

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

Jointly with the  
**PLANNING & OPERATIONS COMMITTEE**

June 4, 2018, 8:30 a.m.  
MWDOC Conference Room 101

**P&O Committee:**

Director Osborne, Chair  
Director Tamaribuchi  
Director Yoo Schneider

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

Ex Officio Member: Director Barbre

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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>.

**DISCUSSION ITEM**

1. WEROC EOC UNKNOWN CONTAMINATION EXERCISE

**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.)

2. BAY-DELTA FISHERIES HABITAT DISCUSSIONS AT ACWA CONFERENCE

### 3. 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

### 4. 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.



**DISCUSSION ITEM**  
**June 4, 2018**

**TO:** Planning & Operations Committee  
(Directors Osborne, Tamaribuchi, Yoo Schneider)

**FROM:** Robert Hunter, General Manager

Staff Contact: Kelly Hubbard, WEROC Manager

**SUBJECT:** WEROC Unknown Contamination Exercise After Action/ Corrective Action Report

**STAFF RECOMMENDATION**

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Staff recommends the Planning & Operations Committee review the WEROC Unknown Contamination Exercise After Action Report, receive the staff presentation and discuss any additional questions.

**COMMITTEE RECOMMENDATION**

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Committee recommends (To be determined at Committee Meeting)

**SUMMARY**

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WEROC started a planning and training program which focused on the concept of the Emergency Water Quality Sample Kits (EWQSK) in the fall of 2016. The kits are a resource that the Division of Drinking Water (DDW) maintains for a potential response to an unknown contamination of a water system based on the EPA guidelines for responding to such an event. Although the guidelines and kits were developed in 2006, very little training had been provided locally and knowledge of the concepts had since been forgotten. WEROC provided trainings and exercises over the last year and a half for our member agencies, our EOC staff and partner agencies, as building blocks leading up to an EOC Functional Exercise on May 15, 2018. In accordance with the California Standardize Emergency Management System (SEMS) and the National Incident Management System (NIMS) guidelines, WEROC staff has conducted a hot wash process of the trainings and exercises and written an After Action/ Corrective Action Report.

<b>Budgeted (Y/N): NA</b>	Budgeted amount:	Core __	Choice __
<b>Action item amount:</b>	Line item:		
<b>Fiscal Impact (explain if unbudgeted):</b>			

Staff recommends the Planning & Operations Committee review the WEROC Unknown Contamination Exercise After Action/ Corrective Action Report, hear the staff presentation, and discuss any additional questions.

Attachment A: WEROC Unknown Contamination Exercise After Action/ Corrective  
Action Report  
Attachment B: WEROC Unknown Contamination Exercise Presentation

**ATTACHMENT A:**  
**WEROC UNKNOWN CONTAMINATION EXERCISE AFTER ACTION /**  
**CORRECTIVE ACTION REPORT**

**Event Name**

Drink Up 2018

**Event Summary**

This exercise involved multiple agencies operating with the same simulated disaster scenario for the purpose of allowing the WEROC Emergency Operations Center (EOC) and WEROC member agencies to facilitate role play that would encourage and improve collaboration and communication between these agencies, as they will need to coordinate in a real event. While the scenario remains the same, participating agencies are playing at different levels to facilitate the best learning environment for their particular agency. Below is a chart of the participating organizations and their level of participation.

<b>Participating Organizations</b>	<b>Level of Participation</b>
<b>State</b>	
California Office of Emergency Services; Southern Region (CalOES)	Support (@ WEROC EOC)
State Water Resource Control Board, Division of Drinking Water, Orange County District (DDW)	Functional (@ WEROC EOC)
<b>Orange County</b>	
Health Care Agency (HCA)	Support (@ WEROC EOC)
<b>City</b>	
City of Costa Mesa, Emergency Management	Support (@ WEROC EOC)
City of Santa Ana, Public Works Department	Support (@ WEROC EOC)
City of Westminster, Emergency Management	Support (@ WEROC EOC)
City of Westminster, Water Division	Support (@ SCWD EOC) - Postponed
<b>Special Districts</b>	
East Orange County Water District (EOCWD)	Tabletop
El Toro Water District (ETWD)	Tabletop (Postponed)
Mesa Water District (Mesa)	Functional
Midway City Sanitation District (MCSD)	Field/Tabletop
Santa Margarita Water District (SMWD)	Functional
South Coast Water District (SCWD)	Functional (Postponed)
Yorba Linda Water District (YLWD)	Support (@ WEROC EOC)
Water Emergency Response Orange County (WEROC)	Functional

### Exercise Scenario Summary

Simulated event description for the WEROC EOC. THIS WAS FOR THE EXERCISE ONLY:

*“The Security and Preparedness Program Office of the National American Water Works Association (AWWA) has notified the WEROC Emergency Manager that they have been informed by Homeland Security of a threat to contaminate drinking water systems in Southern California. The threat specified the creation of mass terror, illness and possible death thru the contamination of multiple water systems. The Orange County Intelligence Assessment Center (OCIAAC) has confirmed that they believe the threat is a valid concern and that there is a high likelihood of an attempt to contaminate several water systems in Orange County.*

*At this time no information is available on specific targets, contaminants or methods to introduce a contaminant into a system. It is unclear if the attack has already occurred or not.*

*This information is currently considered to be For Official Use Only (FOUO) as there is legitimate concern for mass panic.*

*It has been decided that the WEROC Emergency Operations Center (EOC) should be activated to ensure proactive communications and coordination with the WEROC Member Agencies and our response partners, as well as to conduct Advance Planning for a possible event and be prepared to respond if notified of a possible breach and contamination of a drinking water system.*

*WEROC EOC Staff should utilize this time to review their position guides and resources to guide them in determining what coordination and communication should be established at this time. Some refresher materials on Response to an Unknown Contamination Event has been distributed as well for review and reference.”*

Participating water agencies had scenarios that presented information regarding possible breaches in the security of drinking water or unusual water quality concerns. Their staff had to determine if the event resulted in a possible, credible or confirmed threat to their water system, what actions they would take to respond, what partner agencies should be notified and what resources they would need to support the response.

### WEROC’s Preparedness and Response Summary

WEROC started a planning and training program which focused on the concept of the Emergency Water Quality Sample Kits (EWQSK) in the fall of 2016. The kits are a resource that the Division of Drinking Water maintains for a potential response to an unknown contamination of a water system based on the EPA guidelines for responding to such an event. These guidelines and kits were developed in 2006, but to our knowledge have not been trained on or reviewed in CA since. A recommended training and planning cycle for a large disaster exercise includes the development of tools/resources, training (specialty and EOC), tabletop exercises, a corrective process based on the tabletop, and then the functional exercise. The idea is that an agency is then providing building blocks for their agency and staff to have a successful larger and more

complex exercise. In order to facilitate this exercise planning cycle and support the WEROC Member Agencies through the process, WEROC hosted the following activities leading up to this exercise:

- Homeland Security Grant for EWQSK Training Kits (Fall 2016)
- Training on the Kits and Technical Concepts related to their use (Spring 2017)
- EOC and response tool training (Fall 2017)
- Exercise planning and event (Spring 2018)

WEROC provides contact hours for Water Operator Certification whenever possible as value added to our agencies and their staff. All activities below are noted with the contact hours that were available per session.

#### Grant Funding

In November 2016, Kelly Hubbard approached the Orange County Urban Area Working Group for grant money to purchase duplicate EWQSKs for training purposes. WEROC was approved for \$1,500 to create 3 duplicate kits.

#### Technical Training

WEROC hosted a series of trainings to provide information on the EWQSK and response protocols, as well as to facilitate discussion amongst those who would respond together. These trainings have a separate After Action Report that is available from the WEROC Manager.

Technical Training hosted from May 2017 - August 2017:

- Emergency Water Quality Sample Kit (EWQSK) Training (3 contact hours) - 4 Sessions
  - Trainers – Joe Crisologo, DDW and Kelly Hubbard
- Water Quality Public Notification Language & Protocols (3 contact hours) – 2 Sessions
  - Trainers – Oliver Pacifico, DDW and Kelly Hubbard
- Determination of a Credible Threat (3 contact hours) – 2 Sessions
  - Trainers – Orange County Intelligence Assessment Center (OCIAC) staff and Kelly Hubbard
- Unknown Contaminate Joint Agency Tabletop Exercise (3 contact hours) – 2 Sessions
  - Trainer – Kelly Hubbard

## Participating Agencies in Technical Training Series:

<b>Cities*:</b>	<b>WEROC Agencies:</b>	<b>County/Regional Partners:</b>
Aliso Viejo	Costa Mesa Sanitary District	John Wayne Airport
Anaheim	El Toro Water District	Orange County Health Care Agency
Buena Park	East Orange County Water District	Orange County Intelligence Assessment Center
Costa Mesa	Golden State Water Company	State Water Resource Control Board, Division of Drinking Water
Fountain Valley	Mesa Water District	
Fullerton	Moulton Niguel Water District	
Garden Grove	Municipal Water District of Orange County	
Huntington Beach	Orange County Sanitation District	
Laguna Niguel	Santa Margarita Water District	
La Palma	South Coast Water District	
Newport Beach	South Orange County Wastewater Authority	
San Juan Capistrano	Yorba Linda Water District	
Santa Ana		
Westminster		

\*Includes Emergency Management, Water Representative or in some cases both.

EOC and Support Tool Training

WEROC hosted a series of trainings to prepare the Member Agencies and WEROC EOC staff for the actual functional exercises. Trainings hosted and provided by Kelly Hubbard from September 2017 to April 2018:

- WEROC EOC Staff Training (2 contact hours) – 2 Sessions
- NIMS/SEMS/ICS (3 contact hours) – 2 Sessions
- EOC Section Trainings (3 contact hours) – 4 Sessions (Logistics, Finance & Administration, Management, Planning & Intelligence)
- WebEOC Training (1.5 contact hours) – 2 Sessions
- AlertOC Training (1.5 contact hours) – 1 Session
- EWQSK Refresher Training (3 contact hours) – 1 Session



## Participating Agencies in EOC and Support Tool Training Series:

<b>WEROC Private Sector Volunteers:</b>	<b>WEROC Agencies:</b>	<b>County/Regional Partners:</b>
AECOM	Costa Mesa Sanitary District	Orange County Sheriff's Department; Emergency Management
Michael Baker Inc.	El Toro Water District	State Water Resource Control Board, Division of Drinking Water
Retired Member Agency Engineer	Mesa Water District	
Wood PLC	Municipal Water District of Orange County	
	Orange County Sanitation District	
	South Coast Water District	
	Yorba Linda Water District	

Exercise Planning

WEROC hosted a series of planning meetings to facilitate the development of guidance documents for response to an unknown contamination of a water or wastewater system, as well as to assist the member agencies in developing the materials needed to run their exercise on May 15. WEROC staff led the group through the development of several documents:

- EWQSK Field Sampling Instructions
- EWQSK Unknown Contamination Quick Response Sheet – Water Operations Field
- EWQSK Unknown Contamination Quick Response Sheet – Sewer Operations Field
- EWQSK Unknown Contamination Quick Response Sheet – Emergency Manager/Incident Commander
- EWQSK Unknown Unknown Contamination SOP (Still in Development)

## Planning Meeting Participants:

<b>WEROC Agencies:</b>	<b>County/Regional Partners:</b>
Anaheim	Orange County Health Care Agency
East Orange County Water District	State Water Resource Control Board, Division of Drinking Water
El Toro Water District	
Garden Grove	
Golden State Water Company	
Huntington Beach	
Irvine Ranch Water District	
Mesa Water District	
MET	
Midway City Sanitary District	
Moulton Niguel Water District	
Municipal Water District of Orange County	
Orange County Sanitation District	
Santa Ana	
South Coast Water District	
Westminster	
Yorba Linda Water District	

WEROC Functional Exercise

WEROC conducted Drink Up 2018 as a functional exercise on May 15, 2018 at its South Emergency Operations Center (EOC) from 8:00 am – 2:00 pm. EOC staff have been assigned positions that they will fill in a majority of exercises and events. Kelly Hubbard was the Exercise Director for this exercise. Several volunteers from outside agencies acted as both Evaluators and Simulators. As simulators they represented specific agencies (OC HCA Hazmat, OC Operational Area EOC, Cities, Water Utilities not playing, and Cal OES) that WEROC EOC Staff could discuss response concepts with in order to better understand how those agencies may respond in a real event. This allowed for both the simulation of the exercise and a learning process at the same time.

The WEROC Manager conducted an after-action briefing with the EOC staff immediately following the exercise and asked all staff to complete a feedback form. WEROC and its Member Agencies conducted an after-action meeting on May 22nd.

All of the comments and suggestions received as part of these processes that pertain to the WEROC program are reflected in this report.

**Activation Status**

WEROC activated its South Emergency Operations Center (EOC) with 28 EOC staff participants, which is considered a full activation of the EOC. EOC staff received information from 2 participating water utilities during the exercise and 5 Evaluator/Simulators representing various agencies or sectors. Information was collected, sorted, assessed, posted, shared, and responded to from the following sources:

- WebEOC

- AlertOC
- Phone Calls
- Email
- In Person Discussion with Simulators
- Simulated Injects from the Exercise Director
- All staff utilized 6 EOC information tracking boards to display and share information with others in the EOC.

### **Responding Staff**

Special thanks must be given to the WEROC staff that come from MWDOC, the WEROC Member agencies, Partner Agencies and the private sector volunteers (see Attachment 1: WEROC EOC Org Chart – May 2018 Exercise):

- 23 MWDOC Staff
- 2 Private Sector Volunteers
- 2 DDW
- 3 WEROC Member Agency Mutual Aid Staff
- 4 Response Agency Partners

Having all of the staff participate at the same time, means that some positions end up being double staffed. This has both positives and negatives. One downside is that some staff end up not participating as fully because they are splitting the duties. One a positive note it also means that the staff can work as a team to identify their position objectives and ensure they are achieving their intended function.

Since the OA EOC, and other response agencies were not activated for this exercise, certain positions were not staffed, including the liaison, MET radio and OA radio positions. Additionally, the WEROC Radio and position was not used for this exercise, since we are still in the process of transitioning to the new 800MHz system.

### **SEMS/NIMS/ICS Evaluation**

The WEROC EOC and Emergency Operations Plan (EOP) were developed based on the Standardized Emergency Management System (SEMS), the National Incident Management System (NIMS) and the Incident Command System (ICS) principles. These three systems reflect best management practices for emergency response, management and coordination nationally. The WEROC EOP was recently updated and approved by the MWDOC Board in March 2018. The updated plan continues to reflect the Area Command role that WEROC plays within Orange County for water and wastewater utilities. WEROC continues to utilize a traditional ICS structure for Area Command which includes EOC Sections for Management, Planning and Intelligence, Finance and Administration, and Logistics. In addition to these functions the WEROC EOC also integrates the Orange County District Office of the State Water Resources Control Board, Division of Drinking Water (DDW) into its EOC. DDW has the regulatory authority and directive to monitor and maintain safe drinking water in CA. During a disaster WEROC and DDW would work together to collect information on OC utilities and to understand the impacts on drinking water.

In addition to the organizational structure within the EOC, WEROC operates within the 5 SEMS levels of coordination. WEROC acts as the Operational Area coordinator for water and wastewater utilities. This means that water and wastewater utilities report their concerns to WEROC, WEROC in turn provides summary reports to the Operational Area (simulated for this exercise) and then the Operational Area reports concerns to the California Office of Emergency Services through their Southern Region EOC (simulated for this exercise).

### **Evaluation of Core Capabilities and Lessons Learned**

The purpose of facilitating disaster exercises is to evaluate the effectiveness of emergency response systems (including staff, the EOC, resources, etc.) prior to a real event, in order to learn what systems are working well, what can be improved upon and additional areas of planning that may be needed. In order to learn from our exercises WEROC does 3 things to receive feedback: 1. Invites outside evaluators; 2. Conducts a hot wash (verbal and written) with EOC participants and member agencies, and 3. Reviews all actions taken during the exercise (via activity logs, notes, and observation).

The WEROC staff successfully responded to and facilitated an EOC response to support our member agencies with a simulated terrorism event involving the potential contamination of drinking water. This event was very different from past exercises or real events in that it involved very few actionable solutions (e.g. find pipes to replace ones broken by an earthquake) and instead involved more theoretical and advanced planning concepts (i.e. development of policy, managing public perception, long-term planning for alternative water and sanitation resources, and advance planning for when the contaminant may be identified.) Staff had to sort through these differences, identify what WEROC's role would be and determine what that meant for their position. At times this slowed responses and concerned staff that they were not responding faster. However, the pace was appropriate for this event, both because of the scenario's unique nature of WEROC's roll and the added gravity of a potential terrorist event. and the implications of making decisions or public notifications without complete information.

Below are a few of the major exercise successes and areas of improvements identified through all 3 feedback methods.

#### **WEROC Exercise successes:**

- Most staff actively utilized their position resources to identify their role within the EOC and important actions they should be taking.
- EOC staff utilized the white boards effectively to display and share information. More importantly they remembered to continually update and verify the information throughout the exercise.
- All of the outside evaluators noted the teamwork and great communications among staff.
- The Logistics Staff were asked to order food for the staff as part of the exercise. This was a great little challenge that pushed the Logistics staff to think about allergies, food orders for large groups, purchasing capabilities and coordination with the Finance and Administration Section.
- Staff successfully developed and sent a reverse notification to the WEROC Member Agencies through AlertOC, including a survey of our contacts on preferred contact method during emergencies.

- The WEROC EOC staff and the partner agencies who attended the exercise had valuable conversations and discussion about responding to an unknown contamination of a water or wastewater system. Clarification of agency roles, capabilities and gaps were identified.

#### Areas of Improvement:

- Staff and evaluators all noted that they felt the need to be able to speed up the EOC's initial response activities, such as notifying member agencies and response partners, developing an EOC Action Plan, and producing and sharing a WEROC Water and Wastewater Situation Summary Report. The WEROC Manager reminded staff that an exercise typically moves at a faster pace than a real event often making participants feel behind the curve. Additionally as noted above, the pace was appropriate for this event considering the implications of making decisions or public notifications without complete information. However there are some concepts that could assist staff in improving their initial response activities effectiveness and timeliness:
  - Continued training specific to these areas of concern on protocols, computer systems and resources available.
  - Continued discussion of how such an event would unfold, potential impacts to our member agencies, considerations for joint/regional infrastructure, response partners, concerns with notifications, etc.
  - Development of message maps that could be utilized by the WEROC Member Agencies, as well as the WEROC EOC in coordinating regional information.
- In sending a reverse notification to the WEROC Member Agencies through AlertOC, staff was able to identify some problems with the internal contacts that WEROC and potentially our member agencies have in Everbridge (software platform for AlertOC). Staff have been able to identify this as a data base synching issue. For example a business phone number loading into the software system as a home phone number. WEROC staff will work with the Operational Area staff to facilitate correcting this information within the system.
- Due to the great conversations about responding to an unknown contamination and the potential community impacts, staff identified additional concerns to continue to work on with member agencies and the DDW. Some of those concerns include:
  - The general recommendation to issue a "Do Not Use" for an unknown contamination event, which includes impacts to fire suppression capabilities.
  - How would a potential incident involving a joint agency pipeline or reservoir be handled? Including which agency has authority/responsibility to respond and determine water quality concerns.
  - Having sufficient resources to sample many jurisdictions across the county, including hazardous response teams, EWQSK, and the appropriate certified labs for this type of event.
  - Additional questions regarding the coordination of the water utilities, hazardous materials teams, law enforcement, and labs were discussed and need further consideration.

Below is a chart of the Core Capabilities, Objectives and Tasks that the WEROC EOC was looking to test and achieve during the exercise. The outside evaluators are provided an Evaluator Form, which includes these concepts, as well as an area for them to provide feedback on our

successes or recommendations to meet those we struggled with or did not accomplish. The WEROC EOC mostly met all of its Core Capabilities, Objectives and Tasks it was looking to test with some challenges noted. The following is the compiled feedback from the Evaluators with some clarification provided by the WEROC Manager.

Compiled Evaluator Feedback:

<b>Core Capabilities and Objectives</b>	<b><u>Evaluation</u></b> P = Performed without challenges S = Some challenges M = Major challenges U = Unable to perform	<b><u>Comments</u></b>
<b>Capability 1 - Emergency Operations Coordination</b>		
Objective 1.1 - The WEROC EOC Staff will validate the 2018 WEROC EOP and updated position resources to successfully manage the operations of the EOC.	P	Overall staff utilized their position binders, the WEROC EOP, and various resources successfully.
Task 1.1.1 - Utilize Position Guides and Resources throughout the exercise to guide staff activities, including how information is disseminated and displayed within the EOC.	S	Staff tend to utilize their guides and resources initially, but then typically struggle to continue to do so as they get swept up in the pace and excitement of an exercise. Continued training in the position guides and other resources available will reinforce the benefits of these tools.
Task 1.1.2 - Produce an initial EOC Action Plan and distribute to EOC staff.	S	Staff produced an EOC Action Plan and distributed it to the EOC staff. There were delays in completing this task due to the Planning and Intelligence Chief being overwhelmed with requests and discussion. Consideration should be given on how to lighten this burden and maintain chain of command.

Core Capabilities and Objectives	<u>Evaluation</u> P = Performed without challenges S = Some challenges M = Major challenges U = Unable to perform	<u>Comments</u>
<b>Capability 2 - Situation Assessment</b>		
Objective 2.1 - Demonstrate the ability of the WEROC EOC to facilitate timely and accurate multi-agency situational awareness.	S	Staff successfully used several platforms to notify member agencies and coordination partners (AlertOC and WebEOC). Challenges were related to infrequent use of systems, identifying non-water agencies that should be notified and verifying what information should be released.
Task 2.1.1 - Practice the ability to notify, survey and/or sustain communications with Member Agencies regarding a probable threat to water systems and their anticipated response via AlertOC notifications systems.	S	WebEOC and AlertOC will continue to be a challenge for EOC staff due to infrequent use of those systems. How to log in, which system does what, and how to navigate each all seem to be a concern within every exercise. It is important to maintain an active training program for these and to remind staff of the Quick Guides that have been created for each program to assist staff. Additional consideration is needed for which role should have responsibility to notify Member Agencies and coordination partners.
Task 2.1.2 - Produce an initial WEROC Situation Summary report and identify the appropriate response partners who would receive the report.	S	Staff produced 2 Situation Summary Reports, but felt that they needed to be completed in a more expedient manner. Additional training for the Planning and Intelligence Section staff will be beneficial. However some delays were due to the complexities of this event and trying to verify information before putting together a summary report. Staff were encouraged in the future to produce a quick, snapshot of known information faster and then continue to work on a detailed report.

Core Capabilities and Objectives	<u>Evaluation</u> P = Performed without challenges S = Some challenges M = Major challenges U = Unable to perform	<u>Comments</u>
<b>Capability 3 – Emergency Public Information and Warning</b>		
Objective 3.1 – Analyze what actions, resources and systems are needed to coordinate joint public messaging with the WEROC Member Agencies.	S	Staff successfully responded to and supported direct requests for information and notification. However, staff were not proactive in developing possible messages and a coordination structure to support member agencies in their public communications.
Task 3.1.1 – Establish protocols for Joint Information Center (JIC) with impacted and non-impacted utilities for this event.	U	Staff were unclear of WEROC’s role in facilitating a JIC versus the OA’s role. The OA would typically facilitate a JIC for most disasters. However, when Water Utilities and drinking water are the primary impacts of an event, WEROC should play a lead role in facilitating a JIC. WEROC staff will work to better define these responsibilities and develop protocols within the PIO Position Guide.
Task 3.1.2 - Prepare potential message mapping and outreach tools (including social media) that will be used for coordinated messaging.	U	Staff were encouraged to develop message mapping as a component of this exercise. Message Mapping is the process of pre-identifying what information will need to be communicated to various audiences, possible methods of communication, and questions that each audience may have. Several factors (experience, exercise duration, conflicting priorities) contributed to this not being accomplished during the exercise. WEROC will facilitate the predevelopment of message mapping as a follow-up activity.



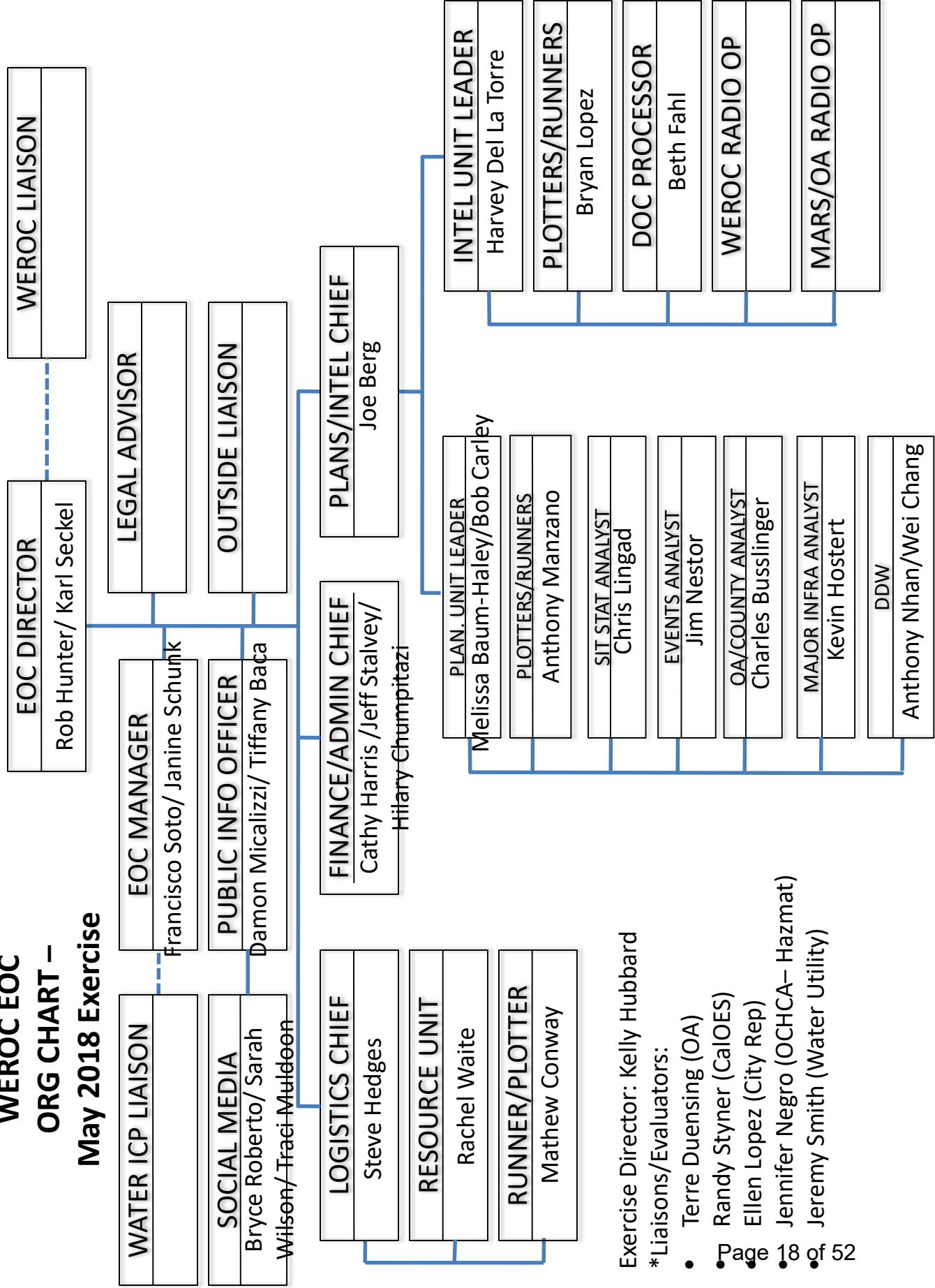
### **Corrective Actions and Process Evaluation**

A corrective action list is created by comprehensive process in which staff review EOC Activity Logs, White Board postings, WebEOC postings, feedback forms and more to develop a list of ways to improve our training, preparedness and response. For each problem statement the following is noted: 1) possible solutions or corrective actions, 2) a lead agency or staff person responsible for implementation of each solution, 3) additional agencies or departments that should be invited to coordinate on certain solutions, and 4) a designated time frame which this corrective action should be addressed by. Staff are working to review the many pages of documentation and have discussions on best solutions and timelines for correction. Once finalized this documents serves as a working list of recommended actions for WEROC staff to facilitate to improve EOC operations, staff training and overall disaster response in the future.

### **Report Completed**

This report was completed by the staff of the Water Emergency Response Organization of Orange County (WEROC), in coordination with MWDOC staff, and the WEROC Member Agencies. The report was submitted to the MWDOC Board, and shared with WEROC Member Agencies, the Orange County Operational Area and the Southern Region OES in June 2018.

WEROC EOC  
ORG CHART –  
May 2018 Exercise



Exercise Director: Kelly Hubbard

\*Liaisons/Evaluators:

- Terre Duensing (OA)
- Randy Styner (CalOES)
- Ellen Lopez (City Rep)
- Jennifer Negro (OCHCA– Hazmat)
- Jeremy Smith (Water Utility)

# **WEROC Unknown Water Contamination Exercise**

MWDOC Planning and Operations Board Committee

June 4, 2018

1

# Emergency Water Quality Sample Kit (EWQSK)

- Intended for an unknown contamination incident
- Purpose: test for all possible contaminants as quickly as possible
- SWRCB Division of Drinking District Offices maintain kits:
  - 3 kits are ready to go
    - Contamination sample
    - Background (clean) sample
    - Backup or additional sampling location
- Any agency can create their own kit
- Specific Instructions for deployment and use of the kit



# Training Program (May 2017-April 2018)

- Trainings (17 total)
  - Emergency Water Quality Sample Kit (EWQSK) Training (3 hours) - 4 Sessions
  - Water Quality Public Notification Language & Protocols (3 hours) - 2 Sessions
  - Determination of a Credible Threat (3 Hours) - 2 Sessions
  - Unknown Contaminate Joint Agency Tabletop Exercise (3 Hours) - 2 Sessions
  - NIMS/SEMS/ICS (3 Hours) - 2 Sessions
  - EOC Section Trainings (3 Hours) - 4 Sessions (Logistics, Finance & Administration, Management, Planning & Intelligence)
  - WebEOC Training (1.5 Hours) - 2 Sessions
  - AlertOC Training (1.5 Hours) - 1 Session
  - EWQSK (Emergency Water Quality Sample Kit) Refresher Training (3 Hours) - 2 Sessions
- Participants Included: Water & Wastewater Utilities, Hazmat Teams, Law, Emergency Management, Health Care Agency, DDW, OCIAC, Water Quality, Public Affairs, Fire

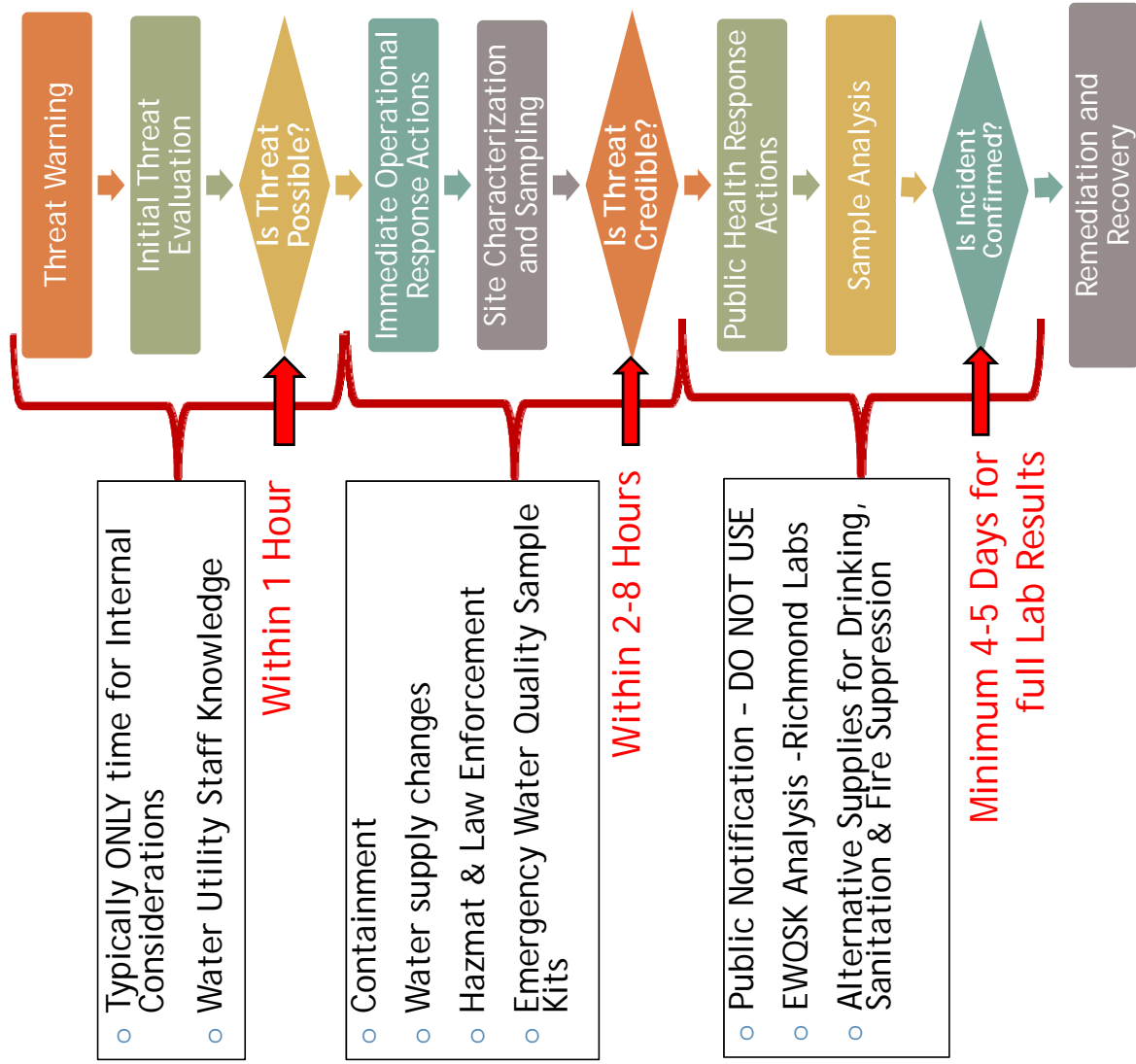


# Exercise & Plan Development (February 2017 - May 2018)

- WEROC Exercise Support
  - Development of goals, scenario and tools
- Standardized Unknown Water Quality Response Guides
- Discussion of policies and procedures



# EPA Threat Response Evaluation Process



# Exercise Participants – May 15

- Functional Exercise:
  - WEROC
    - Yorba Linda Water District
    - Santa Ana Water
    - HCA Hazmat
    - DDW
    - Cities of Westminster & Costa Mesa EM
  - Mesa Water District
  - Santa Margarita Water District
- South Coast Water District (to be rescheduled)
- Tabletop Exercise:
  - East Orange County Water District
  - Midway City Sanitary District
    - Also conducted Hands-on Field Exercises
  - El Toro Water District (to be rescheduled)



# WEROC Exercise Successes

- Active utilization of position resources
- Effective use of EOC white boards to display and share information
- Sent WEROC Member Agencies a survey using AlertOC
- Valuable discussion on responding to a potential terrorist event
- Great teamwork and communications
- Logistics staff ordered lunch





# Lessons Learned

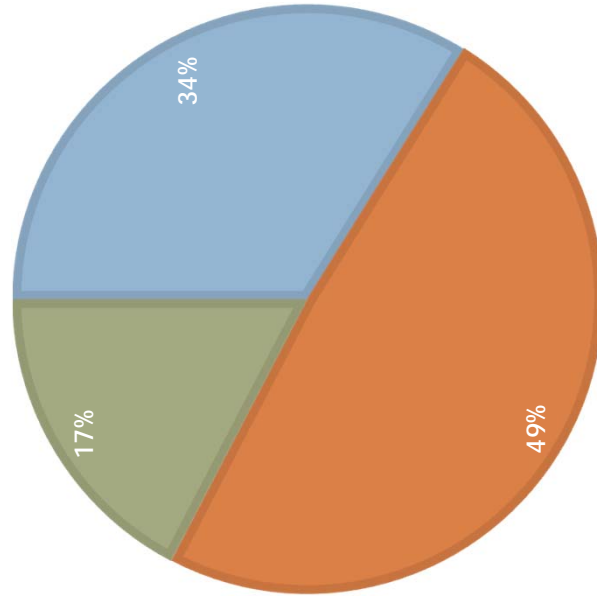
# AlertOC Live Message

- Message:
  - THIS IS A DRILL \*\*\* MWDOC/WEROC May 15 10:50 am. Valid 10am-2pm 5/18 for MWDOC area. This is to learn your preferred contact method. Please reply via text message. Questions: Bryce at (949) 878-8377. WHAT IS YOUR BEST CONTACT METHOD DURING A REAL EVENT? \*\*\* THIS IS A DRILL
- Sent via:
  - Text
  - Office Phone Voice Message
- Poll:
  - 1. Text
  - 2. Phone
  - 3. Email
- Sent to:
  - WEROC Member Agency General Managers
  - WEROC Member Agency Public Information Officers
  - WEROC Member Agency Primary Point of Contacts

# AlertOC Notification Results

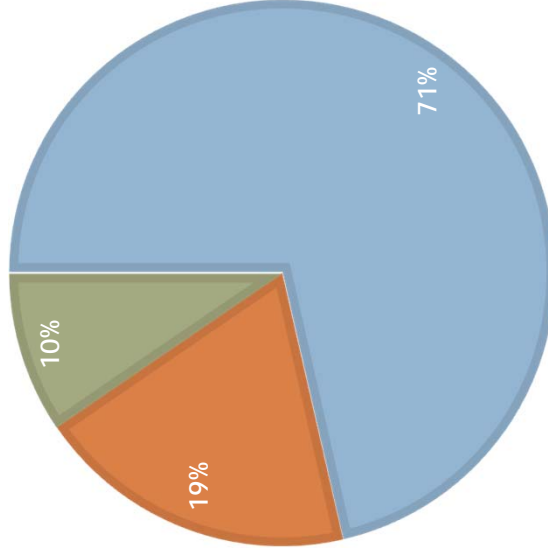
CONTACT RESULTS (121 TOTAL)

■ Not Confirmed (41) ■ Unreachable (59) ■ Response (21)



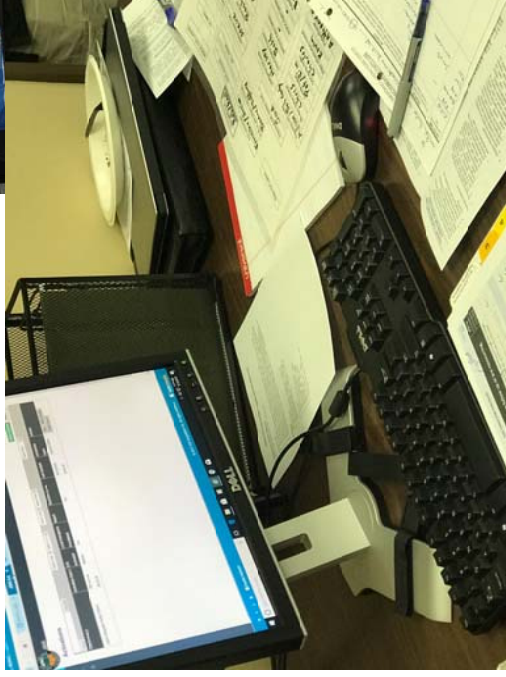
PREFERRED METHOD OF CONTACT  
(21 TOTAL)

■ Text (15) ■ Phone (4) ■ Email (2)



# EOC Roles, Plans & Tools

- Position Binders and Checklists are critical
  - Small group trainings based on roles
- Pre-developed Guidances
  - Message Mapping
  - Event specific resources and responses
- Hands-on practice



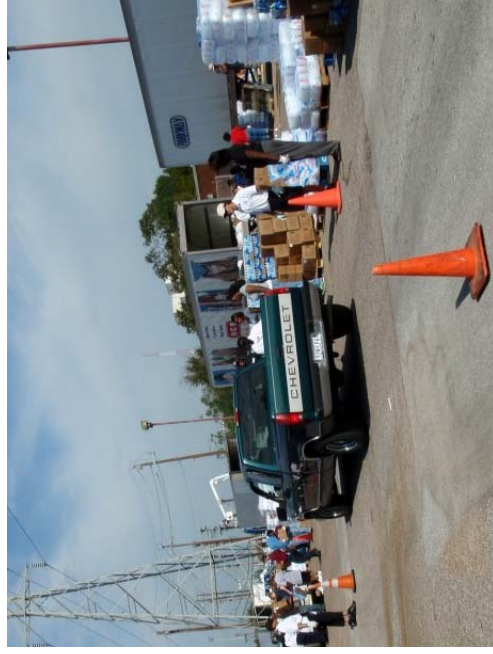
# EWQSK Protocol Concerns

- Still need to refine field safety policies – “To HAZMAT or not to HAZMAT?”
- Analysis of samples:
  - Only 1 State Lab
  - Length of time for test results
- **Do Not Use Water Quality Notifications**
  - Impacts to Fire Suppression
  - Public fear
- Points of Distribution and Sanitation
  - Planning
  - Who’s responsible?



# Next Steps - External

- Field Sample Drills with HAZMAT Teams
- Continued discussion on Response Policies
- County-wide Point of Distribution Planning
- Development of Message Mapping & Coordinated Public Information



# 14 Questions





**INFORMATION ITEM**

June 4, 2018

**TO: Planning & Operations Committee**  
(Directors Osborne, Tamaribuchi, Yoo Schneider)

**FROM: Robert Hunter, General Manager**

Staff Contact: Karl Seckel

**SUBJECT: Bay-Delta Fisheries Habitat Discussions at ACWA Conference**

**STAFF RECOMMENDATION**

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

**COMMITTEE RECOMMENDATION**

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Committee recommends (To be determined at Committee Meeting)

**DETAILED REPORT**

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In association with the trip to Sacramento for the ACWA Conference, MWD OC hosted a series of meetings regarding fisheries habitat restoration in the Delta. This is an outcome of the publication by Orange County Coastkeeper of the Dr. Peter Moyle paper "Making the Delta a Better Place for Native Fishes" (<https://www.coastkeeper.org/white-paper/>). The paper was the feature of a discussion session at ACWA. MWD OC took the opportunity to further collaborate on the fisheries habitat issues to provide flexibility towards future water operations. MWD OC hosted a dinner discussion that involved:

- Dr. Peter Moyle, Distinguished Professor Emeritus in the Department of Wildlife, Fish and Conservation Biology and associate director of the Center for Watershed Sciences, UC Davis
- Curt Schmutte, consultant to MET, formerly employee with DWR
- Ken Weinberg, Member of the Delta Stewardship Council, formerly staff of planning for the San Diego County Water Authority
- Mike Roberts (Eco-Restore) – Special Assistant for Delta Restoration, California Natural Resources Agency and now responsible for the Eco-Restore project development

<b>Budgeted (Y/N):</b>	Budgeted amount:	Core ____	Choice ____
<b>Action item amount:</b>	Line item:		
<b>Fiscal Impact (explain if unbudgeted):</b>			

- John Callaway, Lead Scientist for the Delta Stewardship Council
- Garry Brown, Executive Director/Founder, OC Coastkeeper
- Bill Green, Director, South Coast Water District

The group discussed accelerating habitat restoration projects which have suffered delays due to permitting and project development issues. It was stressed that getting local support for projects can take a long time, but is essential in the final outcome. Other issues that can be difficult to overcome are identification of benefits to the local area, avoiding loss of tax revenue, avoiding loss of agricultural areas, funding of project costs (especially O&M costs), risk taking (implementation of these types of projects are complex which can result in “paralysis by analysis”), competing needs, difficulty in right-of-way acquisition and lack of trust among parties.

During the discussions, it was noted that a group called “Sustainable Conservation” had been doing quite a bit of good work and have been around for 25 years. More background can be found at <https://suscon.org/blog/2018/02/25th-anniversary/>

The ACWA panel discussion was a good one and triggered a number of good discussion points. Key points were:

- The ecosystems of the delta are novel; there are no comparisons, they are highly altered and traditional thinking does not necessarily work.
- The Delta Ecosystem is not dying and is not on the verge of collapse – it is changing and will always support an ecosystem, but the make-up of the ecosystem may not consist of native fishes unless we intervene.
- The Public Policy Institute of California has advocated for a new way of thinking about these ecosystems and has recommended allocating water for restoration purposes in a manner similar to other water rights.
- The delta cannot be restored but can be “reconciled” to the current and future environment to better support native fishes; some fish may not survive; not all of the delta will be productive areas for native fishes – this is simply a fact.
- The difficulty of setting priorities because many are competing.
- The Yolo Bypass fish conveyance concept seems to be an over-riding priority, but still suffers from delays (the DRAFT EIR was just released for a project identified in 2009) and implementation is still a number of years away and most everybody sees the importance of the project (this is a case where more risk-taking may be needed).
- Every element of the watershed is connected and the water/tidal marsh and land interfaces are critically important.
- Finding funding for projects – it was noted that the upcoming Bond Proposition, if passed, would be extremely helpful and that mitigation funding for the WaterFix would begin to flow soon.
- The Delta issues are state-wide issues and should be treated as such but must be superimposed on land ownership and current land uses – this is where having local input is critically important.

Following the panel discussion, additional discussions were held with Jason Peltier who recently joined the “Coalition for a Sustainable Delta”. Jason Peltier is a resident of the Delta, and most recently served as the Executive Director of the San Luis & Delta Mendota Water Authority and the Deputy General Manager of Westlands Water District prior to that.

He also served for six years as the Principal Deputy Assistant Secretary for Water and Science at the Department of the Interior in Washington D.C. as part of the management team responsible for the Bureau of Reclamation and the U.S. Geological Survey. Jason was raised on a diversified farm in Kern County, he received his Bachelor of Science in Agriculture from Chico State and is a graduate of the California Agricultural Leadership program.

The outcome of the meetings was to continue dialogue between the two groups “Coalition for a Sustainable Delta” and “Sustainable Conservation”, along with Metropolitan and Orange County Coastkeeper to maintain pressure on habitat restoration projects. Particular focus should remain on the “four easy fixes” identified in the Peter Moyle paper, these being:

1. Freemont Weir/Yolo Bypass - The idea is to permit annual flooding of at least part of the Yolo Bypass to benefit juvenile salmon and perhaps other native fishes to improve long term survival.
2. Work on the McCormack-Williamson Tract (MWT), an island in the northeast Delta. The restoration of MWT by itself will provide approximately 1400 acres of habitat (~ 1/3 subtidal, 1/3 intertidal and 1/3 floodplain).
3. Delta Smelt Beaches - This is a new project, inspired by the work of Dr. James Hobbs, who has noted that delta smelt most likely spawn on sandy beaches, as do other related smelt. Unfortunately, the beach areas are being invaded by giant reed, *Arundo donax*, which blocks access by smelt and other migratory fishes. *Arundo* removal is necessary.
4. Putah Creek restoration - The creek is already renowned for the success of ‘natural’ flow regime and diverse restoration projects in bringing back native fishes, including Chinook salmon. Projects that need to go forward are improvements to re-establish a more natural channel through the Yolo Bypass.

## ENGINEERING & PLANNING

<b>Orange County Reliability Study</b>	<p><b><u>Orange County Reliability Study Update</u></b></p> <p>MWDOC staff has been working to obtain the updated modeling of SWP supplies with the WaterFix in place assuming MET only participates in the yield from one of the tunnels (this assumes that full repayment and yield from the second tunnel goes to other entities). In addition, staff has been working to prepare updated MET water rate forecasts for the same scenario. Assuming the information is made available to our consultant CDM-Smith by June 8, 2018, the schedule for completing the OC Water Reliability Study Update is below.</p> <table><tr><th rowspan="2">Task</th><th colspan="3">June</th><th colspan="4">July</th><th colspan="4">August</th></tr><tr><th>2</th><th>3</th><th>4</th><th>1</th><th>2</th><th>3</th><th>4</th><th>1</th><th>2</th><th>3</th><th>4</th></tr><tr><td>Scenario Gap Analysis</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Evaluation of Projects</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Draft TM</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Revised Draft TM</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Presentation for Agencies</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Final TM</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Board Presentation</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	Task	June			July				August				2	3	4	1	2	3	4	1	2	3	4	Scenario Gap Analysis												Evaluation of Projects												Draft TM												Revised Draft TM												Presentation for Agencies												Final TM												Board Presentation											
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<b>South Orange County Emergency Service Program</b>	<p>A kick-off meeting was held on May 14, 2018 with consultant Dudek, IRWD staff, and MWDOC staff to study IRWD’s ability to convey groundwater via an interconnection with South Orange County water agencies under emergency supply conditions. A draft report on the findings is anticipated in September 2018.</p>																																																																																																											
<b>SOQ’s Requested by MWDOC</b>	<p>MWDOC staff is working with Ed Means, along with Black &amp; Veatch and Hazen &amp; Sawyer to host a workshop in the next few months on integrating potential local water supply projects into the OC water system such as Poseidon, Doheny or the groundwater pump-in project.</p> <p>The concern is that these local projects may be implemented by others, and without fully accounting for the water quality considerations and other issues, could result in unintended consequences. MWDOC’s goal is to try to fully understand the associated issues prior to any of these projects going on-line. The intended outcome of the workshop is to develop scopes of work for follow-up.</p>																																																																																																											
<b>Strand Ranch Project</b>	<p>Ad Hoc Committees of MWDOC and IRWD met to discuss the potential for MWDOC to provide assistance in advancing the Strand Ranch Project to open it up to others in Orange County. The Committees directed their respective staff to continue working on the terms and conditions for such an effort.</p>																																																																																																											

<b>Upcoming Issues with MET</b>	<p>MWDOC and MET staff have been working on a number of items together, including:</p> <ul style="list-style-type: none"> <li>• Resolution of Service Connection CM-1 flow issues to Laguna Beach CWD</li> <li>• Conduct of a flow test at the EOCWD OC-70 to test the meter accuracy</li> <li>• Access, water quality sampling and the responsibility for an emergency generator at the OC-70 Service Connection</li> <li>• Use of East Orange County Feeder No. 2 for Conveyance of Groundwater or Poseidon Water</li> <li>• Replacement of Service Connection OC-13A to monitor low flows into Irvine Lake</li> <li>• Ownership/maintenance responsibilities between SMWD and MET regarding the South County Pipeline</li> <li>• Installation of NEW Mag Meters at Service Connection CM-12</li> <li>• Storage of Emergency Water within the MET system</li> </ul>
<b>Poseidon Resources</b>	<p>Work is still proceeding by the Santa Ana Regional Water Quality Control Board (“RWQCB”) to consider the NPDES permit and Ocean Plan Amendment compliance for the Poseidon Project. It is anticipated that the Project will be considered sometime later this summer.</p>
<b>SMWD Rubber Dams Project</b>	<p>The Draft Program Environmental Impact Report (PEIR) was circulated for a 65-day public review period, which ended February 23, 2017. The EIR was originally scheduled for adoption in March 2018. Due to the complexity of some of the issues associated with the steelhead trout, SMWD Board adoption of the EIR has been postponed to allow additional study work to be completed.</p>
<b>Doheny Ocean Desalination Project</b>	<p>On May 17, 2018 South Coast WD released the Doheny Ocean Desalination Project Draft Environmental Impact Report (EIR) for public comments.</p> <p>A Draft EIR Public Meeting will be held on June 26, 2018 at 6:00pm at Capistrano Unified School District Education Center. Comments on the Draft EIR are due by July 23, 2018.</p> <p>GHD is developing a Scope of Work for a 3rd party legal firm to assist with Design-Build-Operate (DBO) contract development. A Request For Qualifications (RFQ) for 3rd party legal firms is anticipated to be released the week of May 28, 2018 and proposals are due by the end of June 2018.</p>
<b>Meetings</b>	
	<p>Karl Seckel and Charles Busslinger met with EOCWD staff on May 24, 2018 to discuss integration issues of a possible reconstruction of Peters Canyon water treatment facility.</p>
	<p>MWDOC staff hosted a meeting on May 24, 2018 between Engie Services and South Coast WD staff to discuss alternative energy solutions for the Doheny Desalination Project.</p>

	Charles Busslinger attended the monthly San Juan Basin Authority Board Meeting on May 17, 2018.
	Charles Busslinger attended a presentation at West Basin on May 2, 2018 at West Basin on the Draft Environmental Impact Report for its proposed Ocean Desalination Project.

**Status of Ongoing WEROC Projects  
May 2018**

Description	Comments
<b>Coordination with WEROC Member Agencies</b>	<p><i>Ongoing: WEROC, with Michal Baker as the lead consultant, is facilitating 19 agencies through the process of updating the Orange County Water and Wastewater Multi-Jurisdictional Hazard Mitigation Plan. Update: Francisco Soto has been working with each participating agency to review drafts. Next steps include: required public outreach meetings (tentatively in June 2018); submitting a Final Draft to CalOES around July; once approved by CalOES, it will then be submitted to FEMA; and once approved by CalOES and FEMA, each participating agency will submit the plans to their elected boards for adoption. The complete process is expected to be completed by December 2018.</i></p> <p><i>WEROC Radio Replacement Update: Francisco Soto continues to work with member agencies, Motorola, and the Sheriff's Communications staff to implement the OC 800 MHz radio system for WEROC. All WEROC member agencies that are special districts have had their radios programmed and installed. There have been some delays in the programming of the City Water Department radios due to several changes in the county-wide radio programming and federal regulations happening all at the same time (see notes below on band reconfiguration and P25 updates). Francisco will be working with each City Water Department to clarify the various changes that are occurring, to confirm where each city is in the process and to facilitate any needed additional steps to bring them onto the new WEROC Radio System. Motorola will be installing the new system at the MWDOC administration building and the WEROC South Emergency Operations Center this month. WEROC will formally switch to the new system following installation. Francisco is working with the County to schedule trainings on the new system.</i></p> <p>Kelly Hubbard and Francisco both attended their first Orange County Communications meeting. The meeting discussed the current radio band reconfiguration project and the P25 updates (both required federal changes in equipment functionality). Radio Band Reconfiguration projects are due to the need to adjust the programming of public safety radios with narrower frequencies to meet the need nationally for more bandwidth and channels as commercial wireless systems have grown over the years. P25 is a new national standard for interoperability of radio systems between agencies. Many agencies have had to purchase new radios to meet the P25 standards that allow for this inter-agency communications. The new WEROC radios meet both of these new concepts for band reconfiguration and P25 standards. Attending this meeting really helped to clarify some of the delays we have had in coordinating the radio updates with the cities.</p>

<b>Training and Programs</b>	<p>Francisco collaborated with the Orange County Water Association in the development of the annual Safety Fest. Francisco was charged with obtaining speakers for the event that took place on Thursday, May 24, 2017. Topics included: Silica Safety, Pipe Locating, Arc Flash Safety, Developing a Safety Program, and Physical Wellness. Leah Frazier will develop and distribute certificates for the event which include Contact Hours for attendee Operator Certifications.</p> <p>WEROC has facilitated a series of trainings and meetings in preparation for an Unknown Contamination of Drinking Water Exercise. A full report is included in the June Planning and Operations Board Committee packet, including the WEROC After Action and Corrective Action Report and a presentation to the Committee. Activities that occurred this month related to this event include:</p> <ul style="list-style-type: none"> <li>• Kelly met with East Orange County Water District to help them develop their tabletop discussion questions for their internal exercise.</li> <li>• Francisco, Janine Schunk and Kelly spent significant time updating EOC forms, documents, and various resources at the EOC to ensure it was ready for the exercise and included the most current information. Janine provided additional assistance with the logistics of refreshments and overall EOC support resources.</li> <li>• The WEROC EOC was activated for a functional exercise on May 15, 2018.</li> <li>• Kelly provided a presentation to MWDOC Member Agency Managers on the exercise, their participation and lessons learned.</li> <li>• WEROC staff conducted an After Action Meeting with its member agencies to receive feedback on their lessons learned and future efforts related to this planning area.</li> </ul>
<b>Coordination with the County of Orange</b>	<p>Kelly attended the May Orange County Emergency Management Organization (OCEMO) meeting that took place in Mission Viejo. Tiffany Everett from Good360 discussed the importance of partnering with non-profit organizations that deliver goods throughout all phases of disaster recovery and Michelle Anderson from the Emergency Management Division presented “Orange County Operational Area AlertOC/EAS/WEA Activation Requests” document and process.</p> <p>Kelly attended the May OCEMO Exercise Design Meeting. She provided the group a presentation on Message Mapping and how it can be incorporated into disaster exercises in order to create tools that can be used in a disaster. The meeting also discussed the County-wide exercises in the coming year.</p>



	<p>Kelly attended the Orange County Urban Area Working Group meeting and 2017 Homeland Security Grant Roll Out. WEROC was given accolades during the meeting as a model agency in our documentation and reporting processes in regards to these grants.</p> <p>Kelly attended the quarterly Emergency Management Council and Operational Area (OA) Executive Board meeting as the voting representative for ISDOC. Several important County and OA Annexes and Reports were approved, including the OC San Onofre Nuclear Generating Station (SONGS) Plan and the OA Tsunami Annex. Additionally the County of Orange and Operational Area EOC Canyon Fire 2 After Action Report was discussed. This report is specific to the County EOC and does not include the overall field response or other jurisdictions' responses.</p>
<b>EOC Readiness</b>	<p>Staff participated in the MET MARS radio test and the OA Radio Test.</p> <p>Francisco is currently working on incorporating changes to the Emergency Operations Center (EOC) Position Binders to include recommended changes from EOC staff and processes observed during the exercise.</p> <p>Janine facilitated the cleaning of both EOCs.</p> <p>Janine continues to work with ATT to fix phone and internet issues at both EOCs, including completing the switch the ATT CalNet government account programs. Once completed the WEROC phone bills should be reduced in costs, allowing for needed upgrades in internet speed without increasing the overall costs.</p>
<b>Coordination with Outside Agencies</b>	<p>Kelly attended the Southern California Emergency Services Association (SCESA) Board Annual Strategic Planning Meeting. The meeting facilitates how SCESA will engage its members in the coming year, provide training and work with CalOES to ensure cooperative relationships during disasters.</p> <p>Kelly participated in a conference call with several staff of the FBI who are working on rolling out "Cyberhood Watch" for water utilities. WEROC and its member agencies have been identified as potential partners to participate in this new program with FBI. The program was developed to create a forum for water utilities to share information on cyber-attacks, security measures and various resources with each other. Kelly will be inviting Member Agencies to participate in the program soon.</p>

## Status of Water Use Efficiency Projects

June 2018

Description	Lead Agency	Status % Complete	Scheduled Completion or Renewal Date	Comments
<b>Smart Timer Rebate Program</b>	MWDSC	Ongoing	Ongoing	In April 2018, 37 residential and 44 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.
<b>Rotating Nozzles Rebate Program</b>	MWDSC	Ongoing	Ongoing	In April 2018, 94 rotating nozzles were installed in Orange County.  For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.
<b>SoCal Water\$mart Residential Indoor Rebate Program</b>	MWDSC	Ongoing	Ongoing	In April 2018, 116 high efficiency clothes washers and 24 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.
<b>SoCal Water\$mart Commercial Rebate Program</b>	MWDSC	Ongoing	Ongoing	In May 2018, 272 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.
<b>Industrial Process/ Water Savings Incentive Program (WSIP)</b>	MWDSC	50%	June 2020	This program is designed for non-residential customers to improve their water efficiency through upgraded equipment or services that do not qualify for standard rebates. Incentives are based on the amount of water

Description	Lead Agency	Status % Complete	Scheduled Completion or Renewal Date	Comments
				<p>customers save and allows for customers to implement custom water-saving projects. This fiscal year, two projects have been completed, saving over 57 AFY.</p> <p>Total water savings to date for the entire program is 640 AFY and 2,828 AF cumulatively.</p>
<b>Turf Removal Program</b>	MWDOC	Ongoing	Ongoing	<p>In May 2018, 51 rebates were paid, representing \$86,714.45 in rebates paid this month in Orange County. To date, the Turf Removal Program has removed approximately 21.5 million square feet of turf.</p> <p>For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.</p>
<b>Spray to Drip Conversion Program</b>	MWDOC	Ongoing	Ongoing	<p>This is a rebate program designed to encourage residential and commercial sites to convert their existing conventional spray heads to low-volume, low-precipitation drip technology.</p> <p>To date, 221 residential sites and 55 commercial sites have completed spray to drip conversion projects.</p>
<b>Landscape Design Assistance Program (LDAP)</b>	MWDOC	100%	April 2018	<p>This is a pilot program designed to offer free front yard landscape design assistance to customers who are participating in MWDOC's Turf Removal Rebate Program.</p> <p>To date, MWDOC has received and approved 105 questionnaires, and 98 site consultations have been performed. Of the 98 sites, 98 have received their custom designs and have been sent their Letters To</p>

Description	Lead Agency	Status % Complete	Scheduled Completion or Renewal Date	Comments
				Proceed to begin their projects. MWDOC will be visiting these sites to take photos once each project is complete. Photos will also be taken at six and twelve months after installation.
<b>Recycled Water Retrofit Program</b>	MWDSC	50%	September 2018	This program provides incentives for commercial sites to convert dedicated irrigation meters to recycled water. To date, Metropolitan has provided a total of \$145,596.85 in funding to 21 sites irrigating over 60 acres of landscape, and MWDOC has paid a total of \$41,483.00 in grant funding to 15 of those sites. The total potable water savings achieved by these projects is over 149 AFY.

# 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		
			Interventions	Water Savings	Interventions	Water Savings	Interventions	Annual Water Savings[4]	Cumulative Water Savings[4]
High Efficiency Clothes Washer Program	2001	April-18	116	0.33	2,967	53.40	115,879	3,998	26,970
Smart Timer Program - Irrigation Timers	2004	April-18	81	2.53	1,977	188.17	22,462	8,032	46,482
Rotating Nozzles Rebate Program	2007	April-18	94	0.38	902	3.61	563,720	2,761	18,323
Commercial Plumbing Fixture Rebate Program	2002	May-18	272	0.84	4,454	100.70	89,733	4,843	44,277
Industrial Process/Water Savings Incentive Program (WSIP)	2006	April-18	0	4.80	2	4.80	30	640	2,892
Turf Removal Program <sup>[3]</sup>	2010	May-18	108,761	1.27	631,308	41.78	21,536,909	3,016	10,273
High Efficiency Toilet (HET) Program	2005	April-18	24	0.09	387	13.86	60,034	2,219	16,726
Water Smart Landscape Program <sup>[1]</sup>	1997						12,677	10,621	72,668
Home Water Certification Program	2013						312	7,339	15,266
Synthetic Turf Rebate Program	2007						685,438	96	469
Ultra-Low-Flush-Toilet Programs <sup>[2]</sup>	1992						363,926	13,452	162,561
Home Water Surveys <sup>[2]</sup>	1995						11,867	160	1,708
Showerhead Replacements <sup>[2]</sup>	1991						270,604	1,667	19,083
Total Water Savings All Programs			10	406	641,997	23,733,591	51,512	422,447	

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

b Cumulative Water Savings Program To Date totals are from a previous Water Use Efficiency Program Effort.

c Turf Removal Interventions are listed as square feet.

d 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 11/12	FY 12/13	FY13/14	FY14/15	FY15/16	FY16/17	FY17/18	Total	Current FY Water Savings Ac/Ft (Cumulative)	Cumulative Water Savings across all Fiscal Years	15 yr. Lifecycle Savings Ac/Ft
Brea	144	93	115	114	76	57	43	1,910	0.65	450.01	988
Buena Park	145	105	106	91	76	54	46	1,564	0.77	352.12	809
East Orange CWD RZ	10	10	8	8	8	3	1	193	0.01	48.58	100
El Toro WD	112	134	121	111	65	47	43	1,564	0.67	354.39	809
Fountain Valley	158	115	102	110	76	65	36	2,436	0.69	598.18	1,260
Garden Grove	236	190	162	165	251	127	67	3,630	1.18	846.12	1,878
Golden State WC	485	265	283	359	260	138	134	5,149	2.30	1,197.40	2,664
Huntington Beach	582	334	295	319	225	180	114	8,360	2.01	2,089.07	4,326
Invine Ranch WD	2,170	1,763	1,664	1,882	1,521	1,373	981	25,647	18.37	5,644.19	13,270
La Habra	128	82	114	87	66	53	42	1,369	0.77	308.02	708
La Palma	46	34	25	34	29	10	11	469	0.22	106.45	243
Laguna Beach CWD	57	38	37	39	32	19	15	947	0.32	229.00	490
Mesa Water	176	114	86	89	113	80	40	2,558	0.74	637.86	1,324
Moulton Niguel WD	679	442	421	790	688	575	407	10,328	7.36	2,257.99	5,344
Newport Beach	142	116	92	95	66	61	44	2,668	0.77	679.46	1,380
Orange	262	218	163	160	124	80	63	3,961	1.07	993.92	2,050
Orange Park Acres	-	-	-	-	-	-	-	12	0.00	3.76	6
San Juan Capistrano	110	76	73	92	63	33	29	1,488	0.50	351.50	770
San Clemente	206	140	94	141	75	70	70	2,690	1.30	636.87	1,392
Santa Margarita WD	679	553	662	792	466	367	226	9,742	4.09	2,200.59	5,041
Seal Beach	51	31	29	38	23	9	14	616	0.29	146.16	319
Serrano WD	20	13	10	26	8	11	7	364	0.10	90.57	188
South Coast WD	112	89	79	68	43	44	32	1,616	0.61	381.09	836
Trabuco Canyon WD	62	30	45	47	34	28	17	815	0.32	189.86	422
Tustin	97	78	59	80	66	44	37	1,649	0.65	402.65	853
Westminster	208	121	82	109	149	84	50	2,636	0.91	624.20	1,364
Yorba Linda	273	181	167	156	123	56	48	3,800	0.80	952.98	1,966
<b>MWDOC Totals</b>	<b>7,350</b>	<b>5,365</b>	<b>5,094</b>	<b>6,002</b>	<b>4,726</b>	<b>3,668</b>	<b>2,617</b>	<b>98,181</b>	<b>47.47</b>	<b>22,772.97</b>	<b>18,968</b>
Anaheim	477	331	285	295	266	213	157	10,839	2.72	2,607.27	5,608
Fullerton	270	200	186	211	165	107	78	3,773	1.42	810.88	1,952
Santa Ana	190	163	131	132	259	141	115	3,086	1.80	778.70	1,597
<b>Non-MWDOC Totals</b>	<b>937</b>	<b>694</b>	<b>602</b>	<b>638</b>	<b>690</b>	<b>461</b>	<b>350</b>	<b>17,698</b>	<b>5.93</b>	<b>4,196.86</b>	<b>3,419</b>
<b>Orange County Totals</b>	<b>8,287</b>	<b>6,059</b>	<b>5,696</b>	<b>6,640</b>	<b>5,416</b>	<b>4,129</b>	<b>2,967</b>	<b>115,879</b>	<b>53.40</b>	<b>26,969.83</b>	<b>22,387</b>

# SMART TIMERS INSTALLED BY AGENCY

through MWDOC and Local Agency Conservation Programs

Agency	FY 11/12		FY 12/13		FY 13/14		FY 14/15		FY 15/16		FY 16/17		FY 17/18		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.	
Brea	8	0	9	8	4	0	43	6	20	4	31	4	30	0	161	80	521.72
Buena Park	4	19	3	0	0	0	4	10	7	4	10	7	13	3	44	44	147.67
East Orange CWD RZ	5	0	2	0	0	0	2	0	1	0	11	1	6	0	31	1	18.80
El Toro WD	26	2	7	2	11	0	8	9	9	17	33	8	21	4	136	359	2,476.50
Fountain Valley	8	2	3	2	4	0	7	10	13	1	33	12	22	12	113	52	178.65
Garden Grove	7	0	5	2	9	0	10	14	13	11	28	0	22	0	123	38	173.20
Golden State WC	13	3	9	49	9	25	39	12	35	16	56	37	72	6	297	198	812.43
Huntington Beach	15	4	18	33	20	35	19	2	42	12	88	94	44	30	316	298	1,061.60
Irvine Ranch WD	267	71	414	135	71	59	67	310	239	207	344	420	371	76	2,140	2,362	11,330.93
La Habra	3	0	4	7	2	0	4	7	3	1	12	7	6	0	42	44	203.18
La Palma	1	0	1	0	2	0	2	0	3	2	1	0	4	0	14	2	5.98
Laguna Beach CWD	109	2	76	2	71	0	86	0	86	1	27	0	9	0	506	20	235.04
Mesa Water	21	0	10	2	15	2	17	28	36	12	149	41	41	0	359	154	733.07
Moulton Niguel WD	179	31	51	74	40	45	46	95	163	100	236	129	250	33	1,164	834	3,577.28
Newport Beach	275	12	242	26	168	75	11	9	28	43	30	12	22	0	1,060	409	2,615.40
Orange	25	0	20	24	13	9	18	31	51	13	69	10	50	13	335	178	936.09
San Juan Capistrano	103	2	14	18	6	11	6	19	20	8	22	8	22	5	244	130	642.45
San Clemente	212	17	26	7	28	2	28	24	26	3	37	13	30	41	1,081	415	2,655.49
Santa Margarita WD	262	7	53	171	64	93	53	321	189	136	326	221	249	218	1,403	1,590	5,671.10
Santiago CWD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
Seal Beach	0	3	1	0	1	36	1	12	2	2,446	2	4	5	0	12	2,502	5,119.58
Serrano WD	3	0	1	0	0	0	4	0	11	2	4	0	6	0	44	2	13.96
South Coast WD	78	10	13	16	8	4	104	73	9	11	7	0	13	2	291	214	1,147.62
Trabuco Canyon WD	12	0	6	0	2	0	6	1	16	50	13	3	17	0	120	157	950.38
Tustin	11	0	8	4	9	1	18	14	33	8	33	23	23	1	166	81	339.47
Westminster	2	0	1	1	2	0	13	17	7	1	17	12	17	0	82	44	197.20
Yorba Linda	22	0	20	0	12	5	32	2	61	27	72	71	57	10	395	193	827.01
<b>MWDOC Totals</b>	<b>1,671</b>	<b>185</b>	<b>1,017</b>	<b>583</b>	<b>571</b>	<b>402</b>	<b>648</b>	<b>1,026</b>	<b>1,123</b>	<b>3,136</b>	<b>1,691</b>	<b>1,137</b>	<b>1,422</b>	<b>454</b>	<b>10,679</b>	<b>10,401</b>	<b>42,591.78</b>

Anaheim	23	60	19	10	9	26	7	52	30	34	87	10	47	0	291	457	2,606.44
Fullerton	22	51	9	29	8	0	40	26	32	12	53	7	43	0	242	199	933.90
Santa Ana	6	5	8	19	7	8	9	27	22	26	15	3	11	0	93	100	350.07
<b>Non-MWDOC Totals</b>	<b>51</b>	<b>116</b>	<b>36</b>	<b>58</b>	<b>24</b>	<b>34</b>	<b>56</b>	<b>105</b>	<b>84</b>	<b>72</b>	<b>155</b>	<b>20</b>	<b>101</b>	<b>0</b>	<b>626</b>	<b>756</b>	<b>3,890.41</b>
<b>Orange County Totals</b>	<b>1,722</b>	<b>301</b>	<b>1,053</b>	<b>641</b>	<b>595</b>	<b>436</b>	<b>704</b>	<b>1,131</b>	<b>1,207</b>	<b>3,208</b>	<b>1,846</b>	<b>1,157</b>	<b>1,523</b>	<b>454</b>	<b>11,305</b>	<b>11,157</b>	<b>46,482</b>

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

Agency	FY 13/14			FY 14/15			FY 15/16			FY 16/17			FY 17/18			Total Program			Cumulative Water Savings across all Fiscal Years
	Small		Large	Small		Large	Small		Large	Small		Large	Small		Large	Comm.			
	Res	Comm.		Res	Comm.		Res	Comm.		Res	Comm.		Res	Comm.		Res	Comm.	Res	
Brea	84	0	0	157	45	0	74	2,484	0	0	0	0	0	0	0	572	2,749	0	49.46
Buena Park	53	0	0	248	0	0	45	98	0	0	0	0	0	0	0	509	173	2,535	813.11
East Orange	30	0	0	221	0	0	0	0	0	0	0	0	0	30	0	781	0	0	19.29
El Toro	56	3,288	0	1,741	28,714	0	730	4,457	0	55	242	0	36	0	0	3,405	46,222	890	1,191.68
Fountain Valley	0	0	0	107	0	0	222	0	0	0	0	0	35	0	0	745	0	0	17.35
Garden Grove	80	0	0	88	50	0	110	0	0	55	98	0	0	0	0	933	299	0	32.52
Golden State	192	0	0	583	1,741	0	1,088	0	0	207	6,008	0	161	-495	0	3,609	10,821	0	240.44
Huntington Beach	120	0	0	798	1,419	0	1,345	2,836	0	149	3,362	0	-37	0	0	3,760	12,526	2,681	1,310.80
Irvine Ranch	11,010	4,257	0	1,421	632	0	1,989	5,047	0	335	9,511	0	286	-215	0	47,423	94,346	2,004	4,744.76
La Habra	15	0	0	109	338	0	300	0	0	0	0	0	0	0	0	481	1,236	900	365.97
La Palma	0	0	0	0	0	0	46	505	0	0	2,385	0	0	0	0	56	2,890	0	26.08
Laguna Beach	2,948	878	0	2,879	1,971	0	1,390	0	0	0	0	0	0	0	0	12,139	2,896	0	301.19
Mesa Water	361	227	0	229	0	0	166	0	0	113	0	0	36	0	0	2,066	385	343	195.29
Moulton Niguel	361	227	0	1,596	4,587	0	5,492	1,441	0	153	5,872	0	511	0	0	12,385	20,515	2,945	1,690.45
Newport Beach	19,349	6,835	0	460	3,857	0	348	670	0	0	0	0	45	0	0	46,723	21,413	0	1,584.28
Orange	245	120	0	304	668	0	631	91	0	0	0	0	0	0	0	3,170	1,072	0	109.25
San Juan Capistrano	370	0	0	495	737	0	310	593	0	75	123	0	59	0	0	5,554	8,852	0	445.73
San Clemente	415	5,074	0	326	0	0	426	0	0	0	0	0	146	0	0	10,135	7,538	1,343	800.17
Santa Margarita	389	0	0	1,207	1,513	0	1,820	837	0	15	0	0	224	0	0	16,389	6,921	611	824.85
Seal Beach	0	0	0	40	5,261	0	0	2,300	0	0	0	0	0	0	0	155	7,852	0	127.44
Serrano	105	0	0	377	0	0	695	0	0	0	0	0	0	0	0	3,405	0	0	93.29
South Coast	70	0	0	4,993	13,717	0	1,421	2,889	0	16	0	0	0	0	0	8,130	18,870	0	472.75
Trabuco Canyon	0	0	0	56	0	0	130	0	0	0	4,339	0	0	0	0	2,086	5,130	0	131.59
Tustin	329	0	0	408	0	0	317	386	0	65	-341	0	30	0	0	3,401	1,058	0	120.83
Westminster	0	0	0	54	0	0	73	0	0	105	0	0	50	0	0	514	0	0	11.18
Yorba Linda	40	990	0	921	0	0	1,715	0	0	213	0	0	0	0	0	6,081	4,359	500	460.06
MWDOC Totals	36,622	21,669	0	19,818	65,250	0	20,883	24,634	0	1,556	31,599	0	1,612	-710	0	194,607	278,123	14,752	16,179.80

Anaheim	338	0	0	498	712	0	794	5,221	0	147	3,953	0	0	0	0	4,020	49,799	105	1,350.45
Fullerton	107	0	0	684	1,196	0	521	7,015	0	65	3,034	0	0	0	0	2,910	11,309	1,484	668.74
Santa Ana	86	2,533	0	310	0	0	0	1,420	0	0	1,106	0	0	0	0	859	5,752	0	124.46
Non-MWDOC Totals	531	2,533	0	1,492	1,908	0	1,315	13,656	0	212	8,093	0	0	0	0	7,789	66,860	1,589	2,143.65
Orange County Totals	37,153	24,202	0	21,310	67,158	0	22,198	38,290	0	1,768	39,692	0	1,612	-710	0	202,396	344,983	16,341	18,323.45



**COMMERCIAL PLUMBING FIXTURES REBATE PROGRAM<sup>[1]</sup>**  
**INSTALLED BY AGENCY**  
 through MWDOC and Local Agency Conservation Programs

Agency	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Totals	Cumulative Water Savings across all Fiscal Years
Brea	1	234	0	10	91	734	123	1,488	499
Buena Park	290	5	23	56	591	133	49	2,538	1,219
East Orange CWD RZ	0	0	0	0	0	0	0	0	0
El Toro WD	137	0	212	6	268	35	0	1,062	655
Fountain Valley	314	0	0	1	249	0	621	1,493	667
Garden Grove	0	4	1	167	676	410	0	2,451	1,644
Golden State WC	135	0	1	0	1,008	53	93	2,958	2,087
Huntington Beach	156	104	144	7	783	641	10	2,964	1,753
Irvine Ranch WD	646	1,090	451	725	11,100	5,958	1,599	29,465	8,559
La Habra	0	0	0	0	340	42	0	925	605
La Palma	0	0	0	0	0	509	0	675	131
Laguna Beach CWD	0	0	27	0	0	0	0	446	342
Mesa Water	41	6	0	79	661	782	0	4,254	2,307
Moulton Niguel WD	0	0	0	3	413	281	0	1,277	908
Newport Beach	35	0	0	566	0	0	0	1,834	1,414
Orange	73	1	271	81	275	2,851	13	5,043	2,035
San Juan Capistrano	0	0	14	0	0	0	0	260	427
San Clemente	19	0	0	1	0	0	0	432	412
Santa Margarita WD	0	0	0	2	90	743	58	1,008	286
Santiago CWD	0	0	0	0	0	0	0	0	0
Seal Beach	0	0	0	0	0	184	0	538	471
Serrano WD	0	0	0	0	0	0	0	0	0
South Coast WD	84	148	0	382	0	0	0	1,320	577
Trabuco Canyon WD	0	0	0	0	0	0	0	11	16
Tustin	0	0	0	75	358	212	2	1,404	913
Westminster	35	1	28	0	146	177	25	1,163	1,094
Yorba Linda	0	1	0	0	226	84	0	595	616
<b>MWDOC Totals</b>	<b>1,966</b>	<b>1,594</b>	<b>1,172</b>	<b>2,161</b>	<b>17,275</b>	<b>13,829</b>	<b>2,593</b>	<b>65,604</b>	<b>29,639</b>
Anaheim	48	165	342	463	3,072	309	1,005	14,758	7,665
Fullerton	0	94	0	178	476	621	274	3,052	1,821
Santa Ana	12	16	17	5	1,293	238	582	6,319	5,153
<b>Non-MWDOC Totals</b>	<b>60</b>	<b>275</b>	<b>359</b>	<b>646</b>	<b>4,841</b>	<b>1,168</b>	<b>1,861</b>	<b>24,129</b>	<b>14,638</b>
<b>Orange County Totals</b>	<b>2,026</b>	<b>1,869</b>	<b>1,531</b>	<b>2,807</b>	<b>22,116</b>	<b>14,997</b>	<b>4,454</b>	<b>89,733</b>	<b>44,277</b>

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

# INDUSTRIAL PROCESS/WATER SAVINGS INCENTIVE PROGRAM

Number of Projects by Agency

Agency	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Overall Program Interventions	Annual Water Savings[1]
Brea	0	0	0	0	0	0	0	0	0
Buena Park	0	0	0	0	1	0	0	2	54
East Orange	0	0	0	0	0	0	0	0	0
El Toro	0	0	0	0	0	0	0	0	0
Fountain Valley	0	0	0	0	0	1	0	1	23
Garden Grove	0	0	0	0	1	0	0	1	0
Golden State	0	0	0	0	0	0	0	1	3
Huntington Beach	0	2	0	1	2	0	1	6	180
Irvine Ranch	1	1	1	0	2	1	0	9	115
La Habra	0	0	0	0	1	0	0	1	0
La Palma	0	0	0	0	0	0	0	0	0
Laguna Beach	0	0	0	0	0	0	0	0	0
Mesa Water	0	0	0	0	0	0	0	0	0
Moulton Niguel	0	0	0	0	0	0	0	0	0
Newport Beach	0	0	0	1	0	0	0	1	21
Orange	0	0	0	0	1	2	1	5	97
San Juan Capistrano	0	0	0	0	0	0	0	0	0
San Clemente	0	0	0	0	0	0	0	0	0
Santa Margarita	0	0	0	0	0	0	0	0	0
Seal Beach	0	0	0	0	0	0	0	0	0
Serrano	0	0	0	0	0	0	0	0	0
South Coast	0	0	0	0	1	1	0	2	134
Trabuco Canyon	0	0	0	0	0	0	0	0	0
Tustin	0	0	0	0	0	0	0	0	0
Westminster	0	0	0	0	0	0	0	0	0
Yorba Linda	0	0	0	0	0	0	0	0	0
<b>MWDOC Totals</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>9</b>	<b>5</b>	<b>2</b>	<b>29</b>	<b>628</b>
Anaheim	0	0	0	0	0	0	0	0	0
Fullerton	0	0	0	0	0	0	0	0	0
Santa Ana	0	0	0	0	1	0	0	1	11
<b>OC Totals</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>10</b>	<b>5</b>	<b>2</b>	<b>30</b>	<b>640</b>

[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.

**TURF REMOVAL BY AGENCY<sup>(1)</sup>**  
through MWDOC and Local Agency Conservation Programs

Agency	FY 13/14		FY 14/15		FY 15/16		FY 16/17		FY 17/18		Total Program		Cumulative Water Savings across all Fiscal Years
	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	
Brea	5,997	0	71,981	30,617	118,930	404,411	8,354	479	8,756	27,234	224,720	472,207	307.75
Buena Park	0	0	11,670	1,626	77,127	16,490	3,741	0	4,586	0	97,124	18,116	48.45
East Orange	1,964	0	18,312	0	27,844	0	0	0	0	0	48,120	0	23.32
El Toro	4,582	0	27,046	221,612	63,546	162,548	13,139	48,019	6,924	31,037	124,640	535,934	329.49
Fountain Valley	4,252	0	45,583	5,279	65,232	0	3,679	0	8,631	0	129,359	12,803	69.26
Garden Grove	8,274	0	67,701	22,000	177,408	49,226	11,504	0	4,487	0	287,921	117,403	224.31
Golden State	32,725	8,424	164,507	190,738	310,264	112,937	0	0	0	0	581,902	346,272	506.98
Huntington Beach	20,642	0	165,600	58,942	305,420	270,303	9,560	21,534	13,317	6,032	552,189	421,737	491.52
Invine Ranch	36,584	76,400	234,905	317,999	782,844	2,675,629	231,483	46,725	79,646	47,938	1,410,219	3,211,535	2,020.17
La Habra	0	0	14,014	1,818	49,691	72,164	0	0	1,944	0	65,649	90,019	77.12
La Palma	0	0	4,884	0	10,257	59,760	0	0	0	0	15,141	59,760	32.14
Laguna Beach	4,586	226	13,647	46,850	47,614	0	3,059	0	589	0	75,670	48,788	65.44
Mesa Water	22,246	0	131,675	33,620	220,815	106,896	4,173	77,033	15,251	77,785	411,604	295,334	297.13
Moulton Niguel	14,739	40,741	314,250	1,612,845	889,748	1,059,279	220,749	0	92,484	0	1,548,947	2,840,054	2,141.59
Newport Beach	894	0	33,995	65,277	76,675	375,404	2,924	0	3,999	6,499	125,489	449,526	256.71
Orange	11,244	0	120,093	281,402	289,990	106,487	12,847	2,366	11,956	0	475,052	398,978	438.59
San Clemente	18,471	13,908	90,349	1,137	215,249	438,963	4,267	0	33,083	0	398,983	467,173	400.11
San Juan Capistrano	12,106	0	101,195	32,366	197,290	143,315	2,624	40,748	0	0	365,415	347,277	409.91
Santa Margarita	17,778	48,180	211,198	514,198	534,048	550,420	17,010	28,094	60,951	25,000	857,583	1,194,453	975.13
Santiago	0	0	0	0	0	0	0	0	0	0	0	0	-
Seal Beach	0	0	15,178	504	17,349	15,911	1,234	0	752	0	38,124	16,415	26.23
Serrano	2,971	0	41,247	0	127,877	4,403	5,450	0	555	0	178,100	4,403	82.34
South Coast	15,162	116,719	84,282	191,853	181,102	128,290	14,967	0	12,774	7,806	324,522	465,387	420.52
Trabuco Canyon	2,651	0	14,771	0	42,510	88,272	1,465	0	3,243	0	66,454	110,712	86.33
Tustin	1,410	0	71,285	14,137	232,697	33,362	11,173	0	16,926	0	343,471	47,499	174.45
Westminster	0	0	14,040	34,631	71,833	23,902	11,112	0	9,178	0	106,163	58,533	71.86
Yorba Linda	0	0	112,136	12,702	360,279	116,985	19,420	0	8,249	3,696	511,433	133,383	290.17
<b>MWDOC Totals</b>	<b>238,978</b>	<b>304,598</b>	<b>2,195,544</b>	<b>3,692,153</b>	<b>5,493,639</b>	<b>7,015,357</b>	<b>613,934</b>	<b>264,998</b>	<b>398,281</b>	<b>233,027</b>	<b>9,363,994</b>	<b>12,163,701</b>	<b>10,267.03</b>

Anaheim	0	0	0	0	0	0	0	0	0	0	0	0	-
Fullerton	0	9,214	0	0	0	0	0	0	0	0	0	9,214	6.45
Santa Ana	0	0	0	0	0	0	0	0	0	0	0	0	-
<b>Non-MWDOC Totals</b>	<b>0</b>	<b>9,214</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9,214</b>	<b>6.45</b>

<b>Orange County Totals</b>	<b>238,978</b>	<b>313,812</b>	<b>2,195,544</b>	<b>3,692,153</b>	<b>5,493,639</b>	<b>7,015,357</b>	<b>613,934</b>	<b>264,998</b>	<b>398,281</b>	<b>233,027</b>	<b>9,363,994</b>	<b>12,172,915</b>	<b>10,273</b>
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<sup>(1)</sup> Installed device numbers are listed as square feet

# HIGH EFFICIENCY TOILETS (HETs) INSTALLED BY AGENCY

through MWDOC and Local Agency Conservation Programs

Agency	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	Total	Cumulative Water Savings across all Fiscal Years
Brea	0	0	38	146	154	4	3	453	96.91
Buena Park	0	0	96	153	112	13	2	686	186.07
East Orange CWD RZ	0	0	13	26	24	0	0	86	20.43
El Toro WD	0	133	218	869	264	12	5	2,042	524.67
Fountain Valley	0	0	41	132	220	7	8	831	243.61
Garden Grove	0	0	63	350	363	7	4	1,488	411.72
Golden State WC	80	2	142	794	512	9	11	2,801	758.74
Huntington Beach	0	0	163	1,190	628	4	3	2,904	698.52
Irvine Ranch WD	0	1,449	810	1,777	2,798	638	207	17,116	5,301.37
Laguna Beach CWD	0	0	45	112	81	1	4	392	101.59
La Habra	0	0	37	94	83	5	1	591	190.75
La Palma	0	0	21	59	52	4	2	224	56.56
Mesa Water	0	0	147	162	162	7	3	1,621	581.23
Moulton Niguel WD	0	0	400	2,497	1,939	49	32	5,722	1,101.47
Newport Beach	0	0	49	168	243	11	5	730	177.34
Orange	0	1	142	978	416	17	3	2,182	515.48
San Juan Capistrano	0	0	35	140	202	3	2	525	116.91
San Clemente	0	0	72	225	246	11	6	878	218.75
Santa Margarita WD	0	0	528	997	1,152	114	29	3,338	652.64
Seal Beach	0	2	17	50	69	-1	0	857	385.24
Serrano WD	0	0	2	40	55	3	0	121	23.54
South Coast WD	23	64	102	398	235	11	7	1,028	223.09
Trabuco Canyon WD	0	0	10	108	169	2	3	342	62.99
Tustin	0	0	64	132	201	12	9	1,515	525.60
Westminster	0	0	35	161	359	3	4	1,335	403.72
Yorba Linda WD	0	0	40	280	379	12	6	1,257	335.28
<b>MWDOC Totals</b>	<b>103</b>	<b>1,651</b>	<b>3,330</b>	<b>12,038</b>	<b>11,118</b>	<b>958</b>	<b>359</b>	<b>51,065</b>	<b>13,914.22</b>

Anaheim	0	0	156	1,188	614	70	19	5,884	1,941.76
Fullerton	0	0	61	293	286	14	9	1,064	268.25
Santa Ana	0	0	33	602	293	20	0	2,021	601.53
<b>Non-MWDOC Totals</b>	<b>0</b>	<b>0</b>	<b>250</b>	<b>2,083</b>	<b>1,193</b>	<b>104</b>	<b>28</b>	<b>8,969</b>	<b>2,811.54</b>

<b>Orange County Totals</b>	<b>103</b>	<b>1,651</b>	<b>3,580</b>	<b>14,121</b>	<b>12,311</b>	<b>1,062</b>	<b>387</b>	<b>60,034</b>	<b>16,725.76</b>
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