



MAY 2017

A Peer Review of the Conservation Programs of the Metropolitan Water District of Southern California

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Peer Review Project and Team

The Metropolitan Water District of Southern California (Metropolitan) is a public agency and a regional water wholesaler that implements water conservation programs to approximately 19 million people through its 26 Member Agencies, including some of the largest water providers in Southern California. Metropolitan has implemented traditional long-term conservation programs over many years but recently, in response to the severe California drought, Metropolitan made a two year spending commitment nearly \$450 million on conservation and efficiency programs.

The goal of this peer review project was to perform a thorough, but high level, review of Metropolitan's water conservation program efforts to date and to offer insights and recommendations about how the program could evolve in the future to be more effective.

Peer Review Team

Consulting Experts

- **Peter Mayer, P.E.**, Principal, WaterDM - Principal Investigator
- **Bill Gauley, P.Eng.**, Principal, Gauley Associates Ltd. - Co-Principal Investigator

Urban water expert, Peter Mayer, P.E., a consultant and researcher with more than 20 years of experience designing and evaluating demand management programs, led the peer review on behalf of the Alliance for Water Efficiency. Bill Gauley, P.Eng., Canada's most experienced water conservation engineer and researcher, served as the co-principal investigator.

Peer Reviewers

Peer reviewers included five of the most knowledgeable and experienced professionals practicing in the field of water conservation and demand management today.

- **Doug Bennett**, Conservation Manager, Southern Nevada Water Authority
- **Karen Guz**, Conservation Director, San Antonio Water System
- **Erin Morey**, Deputy Director, NYC Environmental Protection, Bureau of Environmental Planning & Analysis, Integrated Water Management
- **Kathy Nguyen**, Senior Project Manager, Cobb County Water System
- **Carol Ward-Morris**, Assistant Director, Arizona Municipal Water Users Association

Facilitation

The review was conducted under the auspices of the Alliance for Water Efficiency (AWE). AWE, and in particular **Mary Ann Dickinson**, President and CEO, provided coordination, planning, technical, and administrative support for the project team.

Peer Review Process

The peer review of Metropolitan's water conservation program included the following components:

1. **Informational Report.** Mayer and Gauley prepared an informational report outlining the history of Metropolitan's conservation programs to help set the context for the peer review team.
2. **Presentation to Metropolitan IRP Committee.** On October 25, 2016, Mayer presented an overview of the project to the Metropolitan Integrated Resources Planning Committee.
3. **Team Teleconference #1.** After reviewing the Informational Report (but prior to meeting in person) the Peer Review Team held a teleconference on January 12, 2017 to discuss details of the program and to prepare for the site visit.
4. **Peer Review Site Visit.** The 8-member peer review team travelled to Los Angeles and met with Metropolitan staff and Member Agency representatives on January 26 and 27, 2017. On January 26, the peer review team met for more than 7 hours with Metropolitan conservation staff. On January 27, the peer review team met with conservation representatives from Member Agencies including:
 - a. Los Angeles Department of Water and Power
 - b. San Diego County Water Authority
 - c. Municipal Water District of Orange County
 - d. Eastern Municipal Water District
 - e. City of Beverly Hills
 - f. Three Valleys Municipal Water District

The peer review team and Member Agencies engaged in a lively discussion on the pros and cons of Metropolitan's conservation program offerings.

5. **Summary of reviewer comments.** Mayer summarized and grouped reviewer comments and recommendations and provided this summary report to the peer reviewers.
6. **Team Teleconference #2.** During a teleconference held on March 15, 2017, the Peer Review Team reached a consensus regarding which recommendations to put forward.
7. **Summary Report.** An outline of the overall peer review process and identification of the consensus recommendations are provided in this report.
8. **Presentation to Metropolitan Conservation and Local Resources Committee.** On May 23, 2017, Mayer presented the peer review consensus recommendations to the Metropolitan Board's Conservation and Local Resources Committee.

Peer Review Summary Comments

- This peer review is based on a brief window of insight into Metropolitan.

- The Peer Review Team understands that 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.
- The discussions during the peer review meetings were frank and far ranging, and the peer review team found the staff from Metropolitan and the Member Agencies to be knowledgeable and well prepared to provide information and perspective.
- The Peer Review Team felt Metropolitan staff were open and forthcoming regarding the challenges they faced and the successes they achieved. 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 that participated in this review were also open and forthcoming - offering constructive suggestions for improving the Metropolitan conservation program.
- All comments from the Peer Review Team, Metropolitan Staff, and Member Agencies are not for attribution. This was clearly explained in advance to assure a more open and honest opportunity for dialog.

Consensus Peer Review Recommendations

The consensus recommendations are the consensus recommendations and in some cases comments from the Peer Review Team. These recommendations are offered with the goal of improving and enhancing the Metropolitan water conservation program for Member Agencies and their water customers.

Recommendation 1 – Evaluate and Increase the Base Conservation Rate of \$195/AF

The peer review team understands that to be considered cost-effective, Metropolitan's water conservation programs must cost less to implement than the current base conservation rate of \$195 per acre-foot. The base conservation rate is for rebates themselves, does not include vendor administration fees nor any Metropolitan's staff costs. Some rebate items such as rain barrels and turf removal do not follow this base rate. Programs such as classes and landscape audits are not based on this rate.

The peer review team recommends Metropolitan re-evaluate the current Base Conservation Rate (established in 2005 by Metropolitan's Board) with the intent of increasing it. The new rate could

be based on the avoided cost of obtaining, treating, and delivering new supply in Metropolitan's service area; or it could be market-based and set at a level needed to incentivize action.

Recommendation 2 – Improve and Expand Conservation Research

While Metropolitan is a national leader in both funding and conducting conservation research, The Peer Review Team agrees with Member Agencies (MA's) that even more pilot research and rigorous program evaluation should be conducted.

The Peer Review Team recommends that Metropolitan create a committee of Metropolitan staff, MA staff, and technical experts to develop a prioritized research agenda and evaluation protocol. Once developed, Metropolitan should integrate the research agenda and evaluation protocol into all new programs as they are developed and launched.

Metropolitan should involve MA's throughout the process so they are fully prepared to participate and provide data for the research effort.

It is the Peer Review Team's opinion that additional resources will be needed to amplify and expand these efforts.

Recommendation 3 – Develop a Comprehensive Education Effort

Metropolitan's education offerings, including landscape and irrigation classes for the public and Member Agency staff, are valuable and should be improved upon and expanded. Some Member Agency staff felt Metropolitan's classes were "disjointed" and did not always contain appropriate regionally specific information, but there was broad agreement that educational offerings should be improved not scrapped and expanded where appropriate.



Comprehensive education and outreach programs are essential to Metropolitan's long-term goal of reducing water demands through landscape transformation, e.g., converting to California-friendly landscapes. This outreach can be an important part of the longer-term transformation to landscapes that require less water.

Because education programs are not well-suited to a "Just in Time" approach, they need to be implemented on an ongoing basis, with program content and delivery mechanisms updated and improved upon over time. This is especially important for programs with lengthy implementation periods, such as landscape and irrigation education programs.

The Peer Review Team recommends:

- Metropolitan meet with Member Agencies to identify the unique needs, wants, and priorities of each service area regarding education and outreach programming.
- Metropolitan review its current curriculum and make adjustments/develop more comprehensive material where practical and necessary to align programming with MA goals and maximize program effectiveness. While the fundamentals of good horticultural practices will remain the same, the goal is for Metropolitan to create a curriculum that applies across the service area and can be tailored to address the local environment.
- Engage the green industry, universities, and other specialists in landscape and irrigation training. This is particularly important with training programs for green industry professionals as their input and engagement will strengthen the program and buy-in

Recommendation 4 – Reinstate the Turf Replacement Program

Metropolitan’s turf replacement program was a valuable and necessary response to the extreme drought conditions experienced in the area.

More than just an emergency response, the turf replacement program can be part of a long-term change to urban landscapes where lower water use is prioritized. The turf replacement program is also a platform for promoting California Friendly landscapes.

The Peer Review Team feels it is important to maintain this program and its capabilities to further advance landscape changes and to keep the ability to “ramp up” the program in the future if needed.

The Peer Review Team recommends Metropolitan establish a fixed annual budget for the turf replacement program and provide an incentive level sufficient to motivate participation.



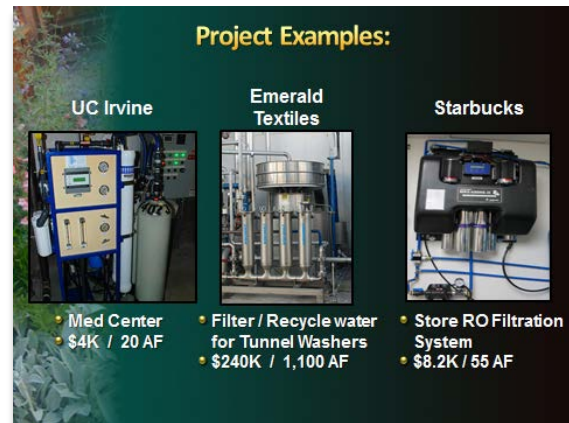
Metropolitan can refine and scale the program annually based on the budget and in coordination with the Member Agencies.

Recommendation 5 – Expand the Water Savings Incentive Program (WISP)

Metropolitan’s Water Savings Incentive Program (WSIP) is a valuable and innovative program that should be expanded and improved.

Commercial, Industrial, and Institutional (CII) water use efficiency, targeted by WSIP, is complex. The unique flexibility offered by the WSIP approach allows programs to be customized to meet the specific needs of individual water users but, unfortunately, it is administratively intensive.

To grow this program, additional staff assistance is needed to manage multiple incentive projects across the region. Metropolitan must also simplify the current contracting procedures, which are viewed as a significant barrier to MA participation and prospective applicants.



The Peer Review Team recommends that Metropolitan:

- Set minimum cost and water savings thresholds per participant to ensure cost-efficiency.
- Provide adequate resources to relieve the administrative burden and increase efficiency. Consider whether contracting out for marketing, inspections, and some program administration for the WISP would be appropriate.

Recommendation 6 – Re-start Member Agency Program Advisory Committee Meetings

Program Advisory Committee (PAC) meetings are important for member agency engagement, communication, and program success. Member Agencies stated that they valued the “practical, detailed, and technical” forum the PAC provides.

Member Agencies expressed to the Peer Review Team that PAC meetings held prior to the recent drought were generally very productive and valuable; however, meetings held during the drought weren’t as frequent, well-prepared, and focused. The Member Agencies are anxious to have the PAC meetings return to the productive level they achieved prior to the drought.

Recommendation 7 – Before Eliminating Rebates, Work with MA’s on Sunset Date and Final Promotion



There are differences of opinion about which rebate programs should be retired and when. To address the needs of all Member Agencies, the Peer Review Team recommends that Metropolitan and Member Agencies together determine if and when to terminate rebate programs.

Once decided, the Peer Review Team recommends Metropolitan establish a practice of having a final push for rebates before closing the program down. This should include increased promotion of the rebate noting that the program is ending and will no longer be available.

Recommendation 8 – Continue the Regional and Member Agency Administered Programs

The Regional Conservation Program is Metropolitan’s primary program, offering a one stop shop for all customers across the region.

There is strong support among the Member Agencies for the Regional Conservation Program to continue and there is also strong local support for the Member Agency Programs which provides funding at the agency level.

The combination of these two key Metropolitan conservation programs, allows Member Agencies implementation options and flexibility.

The Member Agency Program provides local adaptation member agencies appreciate.

The combination of both program elements enables Metropolitan flexibility to swiftly modify and accommodate different conditions, such as drought. Both of these programs should be continued.

Recommendation 9 – Consider Additional Staffing for Water Conservation

Metropolitan’s conservation program currently has 10 FTE staff serving a population of 19 million. For comparison, the Southern Nevada Water Authority has 16 FTE staff serving a population of 2.1 million.¹

Metropolitan operates the conservation program with little or no capacity for redundancy or cross-training. Several critical functions would have little or no back up during a prolonged absence or staff vacancy. There is also a strong desire from Member Agencies for Metropolitan to develop more comprehensive program evaluation and research initiatives – something that will almost certainly require additional staff.



Given the importance and success of water efficiency to the district, Metropolitan should consider additional staffing.

Recommendation 10 – Continue Metropolitan’s Role in Development of Codes and Standards and Legislation

Codes, standards, and legislation impacting fixtures, appliances, landscapes, water loss control, and other areas have played an essential role in increasing water use efficiency in California and across America. More than any individual program, these types of wide-reaching changes have driven market-scale improvements in water efficiency and reduced per capita consumption.

Over the past 30 years, Metropolitan has dedicated staff and resources to driving the adoption of numerous efficiency policies and the impact has been significant – not just in California but across the entire USA and even into Canada.

Metropolitan should deploy the necessary staff and financial resources to enable it to continue to play an active role in the development of water-efficiency codes, standards, and legislation.

¹ Southern Nevada Water Authority does not use any contract labor.

Recommendation 11 – Target Metropolitan Conservation Programs to Both Disadvantaged Customers and High Water Users

Where possible, Metropolitan should work with Member Agencies to develop and implement conservation programs that target the customers across all regions who can benefit most – i.e., disadvantaged customers and high water users.

Programs targeting these two groups of customers would require significantly different approaches, but both customer groups offer a potential for savings that might not be fully achieved by broad-based water conservation programs.

It may seem obvious, but high water users offer the greatest potential for improved efficiency and savings. Metropolitan should work with Member Agencies to develop data screening to regularly identify the highest water users across all regions. Cooperation between Member Agencies and Metropolitan to manage and share customer level consumption and spatial data would be helpful here. Where possible and practical, programs can be developed to take advantage of common characteristics, such as lot size, geographic location, household occupancy, household income, etc. These programs should be reviewed and updated periodically to address changing conditions and demand patterns.

Economically disadvantaged customers, e.g., customers living in subsidized housing, are the least likely to benefit from Metropolitan program offerings without designated assistance and effort. While these customers may have direct access to rebates via the SoCalWaterSmart.com website or other avenues, they do not have capital to purchase a more expensive device and may not even have permission to replace fixture and appliances in their home.

Metropolitan should work with Member Agencies to develop and implement innovative programs and outreach initiatives that target hard to reach and disadvantaged customers, private land lords, and public housing to ensure demand reductions are achieved by all customer sectors, regardless of financial status.