

# Proposed Changes to CVWD's Landscape Ordinance

**CVAG Technical Planning Subcommittee  
November 23, 2015**



# Landscape Ordinance

- ✓ Originally passed in 2009
- ✓ Intended to ensure future water use is efficient
- ✓ More stringent than the State of California's requirements
- ✓ Cities were required to adopt an ordinance
  - ✓ Some adopted CVWD's
  - ✓ Others defaulted to the State

# Governor's Drought Actions - 2015

- On April 1, Governor Brown issued Executive Order directing State Water Resources Control Board to impose mandatory statewide 25% reduction in urban water use through February 28, 2016
- Required revisions of the Landscape Ordinance
  - *Must be adopted by December...*
  - *Or February 1, 2016 if adopting a regional ordinance*



# CVWD Action

- Staff has worked to revise the ordinance to ensure we align with the State ordinance.
- Many changes were not necessary as we were already more stringent in some areas.
- CVWD Board Agenda - November 24.

# Changes to the Ordinance

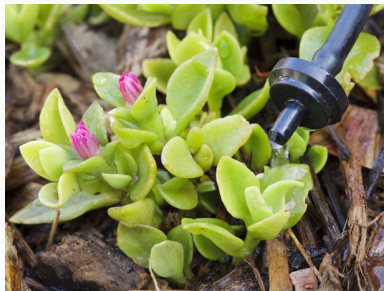
- Applicability:
  - Previously the ordinance and plan check applied to landscapes greater than 5,000 square feet.
  - Now it applies to landscapes greater than 2,500 square feet.

# Changes to the Ordinance

- Evapotranspiration Adjustment Factor (How we calculated the Maximum Applied Water Allowance):
  - Previously, the ordinance required an ET Adjustment Factor of 0.5.
  - Now, it requires an ET Adjustment Factor of 0.45.

# Changes to the Ordinance

- Irrigation Efficiency Rates:
  - Previously, 75% efficient for spray irrigation and 81% efficient for drip irrigation
  - Now, 75% efficient for spray irrigation and 90% efficient for drip irrigation







Maximum Allowable Water Allowance					
Eto	ET Adjustment Factor	Landscape Area	Gallons Per Sq. Ft. per Inch	Conversion Factor	
57.01	X 0.45	X 11,811	X 0.62	÷ 748	= 251 CCF

Estimated Total Water Use								
	Eto	Plant Factor	X	Landscape Area	Gallons Per Sq. Ft. per Inch	Conversion Factor	Irrigation Efficiency	
Grass	57.01	X 0.7	X 5,894	X 0.62	÷ 748	÷ 0.75	=	260 CCF
Pool	57.01	X 1.1	X 575	X 0.62	÷ 748	÷ 1	=	30 CCF
Xeriscape	57.01	X 0.35	X 3243	X 0.62	÷ 748	÷ 0.9	=	60 CCF
								349 CCF

ETWU of 349 is greater than 251 CCF of MAWA





Maximum Allowable Water Allowance									
Eto	ET Adjustment Factor	Landscape Area	Gallons Per Sq. Ft. per Inch	Conversion Factor					
93.9 X	0.45 X	4306 X	0.62 ÷	748 =	151 CCF				

Estimated Total Water Use									
	Eto	Plant Factor X	Landscape Area	Gallons Per Sq. Ft. per Inch	Conversion Factor	Irrigation Efficiency			
Grass	93.9 X	0.7 X	865 X	0.62 ÷	748 ÷	0.75 =	63 CCF		
Pool	93.9 X	1.1 X	574 X	0.62 ÷	748 ÷	1 =	49 CCF		
Xeriscape	93.9 X	0.35 X	954 X	0.62 ÷	748 ÷	0.9 =	29 CCF		
							141 CCF		

ETWU of 141 CCF is less than 151 CCF of MAWA



Maximum Allowable Water Allowance									
Eto	ET Adjustment Factor		Landscape Area		Gallons Per Sq. Ft. per Inch		Conversion Factor		
57.01	X	0.45	X	30,790	X	0.62	÷	748	= 655 CCF

Estimated Total Water Use													
	Eto	Plant Factor	X	Landscape Area	Gallons Per Sq. Ft. per Inch		Conversion Factor		Irrigation Efficiency				
Grass	57.01	X	0.7	X 6,854	X 0.62	÷	748	÷	0.75	=		302	CCF
Pool	57.01	X	1.1	X 822	X 0.62	÷	748	÷	1	=		43	CCF
Xeriscape	57.01	X	0.35	X 8732	X 0.62	÷	748	÷	0.9	=		160	CCF
												505	CCF

ETWU of 505 is less than 655 CCF of MAWA



### Calculations Using .5 ETAF

Maximum Allowable Water Allowance									
Eto	ET Adjustment Factor	Landscape Area	Gallons Per Sq. Ft. per Inch	Conversion Factor					
93.9	X	0.5	X	5014	X	0.62	÷	748	= 195 CCF
Estimated Total Water Use									
	Eto	Plant Factor	X	Landscape Area	Gallons Per Sq. Ft. per Inch	Conversion Factor	Irrigation Efficiency		
Grass	93.9	X	0.7	X	1057	X	0.62	÷	748 ÷ 0.75 = 77 CCF
Pool	93.9	X	1.1	X	309	X	0.62	÷	748 ÷ 1 = 26 CCF
Xeriscape	93.9	X	0.35	X	2879	X	0.62	÷	748 ÷ 0.9 = 87 CCF
									190 CCF

ETWU of 190 is less than 195 of MAWA

### Calculations Using .45 ETAF

Maximum Allowable Water Allowance									
Eto	ET Adjustment Factor	Landscape Area	Gallons Per Sq. Ft. per Inch	Conversion Factor					
93.9	X	0.45	X	5014	X	0.62	÷	748	= 176 CCF
Estimated Total Water Use									
	Eto	Plant Factor	X	Landscape Area	Gallons Per Sq. Ft. per Inch	Conversion Factor	Irrigation Efficiency		
Grass	93.9	X	0.7	X	1057	X	0.62	÷	748 ÷ 0.75 = 77 CCF
Pool	93.9	X	1.1	X	309	X	0.62	÷	748 ÷ 1 = 26 CCF
Xeriscape	93.9	X	0.35	X	2879	X	0.62	÷	748 ÷ 0.9 = 87 CCF
									190 CCF

ETWU of 190 CCF is greater than 176 CCF

# Changes to the Ordinance

- Narrow areas:
  - Previous, areas less than ten feet in width must be irrigated with subsurface irrigation or other means that produces no runoff or overspray.
  - Now, long, narrow or irregularly shaped turf areas shall not be designed and areas less than ten-feet in width will be allowed if irrigation design reflects the use of subsurface irrigation or a surface flow/wick irrigation system.



# Changes to the Ordinance

- Mulch:
  - Previously, the ordinance required at least 2 inches of soil covering mulch.
  - Now, the ordinance will require at least 3 inches of mulch.



# Changes to the Ordinance

- Landscape Meters:
  - Previously, required except for single family homes.
  - Now, required for single family homes except homes with a landscape area less than 5,000 square feet.
    - Can be serviced by the district or sub-metered.

# Changes to the Ordinance

- Flow sensors:
  - Previously, flow sensors were required for all projects except single and multifamily.
  - Now, they are required for all projects where a dedicated landscape meter is required.



# Additions to the Ordinance

- Easements:
  - No permanent structures or trees within CVWD and/or USBR (US Bureau of Reclamation) easements. No trees shall be installed within 15' of a CVWD and/or USBR pipeline.
  - Surface improvements may be installed within CVWD and/or USBR easements only upon the prior consent of CVWD

# Additions to the Ordinance

- Overhead irrigation will not be permitted within 24-inches of any non-permeable surface.
  - There are no restrictions on the irrigation system type if the landscape area adjacent is permeable and no overspray and runoff occurs.

# Additions to the Ordinance

- Medians:
  - High water use plants are prohibited in street medians



# Timeline for Ordinance Adoption

- State deadline: February 1, 2016
  - If ordinance not adopted by then, state ordinance temporarily in effect
  - First and second reading for ordinance
- CVWD ordinance will go into effect Dec. 1 if approved by CVWD Board this week
- CVAG will provide sample staff report, resolution, support as needed

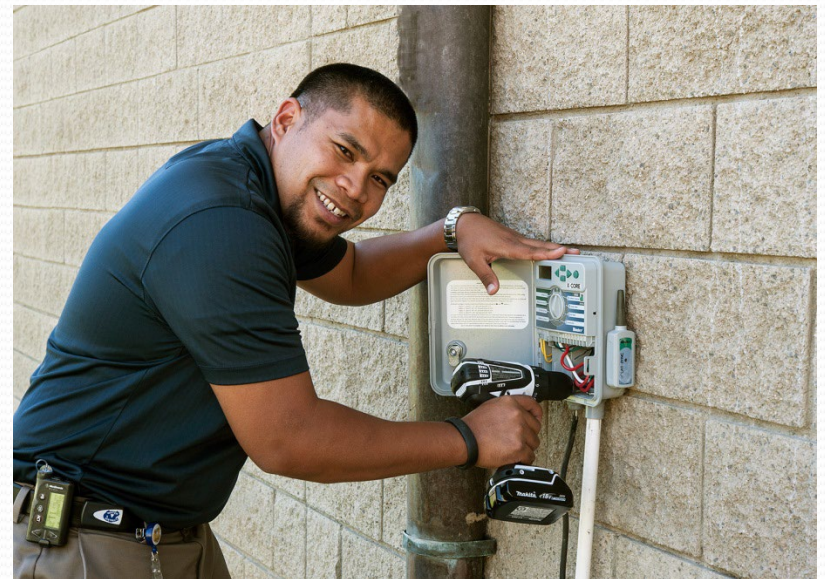
# Drought Response

Changes from this week's Board Action



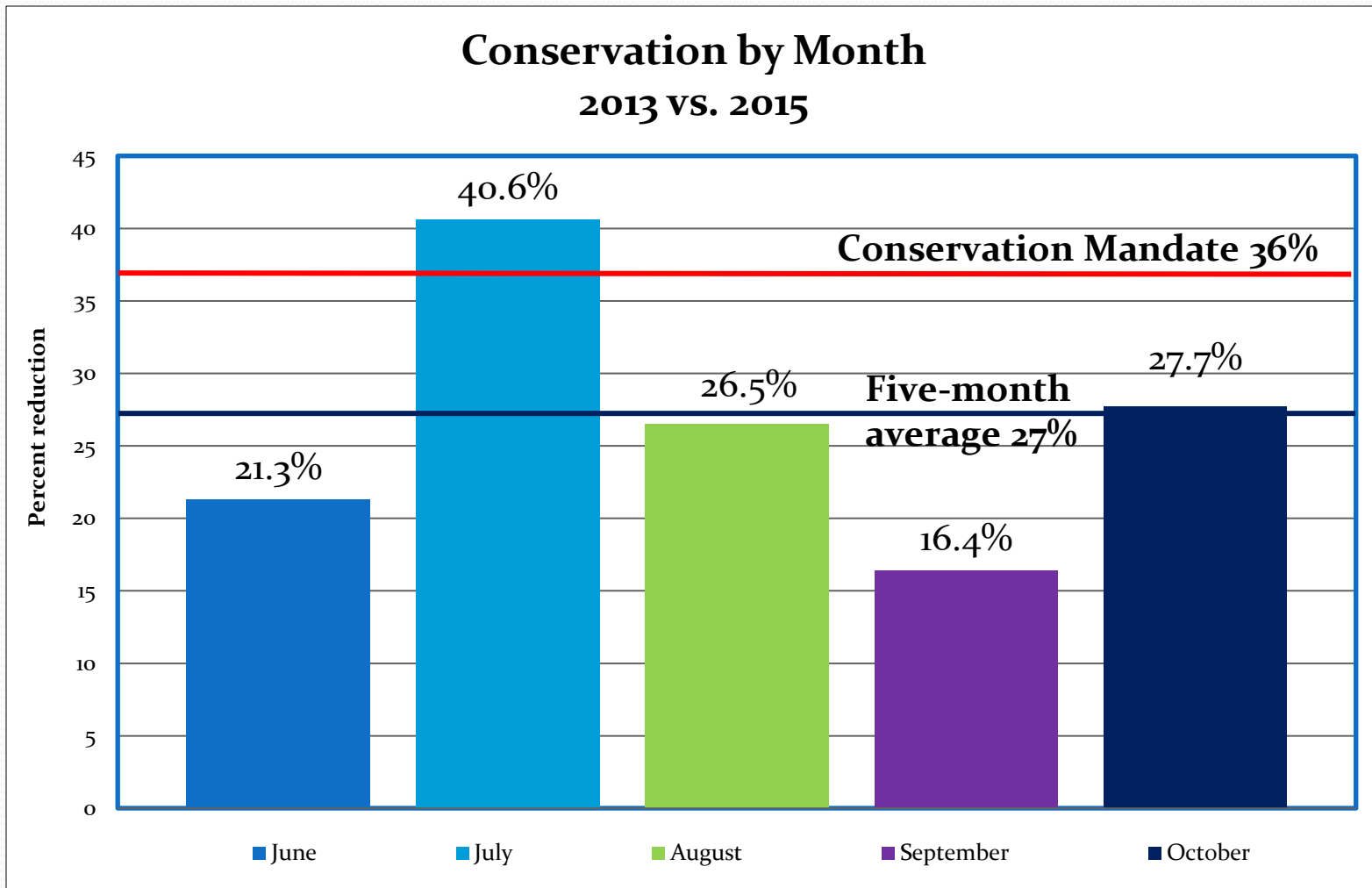
# PAST RESPONSE

- ✓ Adopted Stage 3 Water Shortage Contingency Ordinance on May 12, 2015
- ✓ Adopted state's water-use restrictions and local restrictions and recommendations
- ✓ Adopted Drought Penalties effective July 1, 2015
- ✓ Increased funding for conservation programs
- ✓ Increased Water Management staff level
- ✓ Enhanced public outreach and education



# CONSERVATION RESULTS

**Conservation by Month  
2013 vs. 2015**



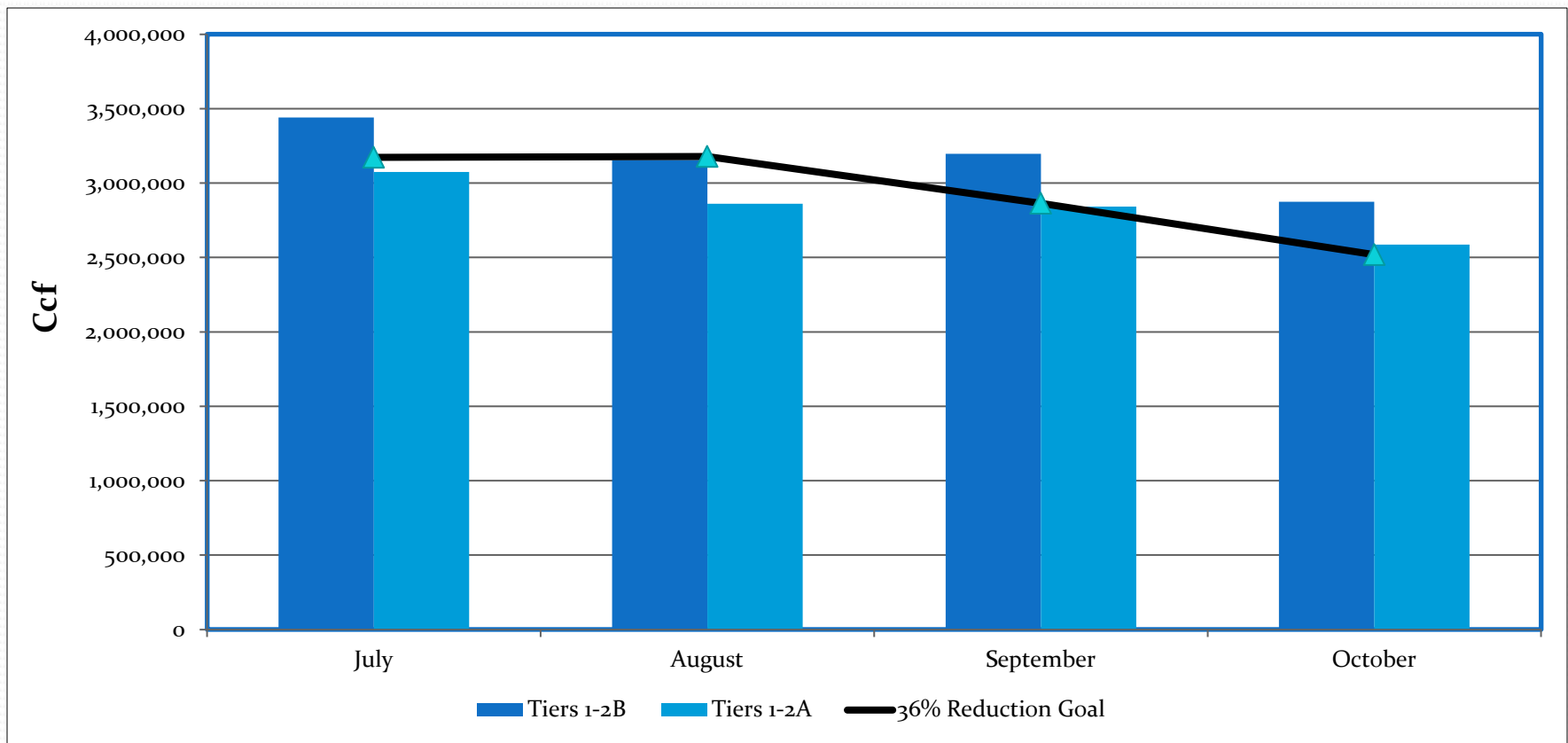


# CONSERVATION SUCCESS

Top Water Savers in the State by gallons	
	Gallons saved June – Sept.
1. LA Department of Water and Power	13,192,746,725
2. East Bay MUD	7,842,500,000
3. San Jose Water Company	7,081,900,000
4. City of Fresno	6,174,789,448
5. City of San Diego	5,990,876,241
6. City of Sacramento	5,676,000,000
7. Coachella Valley Water District	4,285,793,479

# FUTURE SAVINGS POTENTIAL

- If all penalty consumption was eliminated, we would meet the 36% conservation mandate.




1 Ccf = 748 gallons

# PROPOSED NEXT STEPS

- ✓ Increase funding for conservation programs
- ✓ Increase public outreach
- ✓ Adopt new restrictions
- ✓ Increase Drought Penalties



# DROUGHT PENALTIES

Budget Based Tiered Rates with a Drought Penalty for not reducing water use 36%				Drought Penalty Per Ccf
Tier 1: Excellent	10 Ccf	\$1.01		\$0
Tier 2:	With 36% less water use	\$1.12		\$0
 <b>Penalty</b>	Without 36% less water use	\$1.12	+	<b>\$2.51</b>
Tier 3: Inefficient	105 – 150% of budget	\$1.68	+	<b>\$3.34</b>
Tier 4: Excessive	150 – 250% of budget	\$2.24	+	<b>\$5.01</b>
Tier 5: Wasteful	Over 250% of budget	\$4.48	+	<b>\$10.03</b>

- \* Did not change budgets and rates within Tiers
- \* Encourages reducing outdoor water use by 36%

# DROUGHT PENALTIES

Budget Based Tiered Rates with a Drought Penalty for not reducing water use 36%				Drought Penalty Per Ccf	Proposed New Drought Penalty
Tier 1: Excellent	10 Ccf	\$1.01		\$0	\$0
Tier 2:	With 36% less water use	\$1.12		\$0	\$0
	Without 36% less water use	\$1.12	+	\$2.51	\$2.51
Tier 3: Inefficient	105 – 150% of budget	\$1.68	+	\$3.34	\$6.68
Tier 4: Excessive	150 – 250% of budget	\$2.24	+	\$5.01	\$15.03
Tier 5: Wasteful	Over 250% of budget	\$4.48	+	\$10.03	\$40.12

→ Penalty

\* Increases proposed for only top three Tiers



Presentation Prepared by: Katie Ruark  
Conservation Manager  
Coachella Valley Water District  
[kruark@cvwd.org](mailto:kruark@cvwd.org)