ELECTED OFFICIALS MEETING

Municipal Water District of Orange County

November 5, 2015

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ELECTED OFFICIALS MEETING

Agenda

- ORANGE COUNTY WATER RELIABILITY STUDY
- MET INTEGRATED RESOURCES PLAN
  - MET/LACSD INDIRECT POTABLE REUSE PROJECT
- SWRCB EMERGENCY REGULATIONS II
- ROUNDTABLE DISCUSSION

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OC Water Reliability Study
Phase 1 Overview
DRAFT Initial Results

November 5, 2015

Elected Officials Meeting

Municipal Water District of Orange County

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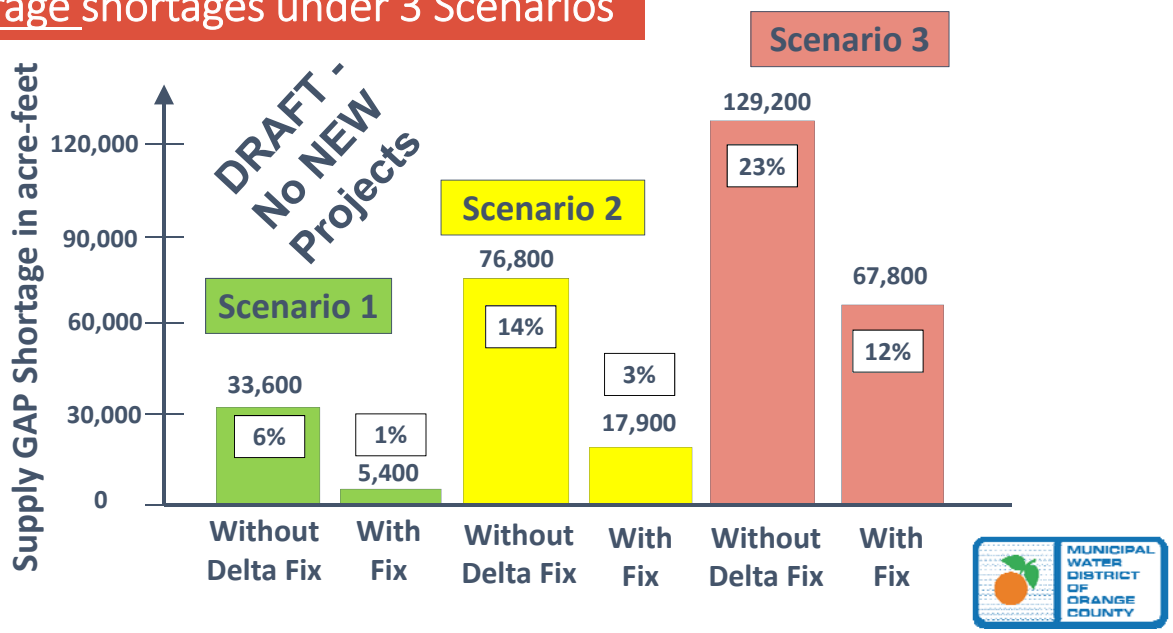
OC Supply GAP Findings in 2040
Average shortages under 3 Scenarios



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Phase 1 Summary

1. Investments are needed by DWR, MET and OC to secure more reliable supplies over the long run

2. Supply GAPS in OC in 2040 can range from 5,000 AF per year to 129,000 AF per year under three Scenarios

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Phase 1 Summary

3. The California WaterFix improves Supply Reliability considerably, but additional investments are required

4. Emergency System Gaps will occur following major earthquake events without additional investments

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Project List

- Ocean desalination
- OCWD basin storage
- Water transfers and banking
- San Juan Basin yield augmentation
- Additional recycling
- Water Use Efficiency
- California WaterFix
- Emergency power supplies
- MET IRP Projects
- Others





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Why a Reliability Study???

- Droughts happen and climate variability for the future is uncertain
- Endangered Species Act (ESA)
- Growth in population and Gross Domestic Product results in competition for water supplies
- Earthquakes and Power outages will happen
- Provides basis for OC input into Metropolitan's Integrated Resources Plan (IRP) for Southern California to prevent over or under investing
- Peer reviewed information for local decisions

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MWDOC Perspective

- Planning + Investments = Reliability
- Key issues
  - Balancing OC decisions with MET decisions
  - Considering decisions given future uncertainties
  - Utilization of OCWD Basin by producers and others
  - What future investments should be made in OC
- Providing local officials best information to chart course for their decisions affecting their stakeholders

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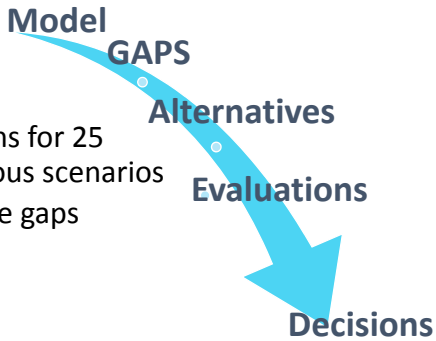
Study Phasing



- Phase 1
  - Develop data, models, OC water demand projections for 25 years and analyze supply & system gaps under various scenarios
  - Develop list of projects (portfolios) that could fill the gaps
- Phase 1 Extension – starting NOW
  - Workshops to gather input from member agencies
- Phase 2
  - Quantifies the reliability improvement from project portfolios
  - Portfolios target specific gains in supply reliability, such as lower-cost, higher reliability, more local control, etc.

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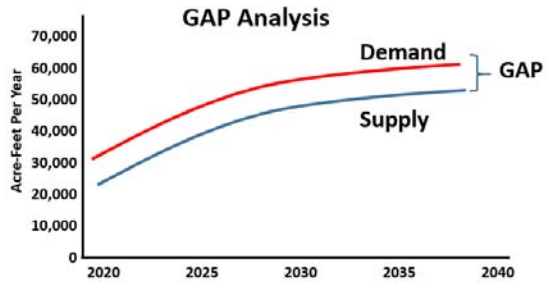
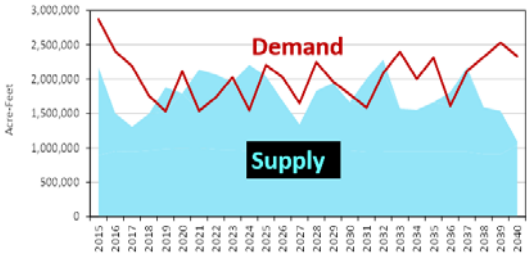
What are GAPs, Scenarios and Portfolios?

- GAPs represent the inability to meet demands under the given Scenario
- Scenarios (accounting for growth, local resources, climate change) are NOT predictions, but are plausible planning outcomes
- Portfolios are combinations of potential water-supply projects such as high reliability, low risk, low cost, etc.





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Major Uncertainties

Uncertainty	Range of Outcomes
California WaterFix	No/Yes
MET Demands (growth)	Lower/Higher
MET IRP Policies & Investments	Higher or Lower Reliability
OC Demands	Rebound from 2015/WUE
Regional Local Supplies	Low, High
Regional WUE	Low, High
Climate Variability/Change (CRA & SWP)	None, Moderate, High
Santa Ana River Baseflows	Low, Med
Bureau of Reclamation Basin Study	Long Term Sustainability
DWR Projections of SWP Yield	Range of Outcomes
Earthquakes	Will happen

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Phase 1 SUPPLY GAP Findings

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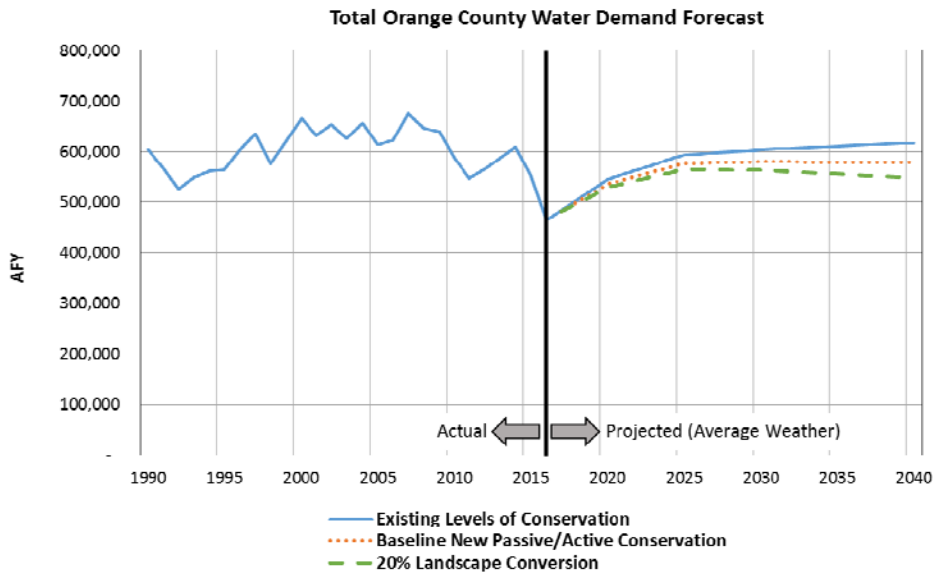
OC Water Demand Forecast



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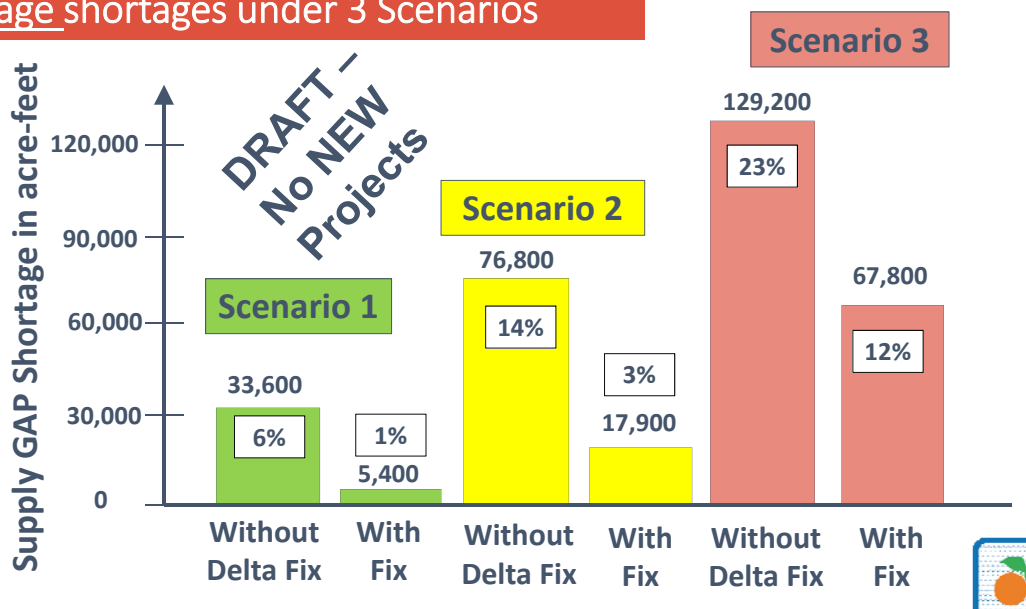
OC Supply GAP Findings in 2040

Average shortages under 3 Scenarios



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OC Supply GAP Observations- Phase 1

- Orange County supply reliability is dependent on combination of actions by DWR, MET and OC agencies
- Using Scenario 1 (MET's assumptions), supply gaps can be managed, especially with construction the California WaterFix
- OC's potential projects include enough options to satisfy demands under Scenario 1 (with or without CaliforniaFix)
- Supply reliability suffers under tougher scenarios that increase demands and incorporate climate change impacts on SWP, CRA and local hydrology; the outlook is substantially more challenging under Scenario 3 without the Delta Fix

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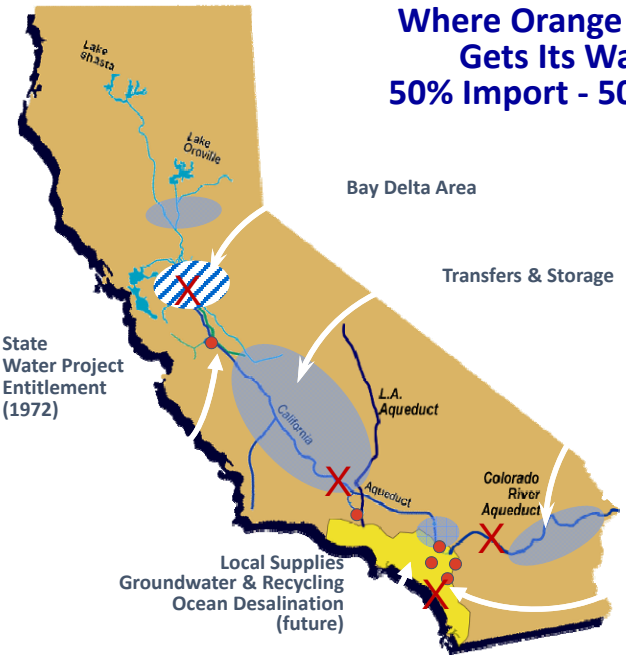
EMERGENCY GAP Analysis

Primary Risks:

- Earthquakes
- Power Outages



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Potential Duration of EMERGENCY Outages

Reliability Event	Duration
Regional Transmission Lines in OC	One Month
MET Regional Conveyance Outside of OC	Two Months
Colorado River Aqueduct	6 months
Diemer WTP Outage	One week to 2 months
Delta Levee Failure	1 to 2 Years
Edmonston Pumping Plant & East/West Branch Outages	***Not analyzed – posited at 1-2 years***
Local Water Systems	Days, weeks, possibly longer depending on Fault
Electrical Grid Outages	7 Days

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Next Step: Phase 1 Extension

- Gather Input from Member Agencies
  - 3-5 workshops
  - Understand implications from Phase 1
  - Additional model runs with modified assumptions
  - Phase 2 Scoping
    - Financial/Economics of decisions
  - Complete workshops in January
  - Begin Phase 2





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Phase 2 Balancing Decisions

With CA WaterFix

Without CA WaterFix

Comfort with Risk

Level of Investment

MET IRP

OC Reliability

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Need for Phase 2

- Phase 1 identified GAPS and Phase 2 will examine options to fill those GAPS
- Bring together MET IRP Strategy Options with OC Strategy Options
- Decisions to be made by all water entities – not dictated by MWDOC
- Providing local officials best information to chart course for their decisions affecting their stakeholders

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Metropolitan's 2015 IRP

- MET's Integrated Resources Plan (IRP)
  - A comprehensive long-term strategy to identify potential resources development needs, adaptation measures, and implementation pathways

WATER TOMORROW
Integrated Water Resource Plan | 2015

- IRP Objectives
  - Ensure Reliability
  - Maintain and expand diversity and flexibility
  - Provide adaptability
  - Acknowledge constraints

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MET's IRP Process Split into two Parts

- Phase 1: Technical Update
  - Evaluation of our current outlook on supplies and demands
  - Assess future water supply and demand imbalances
  - Develop regional targets to support long term reliability
- Phase 2: Resource Implementation Policies
  - How might we achieve these targets
  - What are the local and regional responsibilities
  - Evaluation of Cost and Rates

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Phase 1: IRP Technical Update

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Summary of Key Technical Findings

- The 2010 IRP Targets do not provide a sufficient buffer against potential risks
  - Demographic Changes i.e. population growth, economy
  - Reductions in Local Resources due to lower than expected groundwater production or surface supplies, Project implementation Timing, etc.
  - More restrictive Delta regulations lowering State Water Project deliveries
  - Potential shortage on the Colorado River

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Summary of Key Technical Findings (cont'd)

- Additional local supplies and conservation are needed to mitigate risk
- Maintaining imported supplies continue to be critical
- Need to develop a comprehensive water transfer approach to address short-term reliability challenges
- California WaterFix results in a major benefit, but it does not solve all of our problems; there is still a need for additional investments

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Phase 2: IRP Policy Implementation Update

- Kick-off in early 2016 with MET Board
- Reviewing supply and demand imbalance
- Identify projects and programs to meet this "Gap"
  - Evaluate MET's and member agency's role
  - Analysis costs and benefits
  - Assess Risks and Challenges
- MET's IRP Decision will impact the reliability of Orange County
- Completion in Summer 2016

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Phase 2: Policy Issues

- Future of Water Conservation
- Developing Further Local Resources
  - Recycling
  - Desalination
  - Stormwater
- Sustainable Groundwater Management
- Water Transfer and Exchange Program to mitigate near term shortages
- Stabilizing Imported Supplies

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Potential Regional Recycled Water Supply Program

- Metropolitan & LACSD
- Ongoing discussions on a water recycling treatment facility for number of years
- Regional recycled water program
  - At JWPCP in Carson
  - For indirect potable reuse
  - Phased approach
    - Up to 150 MGM
- Development of a Term Sheet between MET and LACSD

City of San Diego's Demonstration Plant – "Pure Water Project"

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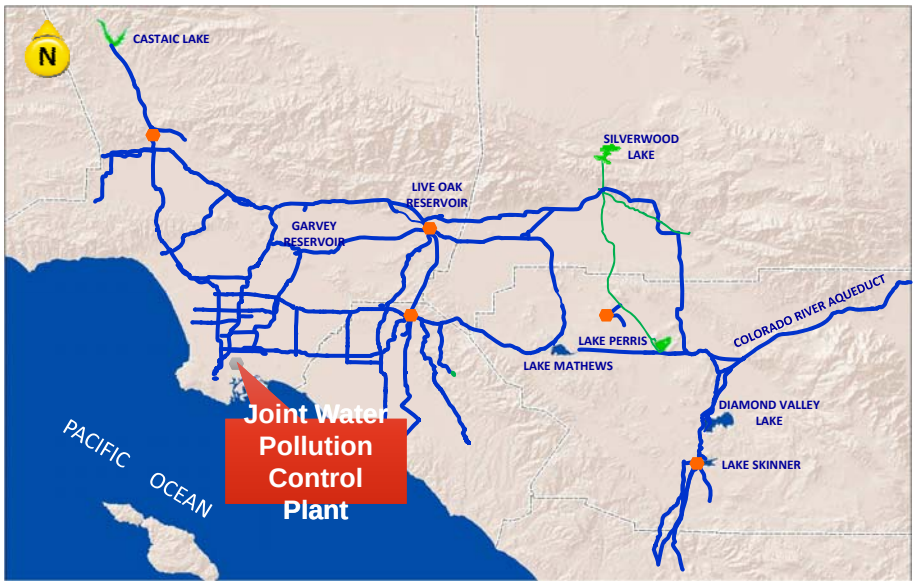
Location Map



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Joint Water Pollution Control Plant

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Approach to the Program

- Start with 1 MGD Demonstration Project
  - Provide for timely and cost effective implementation
  - Provide for regulatory acceptance of the project – water quality for groundwater recharge
  - Duration of the Demo – 1 year
- Feasibility & Environmental Studies for the Full Scale
  - Evaluate delivery system capabilities
  - Agency planning and Coordination
- Funding and Financing
  - Seek grant and loans
  - Establish water sale agreements
  - Determine rate impact

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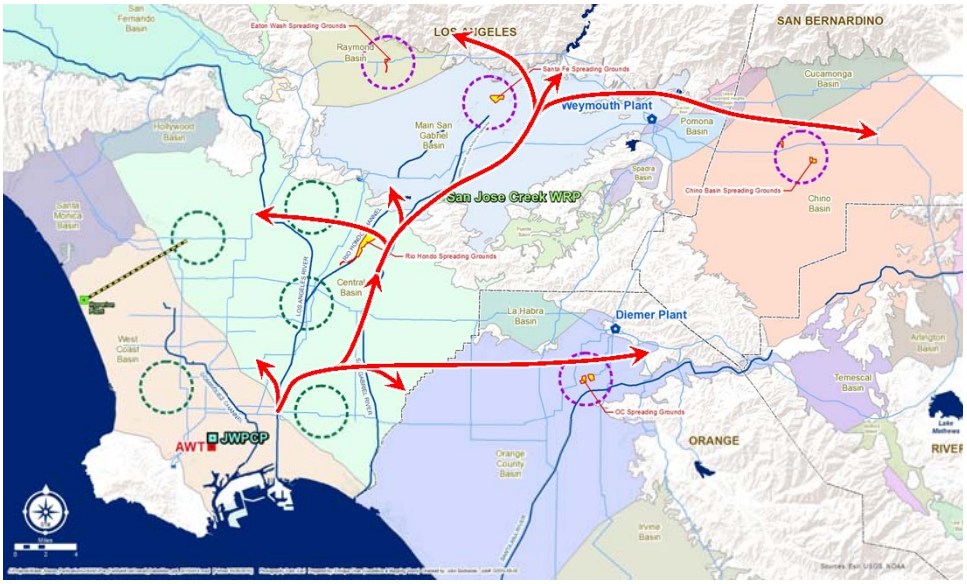
Potential Full Program (up to 150 MGD)



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Preliminary Program Timeline

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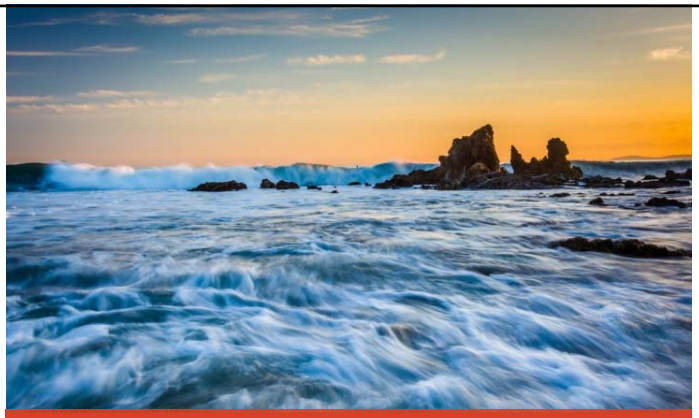

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SWRCB Regulations
OC Conservation Goals

Anaheim	20%	Huntington Beach	20%	Santa Ana	12%
Brea	24%	IRWD	16%	SMWD	24%
Buena Park	20%	La Habra	28%	Seal Beach	8%
EOCWD	36%	La Palma	20%	Serrano WD	36%
ETWD	24%	LBCWD	24%	South Coast WD	24%
Fountain Valley	20%	Mesa Water	20%	Trabuco Canyon	28%
Fullerton	28%	MNWD	20%	Tustin	28%
Garden Grove	28%	Newport Beach	28%	Westminster	20%
GS–Cowan Heights	36%	Orange	28%	Yorba Linda	36%
GS–Placentia	24%	San Clemente	24%		
GS-West Orange	16%	SJ Capistrano	28%		

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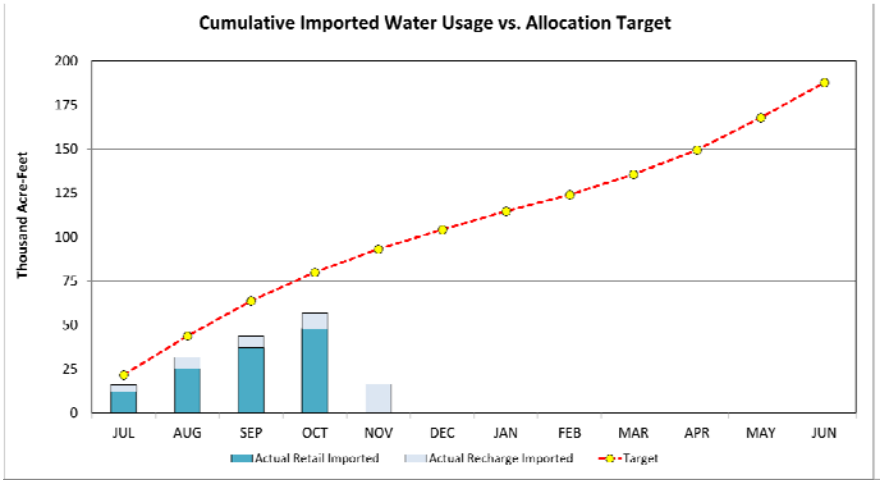
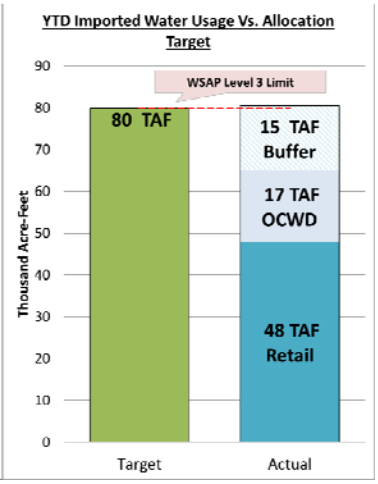
MWDOC YTD Allocation Surplus & Secondary Assignment





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Governor's Executive Order SWRCB Emergency Regulations

- **Focused** on **1.2 MAF Reduction Goal** (25%)
  - Nine Months (June 2015 – February 2016)
- Non-responsive Public "Workshop" (April 2015)
  - Lawns as the Enemy
  - No Climate Adjustment
  - No Indirect Potable Reuse Credit
  - Fire Zone Requirements not Considered
  - Issues Recognized but "Not Enough Time"
  - Issues deferred to future workgroups

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SWRCB Emergency Regulations ENFORCEMENT

- Priority Levels
  - Priority 1 = > 15% from goal (6 = 2%)
  - Priority 2 = 5% to 15% from goal (49 = 13%)
  - Priority 3 = 1% to 5% from goal (52 = 13%)
  - Priority 0 = met or within 1% of goal (282 = 72%)
- Enforcement Actions
  - Warning Letter (Priority 3)
  - Notice of Violation (Priorities 2 & 1)
  - Information Order (Priorities 2 & 1)
  - Conservation Orders (Subset of Priorities 2 &1)
- Fines
  - $500/day x 122 days = $61,000
    - Beverly Hills (20.4%/32%), Indio Water Authority (21.6%/32%)
    - Coachella Valley Water District (27.1%/36%) – Redlands (25.1%/36%)

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SWRCB Emergency Regulations II Current Schedule

- Current Emergency Regulations Expire in February 2016
- Governor Extension of Emergency Declaration - Uncertain
- "Informal Discussions" Workgroup Meetings
  - August 26, October 26 & November 13 2015
- Public "Workshop" December 7, 2015
  - Possibly no draft regulations published
  - 2-3 minute comments
- SWRCB approval January 5th or 19th 2016
  - Effective March 2016 – December 2016

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SWRCB Emergency Regulations II Dynamic Tension

NGOs

AT LEAST AS STRINGENT AS THE CURRENT REGULATIONS

INITIATE A PARALLEL PROCESS TO DEVELOP PERMANENT CONSERVATION STANDARDS

VARIOUS "DEDUCTIONS & CREDITS" TO CURRENT REGULATIONS

ELIMINATE ZERO SUM GAME

PERMANENT CONSERVATION STANDARDS UNNECESSARY

UTILITIES

SWRCB Emergency Regulations II UTILITY PROPOSALS

- Climate Equity Adjustments
- Growth Equity Adjustments
- Recycled Water Equity Adjustment
  - Purple Pipe
- Regional Compliance Approach
- Groundwater Adjustment
- Drought-Sustainable Supply Credit
  - Potable Reuse (IPR & DPR)
  - Desalination

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