

# This presentation premiered at WaterSmart Innovations

[watersmartinnovations.com](http://watersmartinnovations.com)



# Peer Review of the Demand Management Programs of the Metropolitan Water District of Southern California

Peter Mayer, P.E.  
Principal, WaterDM



A VOICE AND  
A PLATFORM  
PROMOTING THE  
EFFICIENT AND  
SUSTAINABLE  
USE OF WATER



Alliance *for* Water Efficiency

# Metropolitan Water District of Southern California

- Regional water wholesaler serving 19 million people across 6 S. Cal counties
- 26 member agencies
- 38 member board of directors
- Water demand management started in 1976
- Highly evolved, well funded regional water conservation program



# 2014-16 Drought

Turf removal program – Metropolitan expected to remove 175 million square feet of turf – more than triple the governor's goal for the entire state. Rebate started at \$0.30 per square foot (SF) of turf removed.

Raised to \$1.00 per SF and then to \$2.00 per SF. \$450 million conservation program budget (~\$225 million per year).

75,000 landscape transformations (~average of \$6,000 per transformation)



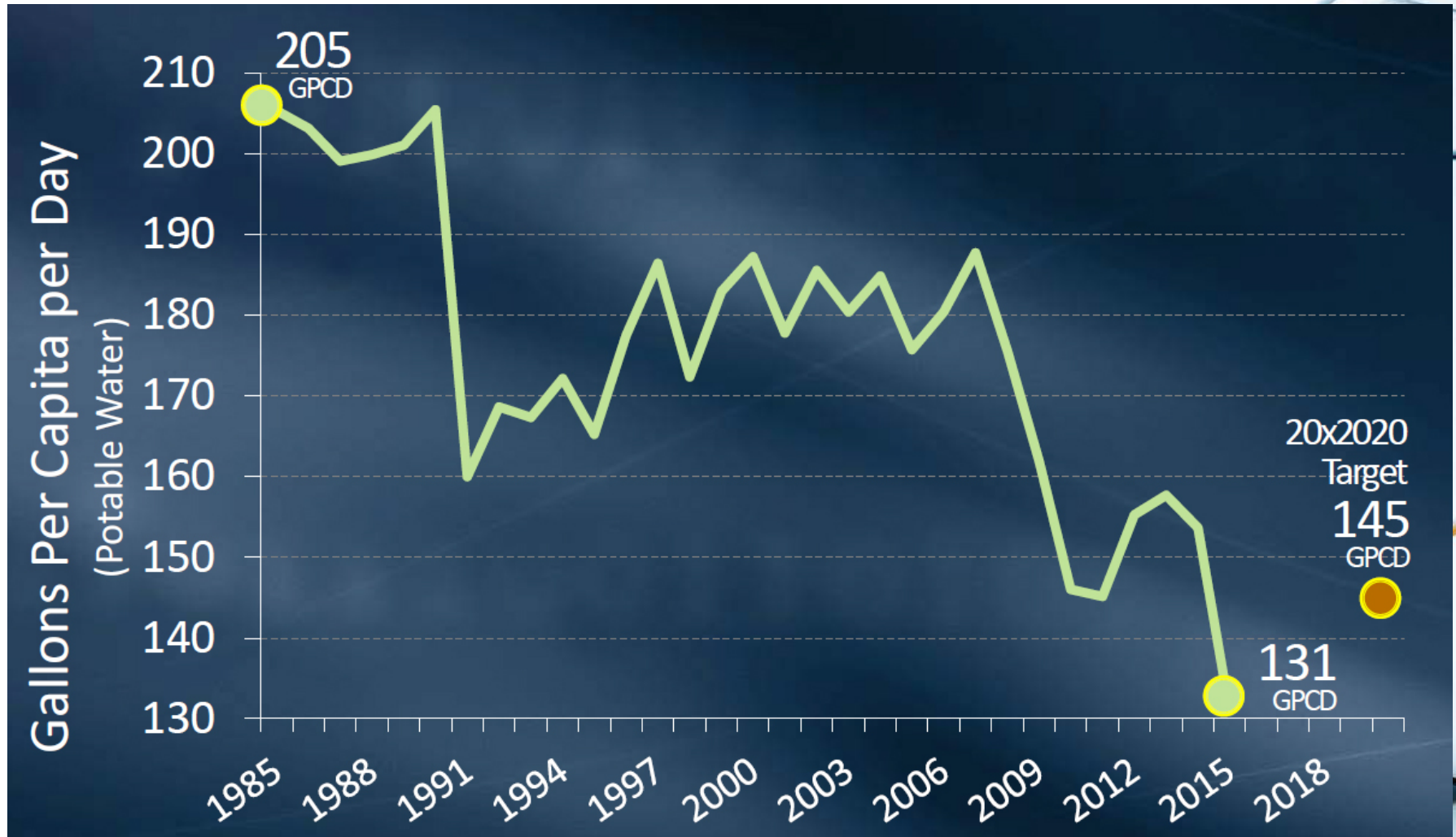
**WE HAVE THE NATION'S LARGEST  
TURF REMOVAL PROGRAM**

**REMOVING 175 MILLION SQ FEET OF TURF = ENOUGH  
TO COVER MORE THAN 3,000 FOOTBALL FIELDS AND  
WHEN COMBINED WITH CONSERVATION DEVICES  
SAVES MORE THAN 70 MILLION GALLONS A DAY**

**THAT'S A LOT OF TURF  
THAT'S A LOT OF WATER**

 THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

# Gallons Per Capita Per Day – MWD of Southern California



# Peer Review Goal

*To perform a thorough, but high level review of MWD's water conservation program efforts to date and offer insights and recommendations about how the program should evolve in the future to be more effective.*

# Peer Review Team

- **Erin Morey**, New York City Dept of Environmental Protection, NY
- **Doug Bennett**, Southern Nevada Water Authority, NV
- **Karen Guz**, San Antonio Water System, TX
- **Kathy Nguyen**, Cobb County Water System, GA
- **Carol Ward-Morris**, Arizona Municipal Water Users Association, AZ
  
- **Peter Mayer, Bill Gauley, and Mary Ann Dickinson**

# Peer Review Process

- Informational report on Metropolitan conservation program
- Team teleconference
- Peer review site visit
- Summary of reviewer comments
- Team teleconference to produce recommendations



# Member Agencies Contributing to the Peer Review

- Los Angeles Department of Water and Power
- San Diego County Water Authority
- Metropolitan Water District of Orange County
- Eastern Municipal Water District
- City of Beverly Hills
- Three Valleys Municipal Water District

# Peer Review Summary Comments

- Peer review is based on a brief window of insight.
- The exceptional challenges faced during a drought crisis led to this peer review.
- *The Peer Review Team found that Metropolitan's water conservation programs were exceptional, far reaching, and innovative particularly given the enormous service area and limited staff resources.*

# Peer Review Summary

## Comments (Cont.)

- Metropolitan staff were open and forthcoming. The peer reviewers were complimentary of the performance of this small group of staff, particularly during such a severe and long-lasting drought.
- Member Agency staff were also open and forthcoming - offering perspective and constructive suggestions for improving the Metropolitan conservation program.
- All comments from the Peer Review Team, Metropolitan Staff, and Member Agencies are presented anonymously.

# 1 1 Consensus Peer Review Recommendations

# 1 Evaluate and Increase the Base Conservation Rate of \$195/AF.

- This maximum value is fundamental to the entire conservation program.
- Re-evaluate and increase the cost-efficiency threshold
  - Could be based on the avoided cost of new supply in MWDs portfolio; or
  - Could be market-based, at level needed to incentivize action.

# 2 Improve and Expand Conservation Research

- Metropolitan is a national leader in both funding and conducting conservation research.
- Member Agencies (MA's) want more pilot research and more rigorous program evaluation.
- Create committee of staff, MA's, and technical experts to develop a prioritized research agenda.

## 2 Improve and Expand Conservation Research (cont.)

- Integrate research agenda and evaluation into programs as they are developed and launched.
- Involve MA's throughout the process so they are fully prepared to participate and provide data.
- Metropolitan needs additional staff dedicated to conservation research, evaluation, and data management.

# 3 Develop a Comprehensive Education Effort

- Metropolitan's education offerings are valuable and should be improved and expanded.
- Metropolitan's education and outreach efforts are an essential component of the landscape transformation process, accelerated through the turf replacement program.
- Education programs are not well suited to a "Just in Time" approach. Programs need to be developed and improved over time.



# 3 Develop a Comprehensive Education Effort (cont.)

- Evaluate Metropolitan curriculum along with existing offerings of MA's and beyond to identify the shared needs across the service area.
- Engage the green industry, universities, and others in landscape and irrigation training.
- Landscape curriculum should be adapted for different regions and climates.



# 4 Reinststate the Turf Removal Program

- Metropolitan's turf replacement program was a valuable and necessary response to drought.
- More than just an emergency response, this program can be part of a long term change to urban landscapes.
- Lower water use is prioritized.
- Platform for promoting California Friendly landscapes, homeowner classes, and professional training.






# 4 Reinstatement the Turf Removal Program (cont.)

- Maintain this program and its capabilities to further advance landscape changes and to keep the ability to “ramp up” the program if needed.
- Establish a fixed annual budget. Refine and scale the program annually in coordination with the MA’s.
- Incentive must be enough to motivate customers to participate in the program.

# 5 Expand the Water Savings Incentive Program (WSIP)

- The WSIP is valuable and should be expanded and improved.
- CII water use efficiency is complex. WSIP approach is good, but administratively intensive.

**Project Examples:**

<b>UC Irvine</b>	<b>Emerald Textiles</b>	<b>Starbucks</b>
		
<ul style="list-style-type: none"><li>• Med Center</li><li>• \$4K / 20 AF</li></ul>	<ul style="list-style-type: none"><li>• Filter / Recycle water for Tunnel Washers</li><li>• \$240K / 1,100 AF</li></ul>	<ul style="list-style-type: none"><li>• Store RO Filtration System</li><li>• \$8.2K / 55 AF</li></ul>

# 5 Expand the Water Savings Incentive Program (WSIP) (cont.)

- Additional assistance is needed to manage multiple projects across the region. Contract out for marketing, inspections, and some program administration.
- Reduce barriers to participation and simplify contracting.
- Set minimum \$\$ and water savings thresholds to ensure cost-efficiency.



# 6 Re-start Member Agency Program Advisory Committee

- Program Advisory Committee (PAC) meetings are important for member agency engagement, communication, and program success.
- Member agencies value the “practical, detailed, and technical” forum that the PAC provides.
- Members want productive, valuable meetings.
- Member agencies are anxious to resume these meetings as they were prior to the drought.

# 7 Do a Final Promotion Before Eliminating Rebates

- Metropolitan and MA's must determine if and when to terminate rebate programs.
- May consider saturation studies to base decisions on and ID where there may be opportunities to address through MAA programs or targeted pilots.
- As a practice, if funding is available, have one last “fire sale” push before closing down.



# 8 Continue the Member Agency Administered Program

- Strong support for this program.
- Mitigates the effect of programming to the least common denominator.
- Flexibility - member agencies appreciate.
- Allows Metropolitan the flexibility to easily modify program elements to accommodate different scenarios



# 9 Consider Additional Staffing for Water Conservation

- Metropolitan - 10 FTE serving population of 19 million.
- Comparison: Southern Nevada Water Authority – 16 FTE serving population of 2.1 million.
- Metropolitan has little or no capacity for redundancy or cross training.
- Several critical functions have no back up during a prolonged absence or staff vacancy.



# 10 Continue Role in Codes & Standards and Legislation

- Codes, standards, and legislation have played an essential role in increasing water use efficiency.
- These types of wide-reaching changes have driven market-scale improvements in water efficiency and reduced per capita consumption.
- Metropolitan's role in driving these efficiency policies was significant.
- Metropolitan should continue an active role with the potential to reduce future water demand.

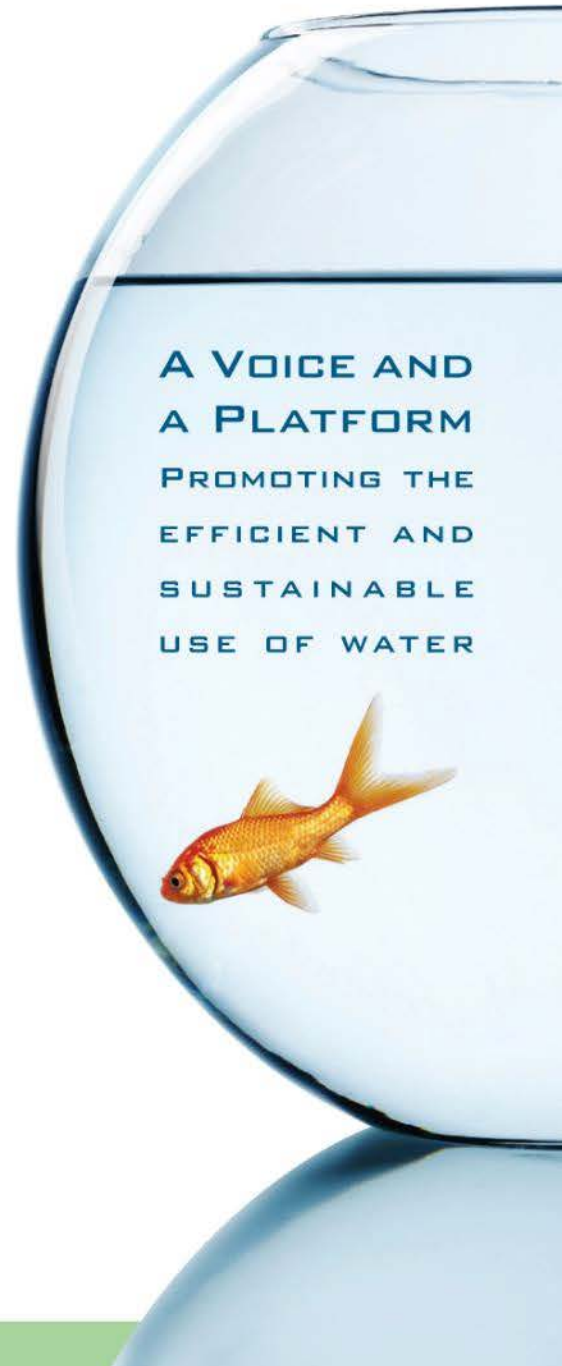
# 1 1 Target Programs to Disadvantage and High Water Users

- Where possible, work with MA's to target customers across regions.
- High water users have the greatest potential for savings.
- Disadvantaged customers are least likely to benefit from Metropolitan program offerings without assistance.
- These are very different customer groups, but both have potential to benefit.



Thank you

Peter Mayer, P.E., Principal  
[peter.mayer@waterdm.com](mailto:peter.mayer@waterdm.com)



A VOICE AND  
A PLATFORM  
PROMOTING THE  
EFFICIENT AND  
SUSTAINABLE  
USE OF WATER