 2015 UWMPs. The consistency and cost savings through economies of scale, supported MWDOC to lead this countywide collaboration once again.

The purpose of this report is to update the Board as to the status of the MWDOC's 2015 UWMP and of the participating agencies, including the proposed timeline for completion.

REPORT

Since the fall 2015, MWDOC staff have been working with Arcadis in updating the UWMPs by providing data, key reports such as MET's 2015 Integrated Resource Plan, MET's 2015 Draft UWMP, and projections from MWDOC's Orange County Reliability Study. In addition,

Budgeted (Y/N):	Budgeted amount:
Action item amount:	Line item:
Fiscal Impact (explain if unbudgeted):	

Arcadis and MWDOC staff met with each participating agency individually to review data, exchange key information, identify any changes from their previous UWMP, and coordinate timeline for completion. All the meetings were very productive and provided the consultant with the information on what the agencies identified as needed changes from their 2010 UWMP.

Below is a table illustrating the “percent of completion” of all of the participating agencies as of February 2016:

Participating Agency	Percent Completed
City of Anaheim	55
City of Brea	60
City of Buena Park	60
East Orange County Water District	30
El Toro Water District	55
City of Fountain Valley	50
City of Fullerton	60
City of Garden Grove	60
City of La Habra	35
City of Huntington Beach	55
City of La Palma	50
Mesa Water	55
City of Newport Beach	60
City of Orange	60
City of San Clemente	55
City of San Juan Capistrano	30
City of Santa Ana	60
City of Seal Beach	60
South Coast Water District	60
Trabuco Canyon Water District	60
City of Tustin	60
Yorba Linda Water District	60
City of Westminster	60

As shown above a majority of the draft UWMPs are more than half-way completed. We anticipate that drafts for all the participating agencies are expected to be available by the end April. It important to note, that a number of factors influence their progress such as available staff, complexity of the water agency’s system, the exchange of key information with the consultant, and member agency review turnaround.

As for MWDOC’s 2015 UMWP, Arcadis recently provided staff with its first draft and it is under internal review. We expect to provide a draft version for Board and public review at next month’s Committee meeting.

Below is MWDOC's proposed schedule for completing the UWMP:

Early March – Letters went out notifying all stakeholders of the 60-day notice of preparation of MWDOC's intent to publish, circulate and hold a public hearing prior to its adoption of its UWMP

March/April – Internal review of the draft UWMP

March/April – Release of the MWDOC Draft 2015 UWMP for MWDOC Board, member agency, and public review.

May – Recommend the Board open the public hearing at the May Board meeting and seek Board adoption of the 2015 MWDOC UMWP as well as Board Resolution

June - If necessary, seek adoption of the 2015 MWDOC UMWP at the June Board meeting

July 1, 2016 – Submit the Final MWDOC 2015 UWMP to the California Department of Water Resources



Item No. 2

INFORMATION ITEM

March 14, 2016

TO: **Planning & Operations Committee**
(Directors Osborne, Barbre, Hinman)

FROM: **Robert Hunter, General Manager** Staff Contact: Karl Seckel

SUBJECT: **Status Update on the OC Water Reliability Study – March 2016**

STAFF RECOMMENDATION

Staff recommends the Planning & Operations Committee receives and files the report.

COMMITTEE RECOMMENDATION

Committee recommends (To be determined at Committee Meeting)

OVERVIEW

The February meeting with the MWDOC Workgroup concentrated on examining future options for MET's IRP to better understand both the future MET rates and the reliability of water supplies to the MET member agencies under these options. The following slide provides an overview of NEW MET and MET member agency supply options.

Budgeted (Y/N): n/a	Budgeted amount: n/a	Core ✓	Choice __
Action item amount: n/a	Line item:		
Fiscal Impact (explain if unbudgeted):			

MET/MA Supply Options

💧 Base Loaded Supplies (available every year):

- ⌚ MET Carson IPR Project
- ⌚ MET Member Agency (MA) Projects
- ⌚ Regional MET Ocean Desalination

💧 Hydrologically Dependent Supplies

- ⌚ Colorado River Aqueduct (less hydrologic variability)
- ⌚ State Water Project (more hydrologic variability)
- ⌚ This water is stored when not needed

💧 As Needed Supplies (used only when needed):

- ⌚ Expanded MET PVID Program
- ⌚ New MET CRA Transfers
- ⌚ New MET Central Valley Transfers
- ⌚ Withdrawals from MET Storage Accounts (not the emergency account)

4



The slide below provides a tabulation of the Local Project investment options that **could** be made by other MET member agencies including projects categorized under MET's IRP. This slide does **NOT** include OC Projects, as they are treated separately under our evaluation. As a reminder, MET's IRP reliability analysis only counted the yield from local projects if the projects were existing or under construction. The slide below shows the categories of local projects by MET member agencies that were **NOT** included in MET's IRP analysis, but could provide additional local project yields. They fall into the categories of:

1. Most Likely - this is a category we created to reflect the certainty that these projects will move forward based on our understanding of the political will of the sponsoring entities and/or the knowledge of our Consultant. The projects and project yields we included were:

▪ LADWP GWR	30,000
▪ San Diego Pure Water	33,000
▪ Upper District IPR	10,000
▪ Eastern MWD IPR	<u>15,000</u>
▪ Total =	88,000

The remaining categories came from MET's IRP; we took a declining portion of these project yields to use in our analysis, based on how much

planning/engineering work had been completed. We used the following factors:

2. Full Design with Funds	90%
3. Advanced Planning w/ Environmental	75%
4. Feasibility (more certain)	50%
5. Conceptual (less certain)	30%

The slide below graphically shows all of the local projects categories as well as the prorated line (dark black line that builds to about 300,000 af). Various assumptions will be made about what portion of the yield from the local projects within the black line could be used to help meet regional demands in our analysis.

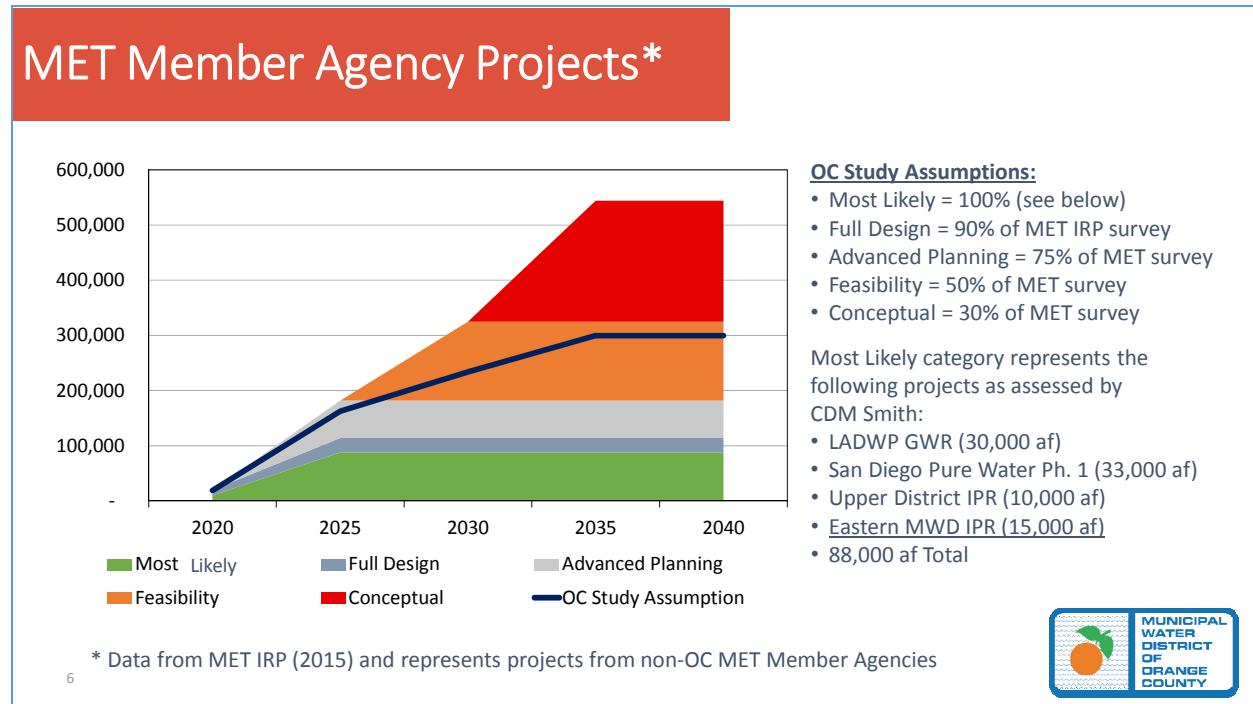


Table 1 below lists all of the potential project yields, either by MET or by MET's member agencies outside of OC. The MET Project yields below were formulated via assumptions arrived at by our Workgroup & Consultant for the various categories as shown. These do not represent any specific projects but are based on an understanding of how much yield could potentially be developed in these categories.

Table 1
Listing of Potential MET and MET Member Agency Projects
Does Not Include OC Projects

New MET/MET Agency Water Supply Projects	Online Date	New Max Supply Yield (AFY)
New MET Projects		
Delta Regulatory Relief (only with CalFix)	2020	100,000 ⁽¹⁾
California WaterFix	2035	440,000 ⁽²⁾
MET Regional Ocean Desal	2030	200,000
MET-PVID Program	2020	130,000
Other Colorado River Programs/Transfers	2030	100,000
Central Valley Water Transfers	2020	150,000
Carson IPR, Phase 1	2020	65,000
Carson IPR, Phase 2	2025	35,000
Carson IPR, Phase 3	2030	68,000
New Regional Conservation	2020	TBD
MET Member Agency Projects⁽³⁾		
Very Likely	2025	88,000
Full Design with Funds	2025	23,400
Advanced Planning w/ Environmental Feasibility (more certain)	2025	51,000
Conceptual (less certain)	2030	71,500
	2035	65,700
Total		1,487,600
Scenario 2A GAP (2040) - Average MET Shortage		550,000
Scenario 2A GAP (2040) - Maximum MET Shortage		1,661,000

¹ Assumes that MET can get some early regulatory relief in Delta biological opinions from 2020 to 2035, only when CalFix is underway. Once CalFix is online, this goes away.

² This represents the full, average year annual yield from CalFix, and it is not in addition to the Delta regulatory relief yield.

³ Represents projects for non-OC MET agencies. Data from MET IRP (2015), and includes new recycled water, groundwater, and ocean desal projects.

Table 2 provides a breakdown of six possible MET Portfolios developed by the Workgroup, MWDOC and our Consultant working together and took into account not only what MET investments could occur in the future, but also included the potential investments by MET's member agencies outside of OC as outlined above.

Table 2 Potential Future MET and MET Member Agency Investments in Reliability	
MET Portfolio	Description of Portfolio
A – Very Achievable, but lower reliability	Small additional amounts of CRA transfers, Carson IPR (phase 1 = 65,000 AF), and Most Likely and Full Design MET member agency projects
B	Moderate amounts of CRA transfers, small SWP transfers, Carson IPR (phases 1 and 2 = 100,000 AF), and MET member agency projects through Advanced Planning
C	Large amounts of CRA transfers and SWP transfers, Carson IPR (phases 1 and 2 = 100,000 AF), and MET member agency projects through Feasibility
D	Largest amounts of CRA transfers and SWP transfers, Carson IPR (phases 1 - 3), and MET member agency projects through Conceptual Development
E – Highly Reliable (regional desal)	All projects in Portfolio D, plus regional MET desalination. Regional MET desalination is included as a "Plan B" and assumes that 200,000 AF of ocean desalination can be developed regionally within MET (this is over and beyond the Carlsbad Plant)
F – Highly Reliable (CalFix)	All projects in Portfolio D, plus regional CalFix and interim Delta regulatory relief

Combining this all together, we arrived at the following potential implementation matrix with six potential paths forward. A reliability run will be completed on each of these six MET Portfolios to provide information as to the remaining OC reliability.

Orange County Reliability Study, Phase 2 - MET Reliability Portfolio Development
Working Draft (2-18-2016)

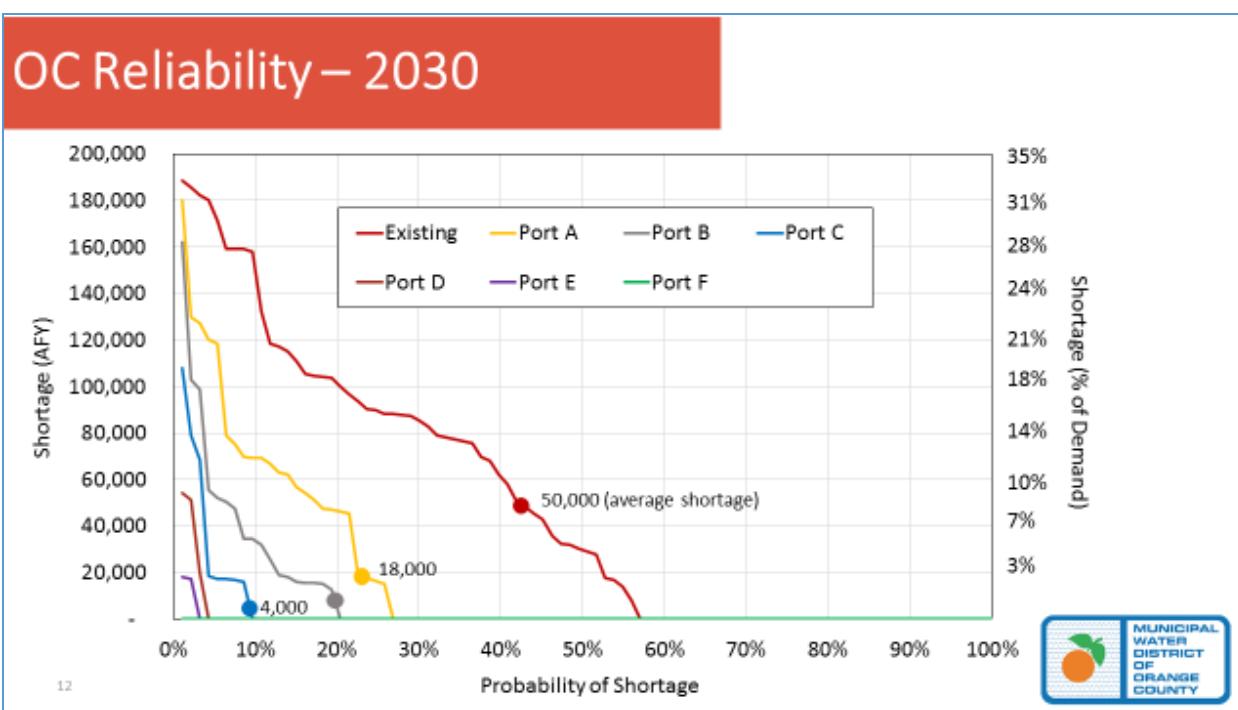
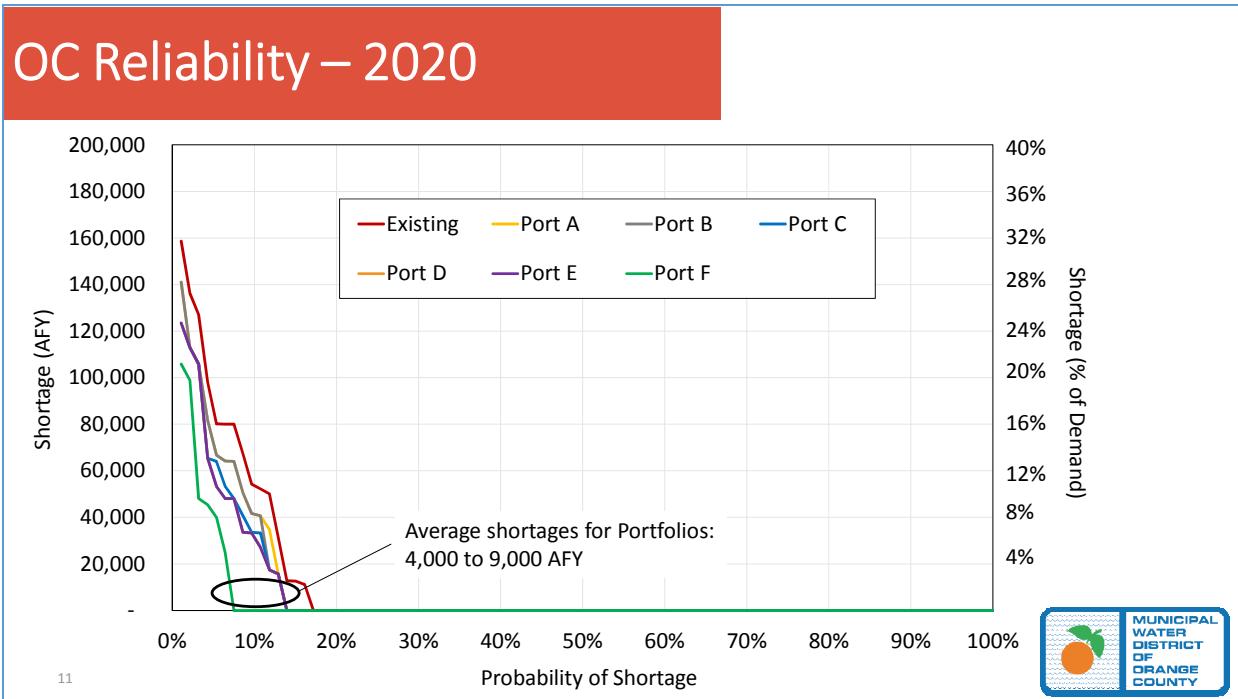
	New MET/MET Agency Water Supply Projects	Online Date	New Max Supply Yield (AFY)	Portfolios of MET Reliability					Portfolio E Highly Reliable	Portfolio F Highly Reliable
				Portfolio A Very Achievable	Portfolio B	Portfolio C	Portfolio D	Portfolio E Highly Reliable		
New MET Projects										
Delta Regulatory Relief (only with CalFix)	2020	100,000	-	-	-	-	-	-	100,000	¹
California WaterFix	2035	440,000	-	-	-	-	-	-	440,000	²
MET Regional Ocean Desal	2030	200,000	60,000	80,000	100,000	130,000	130,000	130,000	200,000	
MET-PVID Program	2020	130,000	10,000	50,000	75,000	100,000	100,000	100,000	100,000	
Other Colorado River Programs/Transfers	2030	100,000	-	50,000	100,000	150,000	150,000	150,000	150,000	
Central Valley Water Transfers	2020	150,000	-	65,000	65,000	65,000	65,000	65,000	65,000	
Carson IPR, Phase 1	2020	65,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	
Carson IPR, Phase 2	2025	-	-	-	-	-	-	-	-	
Carson IPR, Phase 3	2030	68,000	TBD	-	-	-	-	-	68,000	
New Regional Conservation	2020	-	-	-	-	-	-	-	-	
MET Member Agency Projects³										
Very Likely	2025	88,000	88,000	88,000	88,000	88,000	88,000	88,000	88,000	
Full Design with Funds	2025	23,400	23,400	23,400	23,400	23,400	23,400	23,400	23,400	
Advanced Planning w/ Environmental Feasibility (more certain)	2025	51,000	-	51,000	51,000	51,000	51,000	51,000	-	
Conceptual (less certain)	2030	71,500	-	-	-	-	71,500	71,500	-	
	2035	65,700	-	-	-	-	65,700	65,700	-	
Total		1,487,600	246,400	442,400	537,400	847,600	859,400	1,031,400		
Scenario 2A GAP (2040) - Average MET Shortage		550,000								
Scenario 2A GAP (2040) - Maximum MET Shortage		1,661,000								

¹ Assumes that MET can get some early regulatory relief in Delta biological opinions from 2020 to 2035, only when CalFix is underway. Once CalFix is online, this goes away.

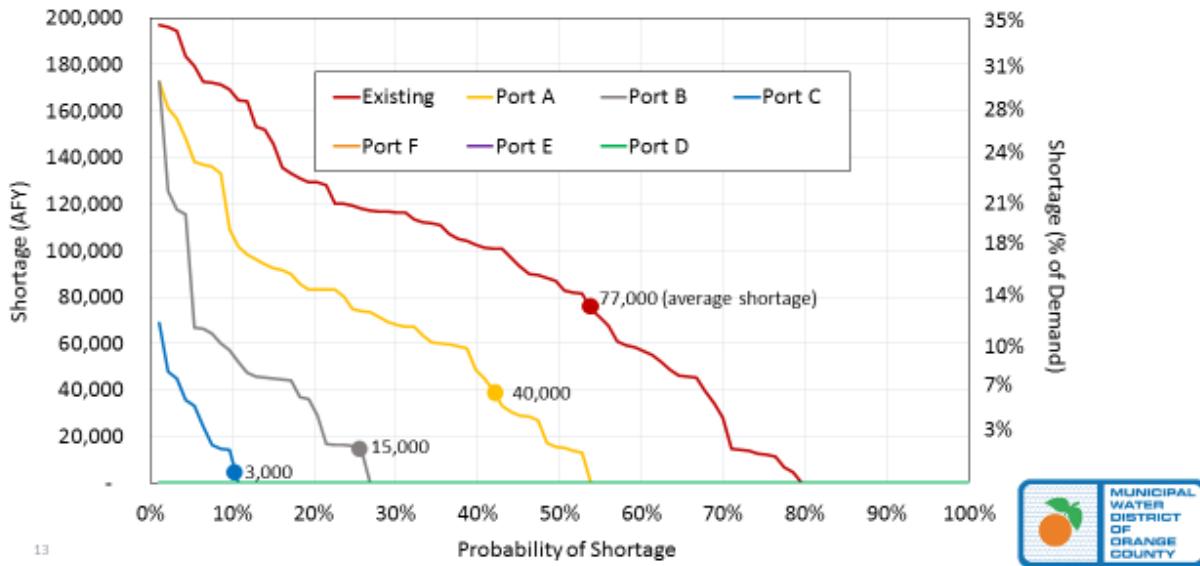
² This represents the full, average year annual yield from CalFix, and it is not in addition to the Delta regulatory relief yield.

³ Represents projects for non-OC MET agencies. Data from MET IRP (2015), and includes new recycled water, groundwater, and ocean desal projects.

The results of these six reliability runs on OC for 2020, 2030 and 2040 are as follows:



OC Reliability – 2040



The implications of these runs are:

- At the MET level:
 - Based on known projects, there could be some amount of regional shortages in 2020—but shortages would occur less than 15% of the time
 - Maximum shortages in 2020 could range from 650,000 AFY (32% of demand) to 890,000 AFY (40% of demand) under very unfavorable hydrology conditions, but which are expected to occur no more than 2% of the time (very rarely)
 - By 2030, regional shortages can be significantly reduced with new MET transfers, Carson IPR, and MET member agency projects
 - By 2040, full regional reliability can be achieved by:
 - (1) Transfers, Carson IPR and significant MET member agency projects
 - (2) Transfers, Carson IRP and MET Regional desal
 - (3) Transfers, Carson IPR and CalFix
- At the OC level:
 - Based on known projects, there could be some amount of regional shortages in 2020—but shortages will occur less than 15% of the time, and most of which could be managed by demand management if they occur
 - Average shortages in 2020 are quite small (4,000 to 9,000 AFY)

- Maximum shortages in 2020 will range from 100,000 AFY (20% of demand) to 140,000 AFY (28% of demand), but which are expected to occur no more than 2% of the time (very rarely)
- By 2030, only Portfolios A through C have significant shortages, with the average shortage ranging from 4,000 to 18,000 AFY
- By 2040, Portfolios A through C have average shortages ranging from 3,000 to 40,000 AFY
- The shortages discussed at this time are for total OC; differences will occur in the Three Regions within OC

Observations by the Workgroup

As this information was presented, the following preliminary observations were made by the Workgroup participants:

- The information provides insight regarding advocacy at the MET level; it is too early to draw conclusions, because we have not analyzed either the cost of the various projects or the impact to the MET rates under the various Portfolios.
- With respect to the 2020 reliability situation, especially given what could occur under a very bad hydrology sequence (looking at maximum shortages), we should be advocating to MET to pursue whatever purchases, transfers or exchanges to immediately begin building storage in their storage accounts, primarily in the Central Valley. Over the past two years, almost 2 MAF of storage has been drawn out and used to meet demands. Building storage is the best way to bolster reliability in the short run. By bolstering reliability in the short run, we do not have to tee up any other immediate investments.
- The value of local projects including the MET support for local projects was clearly demonstrated. We should advocate that MET should take a closer look at realistically determining what local projects can be brought on line in various timeframes and what the local projects need in the way of political or financial support. In addition, we need to overlay the OC projects with the MET and MET member agency projects that are in full design and advanced planning to advocate for our own projects. Again, the cost implications of local projects and financial incentives that would be contributed by MET need to be studied as well as the issue of how local projects are treated under MET's Water Supply Allocation Plan.
- Nothing happens for free. An analysis of the MET rates needs to occur under all of these alternatives.
- It was surprising that three methods of achieving full reliability were determined, one with the California Fix and two without the California Fix. We already know that the California Fix is the least cost alternative. The corresponding MET rates under the other alternatives need to be developed.
- To eliminate running an inordinate number of alternatives, the Workgroup felt that MET Portfolios B or C would be good representative starting Portfolios to drive

decisions in the next several years until the clarity is achieved with respect to the California WaterFix. The Workgroup suggested the following reliability curves be developed for presentation:

1. Reliability without any NEW investments
 2. Reliability with only the California WaterFix (this will demonstrate the benefit of such an investment)
 3. Scenario C MET Portfolio; this will be supplemented with OC projects to achieve full reliability
- Examination of the needs under the 2030 analysis provides a good indication of how to plan OC's water future as well as direct policy advocacy at the MET level to aim at 2040 reliability

Next Steps in the Reliability Study

The next steps include:

1. Preparation of the reliability curves under the three scenarios noted above
2. Comparison of the MET rates under the MET portfolio options
3. Presentation of information on OC projects to improve reliability
4. Complete discussions with the OCWD staff on future basin operating strategies

The next meeting of the Workgroup (the last planned meeting) will be held on April 14. Following that meeting a presentation will be prepared for the May 13 WACO Agenda. Work on documentation of the Phase 2 results is targeted for May. An outreach component will be developed.



INFORMATION ITEM

March 14, 2016

TO: **Planning & Operations Committee**
(Directors Dick, Hinman, Finnegan)

FROM: **Robert Hunter, General Manager**

Staff Contact: J. Berg, Director of Water Use Efficiency

SUBJECT: **Update on Distribution System Water Loss Control Technical Assistance for Member Agencies**

STAFF RECOMMENDATION

Staff recommends the Planning & Operations Committee receive and file this report.

COMMITTEE RECOMMENDATION

Committee recommends (To be determined at Committee Meeting)

SUMMARY

MWDOC and its member agencies have begun developing their Urban Water Management Plans to be submitted to the California Department of Water Resources (DWR) by July 1, 2016. A recent addition to the Urban Water Management Planning Act, SB 1420, requires water agencies to complete and report a distribution system water balance in their Urban Water Management Plans. The water balance must utilize the American Water Works Association/International Water Association (AWWA/IWA) water balance methodology as defined in the AWWA M36 manual.

Additionally, this legislative cycle the Governor signed SB 555 (Wolk) requiring water agencies to submit a validated distribution system water balance to DWR annually beginning October 1, 2017. While “validated” has not yet been defined, DWR is indicating that a technical expert must be used to confirm the basis of all data used in the water balance and to characterize the quality of the data in the water balance. MWDOC’s Water Loss Control Technical Assistance effort allows member agencies to be ahead of the curve in responding to this legislation.

At the October 2015 meeting, the Board authorized staff to enter into a professional services contract (December 2015 – November 2016) with Water Systems Optimization, Inc. to be renewed annually for up to three years, to provide technical assistance to member agencies for top-down distribution system water audit, component analysis, leak detection and to initiate the establishment of an Orange County Water Loss Control Committee for

member agencies. The purpose of this report is to provide the Board with an update on these activities.

DETAILED REPORT

MWDOC's Distribution System Water Loss Control Technical Assistance effort includes two components. The first component is "Choice" based and provides access to a consultant, Water Systems Optimization, Inc., who will provide one-on-one assistance to agencies to perform a water balance, component analysis, leak detection, and detailed reporting utilizing methods contained in the American Water Works Association Manual of Water Supply Practices: Water Audits and Loss Control Programs. The second component is a "Core" based activity to establish an Orange County Water Loss Control Workgroup for member agencies.

To date, twenty retail agencies have either signed or are in the process of signing agreements to access the one-on-one technical assistance provided by Water Systems Optimization, Inc. Table 1 provides a summary of agency participation. All twenty agencies are electing to focus on the Top-Down Distribution System Water Audit task for the first year. Four agencies will also perform Component Analysis to evaluate the volume and value of real and apparent losses. One agency will also be Locating and Quantifying Leaks on 30 miles of water mains.

The Water Loss Control Workgroup (Workgroup) met on February 2 and again on March 1, 2016. Agendas for these meetings are provided for your review as Attachments A and B. These meetings have been attended by an average of 32 individuals representing 20 agencies. The Workgroup will meet monthly for the next few months then every other month on an ongoing basis.

Table 1:

		Water Loss Control: Participating Agency List -							
Agency	Participating Yes/No	Signed		Tasks					Total Amount:
		Agreement		Task 1b & 1c	Task 2	Task 3	Task 4	Task 5	
Anaheim	No	----		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Brea	Yes	1/27/2016		\$ 1,672	\$ 6,620	\$ -	\$ -	\$ 4,200	\$ 12,492
Buena Park	Yes	2/29/2016		\$ 1,672	\$ 6,620	\$ -	\$ -	\$ 4,200	\$ 12,492
East OCWD	Yes	2/4/2016		\$ 1,672	\$ 3,560	\$ 17,600	\$ 12,000	\$ 4,200	\$ 39,032
El Toro WD	yes	2/17/2016		\$ 1,672	\$ 3,560	\$ -	\$ -	\$ 4,200	\$ 9,432
Emerald Bay SD	No	----		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Fountain Valley	Yes	TBS 3-1-16		\$ 1,672	\$ 6,620	\$ -	\$ -	\$ 8,400	\$ 16,692
Fullerton	Yes	TBS 3-23-16		\$ 1,672	\$ 3,560	\$ -	\$ -	\$ 4,200	\$ 9,432
Garden Grove	No	----		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Golden State	No	----		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Huntington Beach	Yes	TBS 3-22-16		\$ 1,672	\$ 3,560	\$ -	\$ -	\$ 4,200	\$ 9,432
Irvine Ranch WD	No	----		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
La Habra	Yes	2/22/2016		\$ 1,672	\$ 6,620	\$ -	\$ -	\$ 8,400	\$ 16,692
La Palma	Yes	TBS 2/17/16		\$ 1,672	\$ 3,560	\$ -	\$ -	\$ 4,200	\$ 9,432
Laguna Beach CWD	Yes	2/25/2016		\$ 1,672	\$ 3,560			\$ 4,200	\$ 9,432
Mesa Water	No	----		\$ 1,672	\$ 3,560	\$ -	\$ -	\$ 4,200	\$ 9,432
Moulton Niguel WD	No	----		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Newport Beach	Yes	TBS 3-23-16		\$ 1,672	\$ 3,560	\$ -	\$ -	\$ 4,200	\$ 9,432
Orange	Yes	2/5/2016		\$ 1,672	\$ 3,560	\$ -	\$ -	\$ 4,200	\$ 9,432
San Clemente	Yes	2/22/2016		\$ 1,672	\$ 3,560	\$ -	\$ -	\$ 4,200	\$ 9,432
San Juan Capistrano	Yes	1/7/2016		\$ 1,672	\$ 6,620	\$ 17,600	\$ -	\$ 8,400	\$ 34,292
Santa Ana	Yes	TBS 6-2016		\$ 1,672	\$ 3,560	\$ -	\$ -	\$ 4,200	\$ 9,432
Santa Margarita WD	No	----		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Seal Beach	No	----		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Serrano WD	Yes	2/11/2016		\$ 1,672	\$ 3,560	\$ -	\$ -	\$ 4,200	\$ 9,432
South Coast WD	Yes	2/11/2016		\$ 1,672	\$ 3,560	\$ 17,600	\$ -	\$ 4,200	\$ 27,032
Tustin	Yes			\$ 1,672	\$ 3,560	\$ -	\$ -	\$ 4,200	\$ 9,432
Trabuco Canyon WD	Yes	1/7/2016		\$ 1,672	\$ 3,560	\$ -	\$ -	\$ 4,200	\$ 9,432
Westminster	No	----		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Yorba Linda WD	Yes	1/28/2016		\$ 1,672	\$ 6,620	\$ 17,600	\$ -	\$ 8,400	\$ 34,292
									\$ 315,632



W S O
WATER SUPPLY & POWER

Municipal Water District of Orange County (MWDOC) Water Loss Control Workgroup Kickoff Meeting

**Tuesday, February 02, 2016 from 10:00 am to 12:00pm
Santa Ana Corporate Yard - 220 S. Daisy Avenue, Santa Ana, CA 92703**

- 1. Welcome and Introductions (10:00 – 10:10)**
- 2. Water Loss Control Workgroup Meeting Schedule (10:10 – 10:15)**
- 3. Regulatory Overview – SB555 and SB1420 (10:15 – 10:25)**
- 4. OC Water Loss Control Program Technical Assistance Overview (10:25 – 10:40)**
 1. Timeframe
 2. Task flow
 3. Data needs
 4. Formation of interdepartmental working groups
- 5. Member Agency Case Studies (10:40 – 11:10)**
 1. Marc Marcantonio – GM Yorba Linda WD
Regional water loss control program experience in Washington State
 2. Marc Serna – Director of Engineering and Operations MNWD
Experience with water audit program and importance of interdepartmental workgroup for data collection
- 6. Vision and Goals of OC Workgroup (11:10 – 11:20)**
- 7. So Calif Edison's Vision and Partnership Opportunities (11:20 -11:30)**
Bernard Adebayo-Ige – SCE Program Manager
- 8. Next Steps & Adjourn**



WSO

Attachment B

Municipal Water District of Orange County Water Loss Control Workgroup Meeting

Tuesday, March 1, 2016 from 10:00 am to 12:00pm

MWDOC Offices, Room 101 – 18700 Ward Street, Fountain Valley, CA 92708

1. Welcome and Agenda Review (10:00 – 10:10)

2. MWDOC Water Loss Control Technical Assistance Update (10:10 – 10:20)

3. First Seminar: Performance Indicators and Regional Performance (10:20 – 10:50)

1. What are water loss performance indicators?
2. How are water loss performance indicators interpreted and communicated?
3. What are normal performance indicator ranges for Southern California?
4. What do recent research studies suggest about water loss in Southern California?

4. Case Study: City of San Diego (10:50 – 11:10)

1. Comparison of pre-validation audit and post-validation audit
2. Lessons and recommendations

5. Facilitated Discussion (11:10 – 11:30)

1. How does your utility track water loss performance? What are your metrics of choice?
2. How do you communicate performance to your management, board, and customers?
3. What challenges are you currently facing in benchmarking water losses?
4. What is the water balance volume you struggle most with?

6. Water Loss Control Group Vision Development (11:30 – 11:50)

1. Common goals for OC agencies
2. Opportunities for shared services

7. Wrap-Up (11:50 – 11:55)

8. Logistics and Technical Assistance Check-In (11:55 – Noon)

1. Opportunity to coordinate next steps between agencies and WSO

Status of Ongoing MWDOC Reliability and Engineering and Planning Projects

March 9, 2016

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
Baker Treatment Plant or Expansion of Baker Water Treatment Plant	IRWD, MNWD, SMWD, ETWWD Trabuco CWD		On line date is Oct 2016	<p>Karl Seckel and Kevin Hostert met with IRWD staff to discuss the flow metering at the MET Service Connections OC-33 and OC-33A; these are the service connections that feed the Baker Pipeline which conveys water to the NEW Baker Treatment Plant. IRWD's contractor has to complete the installation of a NEW Mag Meter at OC-33 to increase the overall capacity of the metering equipment; the discussions concerned the terms and conditions under the MET service connection agreements, the timing for the installation of the NEW meter, operational issues between OC-33A metering from 1 to 4 cfs and OC-33 metering 10 to 75 cfs, the timing for bringing the plant on-line and requesting relief from MET for metering requirements until the plant comes on line.</p> <p>MWDOC has requested that IRWD be allowed to utilize the NEW Mag Meter at a lower flow rate that the manufacturer of the meter indicates is acceptable, but it does not comply with MET's administrative code; this would be a temporary request until such time as the plant becomes operational.</p> <p>Another meeting will be held in the near future on the invoicing of water through the plant. IRWD and MWDOC will work together to include the Baker Treatment Plant water on MWDOC water bills to the other agencies receiving water from the Baker Water Treatment Plant.</p>

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
Doheny Desalination Project	South Coast Water District, Laguna Beach CWD			<p>South Coast Water District is continuing to pursue a 5 mgd ocean desalination project. MWDOC is working on the decommissioning and removal of the test facilities.</p> <p>The groundwater modeling work by Geoscience should be released in the near future as South Coast completes the work under its Foundational Action Program work. Work is underway to conduct a Science Advisory Panel on the work.</p>
Poseidon Resources Ocean Desalination Project in Huntington Beach				<p>OCWD conducted an additional workshop on March 2 on the Poseidon Project to discuss with their Board the options for distributing the water. The Board had originally considered 8 options and had narrowed the field to 5 options. At the meeting the Board considered the pros & cons for each option along with the costs. The staff recommendation to eliminate Options 1D & 4, and continue with options 2A, 2B & 3 was approved on a 7-0.</p> <p>The Board requested additional information on how MET's Carson IPR project would fit in with other sources and to compare the costs to Desal. Another request was made to talk to the Producers to find out which agencies would be interested in taking the Desal water.</p>
Other Meetings/Work				Richard Bell attended the San Juan Basin Authority Meeting in March where a report was made on the San Juan Basin Project phasing and costs. A subsequent meeting will be held to review

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
				the information prior to the end of March. Work is underway to conduct a Science Advisory Panel on the work.
				(No NEW Information). Karl Seckel, Keith Lyon and Kevin Hostert continued working with EOCWD staff and MET staff to discuss a flow testing process along with a visual inspection of a check valve and a venturi meter at the OC-70 service connection. The work involves resolving an apparent flow discrepancy between the EOCWD system and the MET meter. Complicating factors include a check valve that may be malfunctioning and the potential for hydraulic swirls to be causing metering discrepancies at the facility. The work was rescheduled to provide time for EOCWD to move an existing meter to improve the accuracy for comparison purposes. The meter work has been scheduled for completion in March, clearing the way for the flow test.
				Karl Seckel and Keith Lyon met with Huntington Beach on a low meter flow issue.
				Karl Seckel made presentations at retirement functions for Jim Biery of Buena Park and Mary Anne Skorpanich from the County of Orange.
				Karl Seckel attended the OCWA Luncheon presentation by Deven Upadhyay where he discussed MET's IRP and water management programs aimed at keeping MET reliable. Deven indicated that MET is looking at ways of providing incentives to agencies that develop local projects in ways other than financial,

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
				such as committing more water to them during drought allocation situations.

Status of Ongoing WEROC Projects
February 2016

Description	Comments
<p>General Activities</p> <p>Kelly Hubbard met with staff of the Central Basin Water District to discuss the WEROC program, what services it provides and how Central Basin could possibly develop a similar program for its retail agencies.</p> <p>In consideration of the San Bernardino terrorist attack at a county government office and due to a recent water meeting in which a suspicious individual walked in, Kelly Hubbard has provided staff with several training opportunities. First, at a recent MWDOC Staff Meeting Kelly showed staff an Active Shooter Video which demonstrated how to respond in such circumstances. Additionally, information about suspicious behavior and what to report to officials was distributed and discussed. The second training opportunity was called Pre-Incident Indicators training provided by the Orange County Intelligence Assessment Center (OCIAC) to approximately 30 MWDOC and OCWD staff. This training covered the 8 indicators of terrorism planning, how to recognize those activities and who to report them to.</p> <p>Kelly attended a Goal Setting and Delegation Class at Orange County Sanitation District that was offered to MWDOC staff at no cost. It is one class in a leadership series that staff were invited to participate in.</p> <p>Kelly participated in the California Emergency Services Association Southern Chapter Board meeting and a State Board Conference Call.</p>	<p>The current WEROC agency maps were distributed to Member Agencies to start an update of the maps. The maps have become faded and outdated. The maps will be updated by CDR and then printed at the MWDOC offices.</p>
<p>Coordination with Member Agencies</p>	

Description	Comments
<p>On February 25 Kelly hosted the first Orange County Water Procurement and Distribution Planning meeting with water utility members and representatives from cities, county departments, American Red Cross and others. The purpose of the meeting was to discuss the roles and responsibilities of various entities during a disaster response to provide drinking water. Per state guidance it is the Water Utilities responsibility to focus on the recovery of the water systems and for the cities to focus on the provision of water until the systems can be recovered. Very little planning of this type has been done on a city, county or non-profit level. WEROC will be leading an effort to define those roles during disaster response and to assist non-water utility partner organizations to write their own planning for drinking water coordination.</p>	<p>Kelly attended the Orange County Emergency Management Organization (OCEMO) and OCEMO Exercise Design Committee Meetings. The regular meeting had several presentations on the Zika Virus and how various agencies' including Vector Control and OC Health Care Agency are responding to the potential threat. Additionally there was an informative presentation from Chapman Professor Ann Gordon on "The Chapman Survey on American Fears: Disasters." The exercise design meetings were focused on further developing the county-wide exercise plan that will include WEROC and its member agencies.</p> <p>Kelly attended the Quarterly Urban Area Working Group (UAWG) Meeting and provided an update on the status of the fuel trailer and generator grant projects, as well as provided feedback on other projects.</p> <p>Kelly attended the Operational Area (OA) Executive Board meeting as the voting member for the Independent Special Districts of Orange County (ISDOC). The primary topic of concern for WEROC Member Agencies is some information presented on Senate Bill 949 "Emergency Services: Critical Infrastructure Information." This bill is being reviewed by MWDOC legislative affairs and will be presented through that Board Committee.</p>
<p>Coordination with the County of Orange</p>	<p>Kelly attended the quarterly Mutual Aid Regional Assistance Council (MARAC) in Ontario. A quick update was provided by the Emergency Manager of the County of San Bernardino on the Waterman Incident (San Bernardino Shooting) and a presentation on the California Catastrophic Recovery Plan update process was provided. The state's focus for the plan update is on critical infrastructure and utilities</p>
<p>Coordination with Outside Agencies</p>	

Description	Comments
	<p>Kelly was requested to participate in the City of Long Beach Water Department's Emergency Operations Plan update process. They are incorporating a "whole community" process while updating their emergency plan. This is a unique approach for a water utility and Long Beach Water has promised to share their plan and lessons with WEROC when done.</p> <p>Kelly participated in a few California Water/Wastewater Agency Response Network (CalWARN) conference calls to clean up some documentation of WEROC agencies within WARN, to discuss continued revision of response policy, and to develop an upcoming training program that is free to all CalWARN members, including WEROC members.</p> <p>Kelly participated in a Critical Lifelines Meeting in Pasadena. The Critical Lifelines Meeting is an effort being led by the County of Los Angeles and Edison to encourage greater planning, cross-training and integration of critical infrastructure in southern California emergency planning.</p>
<p>WEROC Emergency Operations Center (EOC) Readiness</p>	<p>Staff participated in the OC Operational Area Radio Test. The MET Radio Test was cancelled this month while MET completes an upgrade to its radio system. The MARS radio has been replaced at the MWDOC offices. Staff is working with MET to get the MARS radios at the two WEROC EOC's updated.</p> <p>Kelly has met with two facility/space consultants to provide a quote on conducting a facility assessment of the WEROC EOCs. It was recommended that an electrical assessment should be conducted of both facilities in consideration of how much additional electronic equipment has been added over the years. Due to the very limited electrical options currently available, it makes most sense to evaluate the overall facilities for the best options that will meet the WEROC operational and space needs. The consultants both have experience with a FEMA guidance on what EOC facilities should have and have worked on similar facilities.</p>

Status of Water Use Efficiency Projects

February 2016

Description	Lead Agency	Status % Complete	Scheduled Completion or Renewal Date	Comments
Smart Timer Rebate Program	MWDSC	Ongoing	Ongoing	For January 2016, 99 residential and 53 commercial smart timers were installed in Orange County. For program water savings and implementation information, see MWDOC Water Use Efficiency Program Savings and Implementation Report.
Rotating Nozzles Rebate Program	MWDSC	Ongoing	Ongoing	For January 2016, 3,801 rotating nozzles were installed in Orange County. For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.
Water Smart Landscape Program	MWDOC	On-going	June 2016	This Program is currently on hold while a Process and Impact Evaluation is conducted. Once the Evaluation is complete, the results will be used to make refinements to the Program. For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.
SoCal Water\$mart Residential Indoor Rebate Program	MWDSC	On-going	On-going	In January 2016, 179 high efficiency clothes washers, 993 high efficiency toilets, and 86 premium high efficiency toilets were installed through this program. For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.

SoCal Water\$mart Commercial Rebate Program	MWDS/C	On-going	On-going	In January 2016, 93 high efficiency toilets, 236 multi-family high efficiency toilets, and 934 premium high efficiency toilets, were installed through this program.
Industrial Process Water Use Reduction Program	MWDOC	95%	September 2016	For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.
				A total of 41 Focused Surveys and 19 Comprehensive Surveys have been completed or are in progress. To date, 15 companies have signed Incentive Agreements. Updated discharger lists have been obtained, and outreach is continuing to sites with feasible water savings potential. As a result of this program, 359 AFY of water savings is being achieved.
MWDOC Conservation Meeting	MWDOC	On-going	Monthly	This month's meeting was held on March 3, 2016 at MWDOC. The next meeting will be on April 7, 2016 at Irvine Ranch Water District.
Metropolitan Conservation Meeting	MWDS/C	On-going	Monthly	This month's meeting was held on February 18, 2016. The next meeting will be March 17, 2016 at Metropolitan.
Turf Removal Program	MWDOC	On-going	Ongoing	In February 2016, 724 rebates were paid, representing \$2,559,389.07 in rebates paid this month in Orange County. To date, the Turf Removal Program has removed approximately 14.03 million square feet of turf.
				For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.
California Sprinkler Adjustment Notification System – Base Irrigation Schedule Calculator	MWDOC	55%	December 2015	MWDOC was awarded an additional grant from the Bureau of Reclamation to develop the Base Irrigation Schedule Calculator in support of the California Sprinkler Adjustment Notification System (CSANS). This system will e-mail or “push” an irrigation index to assist property owners with making global irrigation scheduling adjustments. Participants voluntarily register to receive this e-mail and can unsubscribe at any time.

California Sprinkler Adjustment Notification System – Base Irrigation Schedule Calculator (cont.)		<p>EcoLandscape California (ELC) was selected and approved by the Board to develop the Base Irrigation Schedule Calculator and instructional videos. Development of the calculator and instructional video has been completed and is operational on our website.</p>	
	<p>Through a grant from the Department of Water Resources (DWR) to the California Urban Water Conservation Council, the East Bay Municipal Utility District and Bay Area Water Supply and Conservation Agency are now being enrolled in CSANS. Once this has been completed, staff will be pursuing DWR for administration of CSANS state-wide.</p>		
Public Spaces Program	MWDOC 95% December 2015	<p>This program targets publicly-owned landscape properties located in the South Orange County IRWM Plan area and encourages the removal of non-functional turfgrass, the upgrade of antiquated irrigation timers, and the conversion of high-precipitation-rate fixed spray irrigation to low-precipitation-rate rotating nozzles and/or drip irrigation.</p>	
Landscape Irrigation Survey Program	MWDSC Ongoing	June 2016	<p>To date, 12 cities, water districts, or other special districts (i.e., school districts) have applied for funding through this program, of which ten (10) have followed through with projects. Three of those projects were funded in August 2015, and the remaining seven were funded in December 2015.</p> <p>Through this program, Metropolitan offers, at no cost, the services of a certified landscape irrigation auditor who will survey and provide written recommendations for qualifying non-residential properties within Metropolitan's service area.</p> <p>To date, 149 sites in the MWDOC service area have contacted Metropolitan to request surveys.</p>
Spray to Drip Conversion Program	MWDOC 68%	April 2016	<p>This is a pilot program designed to test the efficacy of replacing conventional spray heads in shrub beds with low-volume, low-precipitation drip technology. Through a rebate</p>

Item

Spray to Drip Conversion Program (cont.)			program format, residential and commercial sites will be encouraged to convert their existing spray nozzles to drip.
Landscape Training and Outreach	MWDOC & County Stormwater	Ongoing	To date, 165 residential sites and 49 commercial sites have completed spray to drip conversion projects. The Orange County Garden Friendly (OCGF) Pilot Program promotes the use of climate appropriate plants and water efficient irrigation practices, with the overall goals of reducing water runoff and improving outdoor water use efficiency. The Program is a collaborative effort of the Orange County Stormwater Program (OCSP) and the University of California Cooperative Extension (UCCE). This season's first OCGF event was held on March 5, 2016 at the Home Depot in Santa Ana. Upcoming events include two on March 19, 2016, one at the Home Depot in Anaheim Hills and one at the Tree of Life Nursery in San Juan Capistrano.

Orange County Water Use Efficiency Programs Savings and Implementation Report

Retrofits and Acre-Feet Water Savings for Program Activity

Program	Program Start Date	Retrofits Installed in	Month Indicated		Current Fiscal Year		Overall Program		Cumulative Water Savings[4]
			Interventions	Water Savings	Interventions	Water Savings	Interventions	Annual Water Savings[4]	
High Efficiency Clothes Washer Program	2001	January-16	179	0.51	2,833	38.91	106,200	3,664	20,728
Smart Timer Program - Irrigation Timers	2004	January-16	152	3.30	888	67.26	13,955	4,812	29,090
Rotating Nozzles Rebate Program	2007	January-16	3,801	15.20	31,725	536.07	492,595	2,476	9,775
SoCal Water\$mart Commercial Plumbing Fixture Rebate Program	2002	January-16	1,263	3.55	7,869	69.07	56,035	3,518	34,283
Water Smart Landscape Program[1]	1997	November-15	12,677	904.62	12,677	3,615.21	12,677	10,621	72,668
Industrial Process Water Use Reduction Program	2006	March-16	0	11.41	1	11.41	15	359	1,599
Turf Removal Program[3]	2010	February-16	1,223,739	14.27	6,754,814	150	14,272,487	1,999	3,526
High Efficiency Toilet (HET) Program	2005	January-16	1,079	3.82	10,656	264.40	56,930	2,104	11,548
Home Water Certification Program	2013	November-15	0	0.000	53	0.251	312	7,339	15,266
Synthetic Turf Rebate Program	2007						685,438	96	469
Ultra-Low-Flush-Toilet Programs [2]	1992						363,926	13,452	162,561
Home Water Surveys [2]	1995						11,867	160	1,708
Showerhead Replacements [2]	1991						270,604	1,667	19,083
Total Water Savings All Programs					957	6,821,516	4,753	16,343,041	44,936
									367,053

[1] Water Smart Landscape Program participation is based on the number of water meters receiving monthly Irrigation Performance Reports.

[2] Cumulative Water Savings Program To Date totals are from a previous Water Use Efficiency Program Effort.

[3] Turf Removal Interventions are listed as square feet.

[4] Cumulative & annual water savings represents both active program savings and passive savings that continues to be realized due to plumbing code changes over time.

HIGH EFFICIENCY CLOTHES WASHERS INSTALLED BY AGENCY

through MWDOC and Local Agency Conservation Programs

Agency	FY 06/07	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	Total	Current FY Water Savings A/c/Ft (Cumulative)	Cumulative Water Savings across all Fiscal Years	15 yr. Lifecycle Savings A/c/Ft
Brea	132	175	156	42	186	144	93	115	114	49	1,783	0.69	347,111	923
Buena Park	85	114	146	59	230	145	105	106	91	29	1,417	0.42	263,307	733
East Orange CWD RZ	18	22	17	3	23	10	10	8	8	6	187	0.07	38,289	97
El Toro WD	91	113	130	32	162	112	134	121	111	38	1,447	0.53	267,787	749
Fountain Valley	205	219	243	72	289	158	115	102	110	45	2,304	0.60	467,821	1,192
Garden Grove	238	304	332	101	481	236	190	162	165	58	3,243	0.82	642,481	1,678
Golden State WC	339	401	447	168	583	485	265	283	359	126	4,743	1.82	910,022	2,454
Huntington Beach	761	750	751	211	963	582	334	295	319	124	7,965	1.62	1,650,511	4,121
Irvine Ranch WD	1,972	2,052	1,844	1,394	2,621	2,170	1,763	1,664	1,882	850	22,622	11.47	4,167,091	11,705
La Habra	96	136	83	22	179	128	82	114	87	33	1,241	0.43	230,566	642
La Palma	33	35	51	25	76	46	34	25	34	11	430	0.16	78,952	222
Laguna Beach CWD	57	77	77	27	96	57	38	37	39	27	908	0.39	181,166	470
Mesa Water	239	249	246	73	232	176	114	86	89	35	2,360	0.48	498,951	1,221
Moulton Niguel WD	652	716	742	250	1,127	679	442	421	790	432	9,090	5.87	1,695,024	4,703
Newport Beach	245	270	259	57	197	142	116	92	95	48	2,545	0.68	541,321	1,317
Orange	366	365	403	111	349	262	218	163	160	68	3,762	0.98	782,211	1,947
Orange Park Acres	4	8	-	-	-	-	-	-	-	12	0.00	3.09	6	
San Juan Capistrano	109	103	127	43	190	110	76	73	92	41	1,404	0.65	271,326	726
San Clemente	204	261	278	63	333	206	140	94	141	50	2,525	0.69	494,951	1,307
Santa Margarita WD	654	683	740	257	1,105	679	553	662	792	284	8,967	3.94	1,662,884	4,640
Seal Beach	47	46	57	7	81	51	31	29	38	17	587	0.24	113,323	304
Serrano WD	30	31	23	7	21	20	13	10	26	5	343	0.08	71,901	177
South Coast WD	107	130	148	43	183	112	89	79	68	30	1,527	0.42	297,577	790
Trabuco Canyon WD	69	60	62	28	82	62	30	45	47	24	760	0.33	146,711	393
Tustin	152	146	144	45	174	97	78	59	80	38	1,540	0.54	314,597	797
Westminster	213	171	233	74	329	208	121	82	109	35	2,388	0.49	480,901	1,236
Yorba Linda	288	350	367	117	394	273	181	167	156	78	3,651	1.11	750,581	1,889
MWDOC Totals	7,406	7,987	8,106	3,331	10,686	7,350	5,365	5,094	6,002	2,581	89,751	35.51	17,370,381	17,340

Anaheim	854	847	781	860	910	477	331	285	295	126	10,329	1.70	2,141,451	5,345
Fullerton	269	334	330	69	397	270	200	186	211	78	3,501	1.08	644,651	1,812
Santa Ana	236	235	257	87	355	190	163	131	132	48	2,619	0.62	571,061	1,355
Non-MWDOC Totals	1,359	1,416	1,368	1,016	1,662	937	694	602	638	252	16,449	3.40	3,357,161	3,178
Orange County Totals	8,765	9,403	9,474	4,347	12,348	8,287	6,059	5,696	6,640	2,833	106,200	38.91	20,727,541	20,517

SMART TIMERS INSTALLED BY AGENCY
 through MWDOC and Local Agency Conservation Programs

Agency	FY 08/09		FY 09/10		FY 10/11		FY 11/12		FY 12/13		FY 13/14		FY 14/15		FY 15/16		Total Program		Cumulative Water Savings across all Fiscal Years
	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm.	
Brea	3	9	0	0	2	0	8	0	9	8	4	0	43	6	10	4	90	76	401.15
Buena Park	3	1	0	0	0	0	4	19	3	0	0	0	4	10	3	2	17	32	87.23
East Orange CWD RZ	0	0	0	0	1	0	5	0	2	0	0	2	0	0	0	0	13	0	3.55
El Toro WD	0	25	2	18	5	5	26	2	7	2	11	0	8	9	6	14	79	344	1,985.55
Fountain Valley	1	0	0	6	2	8	2	3	2	4	0	7	10	5	0	50	27	115.13	
Garden Grove	2	1	6	0	5	4	7	0	5	2	9	0	10	14	8	9	68	36	110.73
Golden State WC	1	2	9	22	7	4	13	3	9	49	9	25	39	12	8	0	142	139	520.39
Huntington Beach	13	1	6	27	6	36	15	4	18	33	20	35	19	2	31	13	173	175	675.05
Irvine Ranch WD	29	56	14	145	28	153	267	71	414	135	71	59	67	310	18	1	1,204	1,660	7,924.82
La Habra	0	0	0	21	0	0	0	3	0	4	7	2	0	4	7	116	64	137	100
La Palma	0	0	0	0	0	0	0	1	0	0	0	2	0	0	2	1	8	1	188.10
Laguna Beach CWD	2	0	2	14	4	1	109	2	76	2	71	0	86	0	2	1	386	20	158.28
Mesa Water	6	7	13	7	7	22	21	0	10	2	15	2	17	28	6	0	139	101	486.72
Moulton Niguel WD	21	23	17	162	36	60	179	31	51	74	40	45	46	95	15	0	530	572	2,337.71
Newport Beach	10	27	7	58	6	0	275	12	242	26	168	75	11	9	80	63	1,060	417	1,984.64
Orange	5	2	2	13	5	8	25	0	20	24	13	9	18	31	8	10	173	152	674.89
San Juan Capistrano	10	0	7	49	13	1	103	2	14	18	6	11	6	19	7	2	187	111	448.86
San Clemente	81	20	13	209	46	11	212	17	26	7	28	2	28	24	27	12	1,015	370	2,060.93
Santa Margarita WD	25	44	10	152	61	53	262	7	53	171	64	93	53	321	16	2	655	1,017	3,565.68
Santiago CWD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	91	43	33.14	
Seal Beach	0	0	0	1	0	0	0	3	1	0	1	36	1	12	0	0	3	52	104.07
Serrano WD	0	0	11	0	4	0	3	0	1	0	0	0	4	0	2	0	25	0	6.00
South Coast WD	11	6	3	10	13	3	78	10	13	16	8	4	104	73	7	8	269	209	834.41
Trabucco Canyon WD	1	0	2	0	2	10	12	0	6	0	2	0	6	1	9	0	83	104	695.41
Tustin	7	9	10	14	10	0	11	0	8	4	9	1	18	14	8	6	95	55	216.12
Westminster	3	0	3	0	1	1	2	0	1	1	2	0	13	17	6	1	47	32	131.69
Yorba Linda	8	5	5	21	25	0	22	0	20	0	12	5	32	2	42	10	247	95	536.49
MWDOC Totals	242	238	142	949	289	374	1,671	185	1,017	563	571	402	648	1,026	543	266	6,986	5,940	26,288.39

Anaheim	9	59	5	46	12	11	23	60	19	10	9	26	7	52	9	19	136	432	401.15
Fullerton	2	2	2	39	9	33	22	51	9	29	8	40	26	12	8	126	188	432	1,957.27
Santa Ana	2	4	1	8	8	0	6	5	8	19	7	8	9	27	15	16	60	87	643.66
Non-MWDOC Totals	13	65	8	93	29	44	51	116	36	58	24	34	56	105	36	43	322	707	2,801.75
Orange County Totals	235	303	150	1,042	318	418	1,722	301	1,053	641	595	436	704	1,131	579	309	7,308	6,647	29,090

ROTATING NOZZLES INSTALLED BY AGENCY
through MWDOC and Local Agency Conservation Programs

Agency	FY 10/11			FY 11/12			FY 12/13			FY 13/14			FY 14/15			FY 15/16			Total Program			Cumulative Water Savings across all Fiscal Years
	Small Res	Large Comm.	Comm. Res	Small Comm.	Large Comm.																	
Brea	32	0	130	0	65	120	0	84	0	157	45	0	842	0	498	1,107	0	498	1,107	0	13.71	
Buena Park	29	0	32	0	65	0	0	53	0	248	0	0	45	0	0	509	75	2,535	450.99	0	450.99	
East Orange	0	0	340	0	55	0	30	0	221	0	0	0	0	0	0	751	0	0	0	0	9.60	
El Toro	174	0	357	76	0	23	6,281	0	56	3,288	0	1,741	28,714	0	730	4,457	0	3,314	45,980	890	638.35	
Fountain Valley	83	0	108	0	35	0	0	0	0	107	0	0	186	0	0	674	0	0	0	0	8.62	
Garden Grove	38	0	119	0	95	0	0	80	0	88	50	0	79	0	0	847	201	0	0	0	17.30	
Golden State	303	0	294	0	257	2,595	0	192	0	583	1,741	0	311	0	0	2,464	5,308	0	0	0	103.87	
Huntington Beach	203	625	0	458	0	270	0	120	0	798	1,419	0	1,314	1,432	0	3,617	7,760	2,981	751.18	0		
Irvine Ranch	2,411	2,861	0	1,715	4,255	0	25,018	1,014	0	4,257	0	1,421	632	0	754	1,110	0	45,567	81,113	2,004	2,658.70	
La Habra	0	0	33	90	0	0	0	15	0	109	0	0	338	0	0	300	0	0	481	1,236	900	218.61
La Palma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.24	
Laguna Beach	156	0	0	763	0	0	3,596	0	0	2,948	878	0	2,879	1,971	0	95	0	0	10	0	0	
Mesa Water	118	0	297	277	0	270	0	0	361	0	0	229	0	0	148	0	0	1,889	385	343	117.54	
Moulton Niguel	1,578	0	1,225	0	512	1,385	0	361	227	0	1,596	4,587	0	691	419	0	6,920	13,621	2,945	907.77		
Newport Beach	337	1,208	0	640	3,273	0	25,365	50	0	19,349	6,835	0	460	3,857	0	348	670	0	46,678	21,413	0	950.38
Orange	135	30	0	343	0	0	264	0	0	245	120	0	304	668	0	547	34	0	3,086	1,015	0	59.41
San Clemente	2,612	851	0	4,266	117	1,343	631	172	0	415	5,074	0	326	0	0	426	0	0	9,989	7,538	1,343	387.59
San Juan Capistrano	1,452	0	949	0	684	30	0	370	0	0	495	737	0	252	593	0	5,362	8,729	0	243.13		
Santa Margarita	3,959	3,566	0	4,817	0	0	983	0	0	389	0	0	1,207	1,513	0	1,344	837	0	15,674	6,921	611	421.38
Seal Beach	0	0	0	0	0	0	0	0	0	0	0	0	40	5,261	0	0	0	0	155	5,552	0	50.97
Serrano	364	0	0	58	0	0	190	0	0	105	0	0	377	0	0	467	0	0	3,177	0	0	48.85
South Coast	318	1,772	0	688	359	0	435	0	0	70	0	0	4,993	13,777	0	1,421	2,889	0	8,114	18,870	0	229.18
Trabuco Canyon	0	0	379	0	34	0	0	0	0	56	0	0	130	0	0	2,086	791	0	0	0	52.64	
Justin	512	0	476	1,013	0	378	0	0	329	0	0	408	0	0	277	45	0	3,266	1,058	0	60.68	
Westminster	0	0	26	0	0	15	0	0	0	54	0	0	57	0	0	343	0	0	5,449	4,359	500	5.47
Yorba Linda	529	0	0	559	0	0	730	0	0	40	990	0	921	0	0	1,336	0	0	5,449	4,359	500	258.43
MWDOC Totals	15,343	11,856	0	19,072	9,460	1,343	59,970	11,647	0	36,622	21,669	0	19,818	65,250	0	11,258	13,328	0	181,814	235,928	14,752	8,829.40

Anaheim	372	382	0	742	38,554	0	459	813	0	338	0	0	498	712	0	174	5,221	0	3,253	45,846	105	575.96
Fullerton	416	0	409	0	0	119	0	0	107	0	0	684	1,196	0	324	0	0	2,648	1,260	1,484	306.62	
Santa Ana	53	0	22	65	0	99	0	0	86	2,533	0	310	0	0	0	1,420	0	0	839	4,646	0	63.15
Non-MWDOC Totals	841	382	0	1,173	38,619	0	677	813	0	531	2,533	0	1,492	1,908	0	498	6,641	0	6,760	51,752	1,589	945.73

Orange County Totals	16,184	12,238	0	20,245	48,079	1,343	60,647	12,460	0	37,153	24,202	0	21,310	67,158	0	11,756	19,969	0	188,574	287,660	16,341	9,775.14
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SOCAL WATER\$MART COMMERCIAL PLUMBING FIXTURES REBATE PROGRAM^[1]
INSTALLED BY AGENCY
through MWDOC and Local Agency Conservation Programs

Agency	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	Totals	Cumulative Water Savings across all Fiscal Years
Brea	27	113	24	4	1	234	0	10	91	631	348
Buena Park	153	432	122	379	5	23	56	426	2,191	920	0
East Orange CWD RZ	0	0	0	0	0	0	0	0	0	0	0
El Toro WD	0	92	143	1	137	0	212	6	268	1,027	519
Fountain Valley	17	35	0	2	314	0	0	1	4	627	517
Garden Grove	5	298	130	22	0	4	1	167	488	1,853	1,316
Golden State WC	46	414	55	68	135	0	1	0	182	1,986	1,685
Huntington Beach	48	104	126	96	156	104	144	7	451	1,981	1,368
Irvine Ranch WD	121	789	2,708	1,002	646	1,090	451	725	2,739	13,547	5,937
La Habra	191	75	53	4	0	0	0	0	152	695	480
La Palma	0	140	21	0	0	0	0	0	0	166	74
Laguna Beach CWD	20	137	189	0	0	0	27	0	0	446	281
Mesa Water	141	543	219	669	41	6	0	79	384	3,195	1,821
Moulton Niguel WD	9	69	151	6	0	0	0	3	65	648	725
Newport Beach	98	27	245	425	35	0	0	566	0	1,834	1,144
Orange	18	374	67	1	73	1	271	81	115	2,019	1,562
San Juan Capistrano	2	1	1	0	0	0	14	0	0	260	367
San Clemente	2	18	43	0	19	0	0	1	0	432	350
Santa Margarita WD	6	23	11	0	0	0	0	2	90	207	186
Santiago CWD	0	0	0	0	0	0	0	0	0	0	0
Seal Beach	1	2	124	0	0	0	0	0	0	354	383
Serrano WD	0	0	0	0	0	0	0	0	0	0	0
South Coast WD	9	114	56	422	84	148	0	382	0	1,320	441
Trabucco Canyon WD	0	4	0	0	0	0	0	0	0	11	14
Tustin	115	145	25	230	0	0	0	75	110	942	724
Westminster	40	161	16	63	35	1	28	0	88	903	901
Yorba Linda	10	24	8	30	0	1	0	0	224	509	501
MWDOC Totals	1,079	4,134	4,537	3,424	1,966	1,594	1,172	2,161	5,877	37,784	22,563
Anaheim	766	3,298	582	64	48	165	342	463	1,309	11,681	6,113
Fullerton	133	579	29	4	0	94	0	178	128	1,809	1,429
Santa Ana	493	815	728	39	12	16	17	5	555	4,761	4,178
Non-MWDOC Totals	1,392	4,692	1,339	107	60	275	359	646	1,992	18,251	11,720
Orange County Totals	2,471	8,826	5,876	3,531	2,026	1,869	1,531	2,807	7,869	56,035	34,283

[1] Retrofit devices include ULF Toilets and Urinals, High Efficiency Toilets and Urinals, Multi-Family 4-Liter HEITs, Zero Water Urinals, High Efficiency Clothes Washers, Cooling Tower Conductivity Controllers, pH Cooling Tower Conductivity Controllers, Flush Valve Retrofit Kits, Pre-in-line Spray heads, Hospital X-Ray Processor Recirculating Systems, Steam Sterilizers, Food Steamers, Water Pressurized Brooms, Laminar Flow Restrictors, and Ice Making Machines.

Water Smart Landscape Program
Total Number of Meters
in Program by Agency

Agency	FY 06-07	FY 07-08	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	Overall Water Savings To Date (AF)
Brea	0	0	0	0	0	22	22	22	22	22	64,37
Buena Park	0	0	0	17	103	101	101	101	101	101	462,69
East Orange CWD RZ	0	0	0	0	0	0	0	0	0	0	0,00
El Toro WD	227	352	384	371	820	810	812	812	812	812	4,856,93
Fountain Valley	0	0	0	0	0	0	0	0	0	0	0,00
Garden Grove	0	0	0	0	0	0	0	0	0	0	0,00
Golden State WC	0	14	34	32	34	32	32	32	32	32	200,59
Huntington Beach	0	0	0	31	33	31	31	31	31	31	148,43
Irvine Ranch WD	646	708	1,008	6,297	6,347	6,368	6,795	6,797	6,797	6,790	38,304,89
Laguna Beach CWD	0	0	57	141	143	141	124	124	124	124	733,07
La Habra	0	0	23	22	24	22	22	22	22	22	136,72
La Palma	0	0	0	0	0	0	0	0	0	0	0,00
Mesa Water	138	165	286	285	288	450	504	511	514	515	2,943,57
Moulton Niguel WD	113	180	473	571	595	643	640	675	673	661	4,120,71
Newport Beach	23	58	142	171	191	226	262	300	300	300	1,501,19
Orange	0	0	0	0	0	0	0	0	0	0	0,00
San Clemente	204	227	233	247	271	269	269	299	299	407	459
San Juan Capistrano	0	0	0	0	0	0	0	0	0	0	0,00
Santa Margarita WD	618	945	1,571	1,666	1,746	1,962	1,956	2,274	2,386	2,386	14,178,10
Seal Beach	0	0	0	0	0	0	0	0	0	0	0,00
Serrano WD	0	0	0	0	0	0	0	0	0	0	0,00
South Coast WD	0	62	117	108	110	118	118	118	118	164	829,91
Trabucco Canyon WD	0	12	49	48	62	60	60	60	60	60	350,52
Tustin	0	0	0	0	0	0	0	0	0	0	0,00
Westminster	0	10	18	18	20	18	18	18	18	18	116,46
Yorba Linda WD	0	0	0	0	0	0	0	0	0	0	0,00
MWDOC Totals	1,969	2,733	4,395	10,025	10,787	11,273	11,766	12,196	12,435	12,487	71,316,9
Anaheim	0	0	0	142	146	144	190	190	190	190	1,351,53
Fullerton	0	0	0	0	0	0	0	0	0	0	0,00
Santa Ana	0	0	0	0	0	0	0	0	0	0	0,00
Non-MWDOC Totals	0	0	0	142	146	144	190	190	190	190	1,351,53
Orange Co. Totals	1,969	2,733	4,395	10,167	10,933	11,417	11,956	12,386	12,625	12,677	72,668,45

INDUSTRIAL PROCESS WATER USE REDUCTION PROGRAM

Number of Process Changes by Agency

Agency	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	Overall Program Interventions	Annual Water Savings[1]	Cumulative Water Savings across all Fiscal Years[1]
Brea	0	0	0	0	0	0	0	0	0	0	0	0
Buena Park	0	1	0	0	0	0	0	0	0	1	54	392
East Orange	0	0	0	0	0	0	0	0	0	0	0	0
El Toro	0	0	0	0	0	0	0	0	0	0	0	0
Fountain Valley	0	0	0	0	0	0	0	0	0	0	0	0
Garden Grove	0	0	0	0	0	0	0	0	0	0	0	0
Golden State	1	0	0	0	0	0	0	0	0	1	3	24
Huntington Beach	0	0	0	0	0	2	0	1	0	3	127	298
Irvine Ranch	0	0	2	1	1	1	0	0	0	6	98	415
La Habra	0	0	0	0	0	0	0	0	0	0	0	0
La Palma	0	0	0	0	0	0	0	0	0	0	0	0
Laguna Beach	0	0	0	0	0	0	0	0	0	0	0	0
Mesa Water	0	0	0	0	0	0	0	0	0	0	0	0
Moulton Niguel	0	0	0	0	0	0	0	0	0	0	0	0
Newport Beach	0	0	0	0	0	0	0	1	0	1	21	28
Orange	1	0	0	0	0	0	0	0	0	2	45	353
San Juan Capistrano	0	0	0	0	0	0	0	0	0	0	0	0
San Clemente	0	0	0	0	0	0	0	0	0	0	0	0
Santa Margarita	0	0	0	0	0	0	0	0	0	0	0	0
Seal Beach	0	0	0	0	0	0	0	0	0	0	0	0
Serrano	0	0	0	0	0	0	0	0	0	0	0	0
South Coast	0	0	0	0	0	0	0	0	0	0	0	0
Trabuco Canyon	0	0	0	0	0	0	0	0	0	0	0	0
Tustin	0	0	0	0	0	0	0	0	0	0	0	0
Westminster	0	0	0	0	0	0	0	0	0	0	0	0
Yorba Linda	0	0	0	0	0	0	0	0	0	0	0	0
MWDOC Totals	2	1	2	1	1	3	1	2	0	14	348	1509
Anaheim	0	0	0	0	0	0	0	0	0	0	0	0
Fullerton	0	0	0	0	0	0	0	0	0	0	0	0
Santa Ana	0	0	0	0	0	0	0	0	1	1	11	90
OC Totals	2	1	2	1	1	3	1	2	1	15	359	1599

[1] Acre feet of savings determined during a one year monitoring period.
If monitoring data is not available, the savings estimated in agreement is used.

HIGH EFFICIENCY TOILETS (HETS) INSTALLED BY AGENCY

through MWDOC and Local Agency Conservation Programs

Agency	FY05-06	FY 06-07	FY 07-08	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	Total	Cumulative Water Savings across all Fiscal Years
Brea	0	2	7	43	48	8	0	0	38	146	145	437	57.97
Buena Park	0	1	10	124	176	7	0	0	96	153	100	659	127.17
East Orange CWD RZ	0	0	10	1	0	0	0	0	13	26	24	86	13.11
El Toro WD	0	392	18	75	38	18	0	133	218	869	225	1,986	349.20
Fountain Valley	0	69	21	262	54	17	0	0	41	132	189	785	171.56
Garden Grove	0	14	39	443	181	24	0	0	63	350	337	1,451	283.95
Golden State WC	2	16	36	444	716	37	80	2	142	794	489	2,758	519.35
Huntington Beach	2	13	59	607	159	76	0	0	163	1,190	571	2,840	448.91
Irvine Ranch WD	29	1,055	826	5,088	2,114	325	0	1,449	810	1,777	1,969	15,442	3,809.21
Laguna Beach CWD	0	2	17	91	28	11	0	0	45	112	65	371	67.54
La Habra	0	3	18	296	34	20	0	0	37	94	71	573	139.93
La Palma	0	1	10	36	26	13	0	0	21	59	50	216	37.41
Mesa Water	0	247	19	736	131	7	0	0	147	162	148	1,597	442.66
Moulton Niguel WD	0	20	104	447	188	46	0	0	400	2,497	1,801	5,503	608.55
Newport Beach	0	5	19	163	54	13	0	0	49	168	216	687	114.06
Orange	1	20	62	423	79	40	0	1	142	978	399	2,145	329.02
San Juan Capistrano	0	10	7	76	39	11	0	0	35	140	182	500	71.37
San Clemente	0	7	22	202	66	21	0	0	72	225	223	838	143.04
Santa Margarita WD	0	5	14	304	151	44	0	0	528	997	989	3,032	361.58
Seal Beach	0	678	8	21	12	1	0	2	17	50	56	845	311.75
Serrano WD	2	0	1	13	5	0	0	0	2	40	50	113	13.02
South Coast WD	2	29	102	41	12	23	64	102	398	229	1,004	135.34	32.86
Trabuco Canyon WD	0	0	4	23	23	0	0	0	10	108	145	313	1,476
Tustin	0	186	28	387	479	17	0	0	64	132	183	395.88	395.88
Westminster	0	17	25	541	167	23	0	0	35	161	337	1,306	289.15
Yorba Linda WD	0	14	89	323	96	18	0	0	40	280	357	1,217	227.35
MWDOC Totals	38	2,779	1,494	11,282	5,106	809	103	1,651	3,330	12,038	9,550	48,180	9,500.93

Anaheim	0	255	78	2,771	619	114	0	0	156	1,188	566	5,747	1,440.50
Fullerton	0	4	28	286	60	23	0	0	61	293	266	1,021	177.60
Santa Ana	0	11	25	925	89	23	0	0	33	602	274	1,982	428.70
Non-MWDOC Totals	0	270	131	3,982	768	160	0	0	250	2,083	1,106	8,750	2,046.79

Orange County Totals	38	3,049	1,625	15,264	5,874	969	103	1,651	3,580	14,121	10,656	56,930	11,547.72
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TURF REMOVAL BY AGENCY^[1]

through MWDOC and Local Agency Conservation Programs

Page

Anaheim	0	0
B Fullerton	0	0
Santa Ana	0	0
Non-MWDOC Totals	0	0
Orange County Totals	183,524	241,224

[1]

HOME WATER SURVEYS PERFORMED BY AGENCY
 through MWDOC and Local Agency Conservation Programs

Agency	FY 13/14		FY 14/15		FY 15/16		Total Surveys	Total Cert Homes	Cumulative Water Savings
	Surveys	Cert Homes	Surveys	Cert Homes	Surveys	Cert Homes			
Brea	1	0	2	0	0	0	3	0	0.16
Buena Park	0	0	1	0	0	0	1	0	0.05
East Orange	19	0	1	0	0	0	20	0	1.39
El Toro	0	0	3	0	0	0	3	0	0.14
Fountain Valley	3	0	4	0	1	0	8	0	0.42
Garden Grove	0	0	6	0	1	0	7	0	0.31
Golden State	0	0	0	0	0	0	0	0	0.00
Huntington Beach	2	0	5	0	2	0	9	0	0.42
Irvine Ranch	1	0	3	0	6	0	10	0	0.35
La Habra	0	0	1	0	0	0	1	0	0.05
La Palma	0	0	0	0	0	0	0	0	0.00
Laguna Beach	4	0	8	0	1	0	13	0	0.68
Mesa Water	0	0	0	0	0	0	0	0	0.00
Moulton Niguel	4	0	4	0	0	0	8	0	0.47
Newport Beach	2	0	8	0	6	0	16	0	0.66
Orange	2	0	18	0	1	0	21	0	1.01
San Clemente	15	0	13	0	0	0	28	0	1.67
San Juan Capistrano	4	0	13	0	2	0	19	0	0.94
Santa Margarita	15	0	40	1	14	0	69	1	3.27
Seal Beach	0	0	1	0	2	0	3	0	0.09
Serrano	0	0	2	0	0	0	2	0	0.09
South Coast	6	0	4	0	1	0	11	0	0.64
Trabuco Canyon	0	0	4	0	0	0	4	0	0.19
Tustin	0	0	10	0	5	0	15	0	0.59
Westminster	0	0	0	0	0	0	0	0	0.00
Yorba Linda	0	0	13	0	10	0	23	0	0.85
MWDOC Totals	78	0	164	1	52	0	294	1	14.44
Orange County Totals	78	0	181	1	53	0	312	1	15.266

SYNTHETIC TURF INSTALLED BY AGENCY^[1]
 through MWDOC and Local Agency Conservation Programs

Agency	FY 07/08			FY 08/09			FY 09/10			FY 10/11			Total Program		Cumulative Water Savings across all Fiscal Years
	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	
Brea	0	0	2,153	2,160	500	0	0	0	0	0	2,653	2,160	3,30		
Buena Park	0	0	1,566	5,850	0	0	0	0	0	0	1,566	5,850	5.19		
East Orange	0	0	0	983	0	0	0	0	0	0	983	0	0.55		
El Toro	3,183	0	2,974	0	3,308	0	895	0	0	0	10,360	0	6.98		
Fountain Valley	11,674	0	1,163	0	2,767	0	684	0	0	0	16,288	0	12.46		
Garden Grove	1,860	0	0	3,197	0	0	274	0	0	0	5,331	0	3.47		
Golden State	6,786	0	13,990	0	15,215	0	2,056	0	0	0	38,047	0	24.88		
Huntington Beach	15,192	591	12,512	0	4,343	1,504	0	0	0	0	32,047	2,095	25.29		
Irvine Ranch	11,009	876	13,669	0	2,585	0	0	0	0	0	27,263	876	21.00		
La Habra	0	0	0	0	0	0	0	0	0	0	0	0	-		
La Palma	429	0	0	0	0	0	0	0	0	0	429	0	0.36		
Laguna Beach	3,950	0	3,026	0	725	0	0	0	0	0	7,701	0	5.84		
Mesa Water	4,114	0	3,005	78,118	4,106	0	2,198	0	0	0	13,423	78,118	63.46		
Moulton Niguel	14,151	0	25,635	2,420	7,432	0	0	0	0	0	47,218	2,420	35.69		
Newport Beach	2,530	0	6,628	0	270	0	0	0	0	0	9,428	0	6.92		
Orange	4,169	0	7,191	0	635	0	0	0	0	0	11,995	0	8.89		
San Clemente	9,328	0	11,250	455	2,514	1,285	500	0	0	0	23,592	1,740	18.37		
San Juan Capistrano	0	0	7,297	639	2,730	0	4,607	0	0	0	14,634	639	9.02		
Santa Margarita	12,922	0	26,069	0	21,875	0	7,926	0	0	0	68,792	0	44.68		
Seal Beach	0	0	817	0	0	0	0	0	0	0	817	0	0.57		
Serrano	7,347	0	1,145	0	0	0	0	0	0	0	8,492	0	6.97		
South Coast	2,311	0	6,316	0	17,200	0	1,044	0	0	0	26,871	0	16.43		
Trabuco Canyon	1,202	0	9,827	0	0	0	0	0	0	0	11,029	0	7.89		
Tustin	6,123	0	4,717	0	2,190	0	0	0	0	0	13,030	0	9.67		
Westminster	2,748	16,566	8,215	0	890	0	0	0	0	0	11,853	16,566	22.47		
Yorba Linda	11,792	0	12,683	0	4,341	5,835	0	0	0	0	28,816	5,835	24.48		
MWDOC Totals	132,820	18,033	181,848	89,642	97,806	8,624	20,184	0	432,658	116,299	384,83				
Orange County Totals	142,220	18,909	198,130	109,735	118,109	73,924	24,411	0	482,870	202,568	468.63				

[1]Installed device numbers are calculated in square feet

ULF TOILETS INSTALLED BY AGENCY
through MWDOC and Local Agency Conservation Programs

Agency	Previous Years	FY 95-96	FY 96-97	FY 97-98	FY 98-99	FY 99-00	FY 00-01	FY 01-02	FY 02-03	FY 03-04	FY 04-05	FY 05-06	FY 06-07	FY 07-08	FY 08-09	Total	Cumulative Water Savings across all Fiscal Years
Brea	378	189	299	299	122	144	867	585	341	401	26	48	17	4	0	3,720	1,692,64
Buena Park	361	147	331	802	520	469	524	1,229	2,325	1,522	50	40	18	9	0	8,347	3,498,37
East Orange CWD RZ	2	0	33	63	15	17	15	50	41	44	19	18	13	2	0	332	135,23
El Toro WD	1,169	511	678	889	711	171	310	564	472	324	176	205	61	40	0	6,281	3,091,16
Fountain Valley	638	454	635	858	1,289	2,355	1,697	1,406	1,400	802	176	111	58	32	0	11,911	5,383,10
Garden Grove	1,563	1,871	1,956	2,620	2,801	3,556	2,423	3,855	3,148	2,117	176	106	67	39	0	26,298	12,155,41
Golden State WC	3,535	1,396	3,141	1,113	3,024	2,957	1,379	2,143	3,222	1,870	167	116	501	43	0	24,607	11,731,47
Huntington Beach	3,963	1,779	2,600	2,522	2,319	3,492	3,281	2,698	3,752	1,901	367	308	143	121	0	29,246	13,854,70
Irvine Ranch WD	4,016	841	1,674	1,726	1,089	3,256	1,534	1,902	2,263	6,741	593	626	310	129	0	26,700	11,849,23
Laguna Beach CWD	283	93	118	74	149	306	220	85	271	118	32	26	29	6	0	1,810	845,69
La Habra	594	146	254	775	703	105	582	645	1,697	1,225	12	31	6	7	0	6,782	2,957,73
La Palma	65	180	222	125	44	132	518	173	343	193	31	27	20	17	0	2,090	927,52
Mesa Water	1,610	851	1,052	2,046	2,114	1,956	1,393	1,505	2,387	988	192	124	56	14	0	16,288	7,654,27
Moulton Niguel WD	744	309	761	698	523	475	716	891	728	684	410	381	187	100	0	7,607	3,371,14
Newport Beach	369	293	390	571	912	1,223	438	463	396	1,883	153	76	36	16	0	7,219	3,166,77
Orange	683	1,252	1,155	1,355	533	2,263	1,778	2,444	2,682	1,899	193	218	88	53	4	16,800	7,347,93
San Juan Capistrano	1,234	284	193	168	323	1,319	347	152	201	151	85	125	42	39	0	4,663	2,324,42
San Clemente	225	113	191	65	158	198	667	483	201	547	91	66	37	34	0	3,076	1,314,64
Santa Margarita WD	577	324	553	843	345	456	1,258	790	664	260	179	143	101	29	0	6,522	3,001,01
Seal Beach	74	66	312	609	47	155	132	81	134	729	29	10	6	12	0	2,396	1,073,80
Serrano WD	81	56	68	41	19	52	95	73	123	98	20	15	14	2	0	757	338,66
South Coast WD	110	176	177	114	182	133	358	191	469	88	72	32	22	0	2,305	990,05	
Trabuco Canyon WD	10	78	42	42	25	21	40	181	102	30	17	20	12	14	0	634	273,02
Justin	968	668	557	824	429	1,292	1,508	1,206	1,096	827	69	89	26	12	0	9,571	4,423,38
Westminster	747	493	969	1,056	2,336	2,291	2,304	1,523	2,492	1,118	145	105	70	24	0	15,683	7,064,28
Yorba Linda WD	257	309	417	457	404	1,400	2,759	1,690	1,155	627	158	136	81	41	0	7,891	3,409,49
MWDOC Totals	24,256	12,879	18,778	20,765	21,136	30,242	24,918	27,175	31,827	27,568	3,654	3,242	2,031	861	4	249,336	113,873,61

Orange County Totals	27,267	17,040	22,465	28,348	26,343	48,719	37,051	46,473	54,463	43,556	4,578	3,824	2,562	1,230	7	363,926	162,561,30
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