MWRA Demand Management Program Summary Report For Fiscal Year 2026

This report is organized into four sections, as follows:

1. Summary
2. Background and Long Range Water Supply Program
3. Ongoing MWRA Demand Management Programs and Activities During Fiscal Year 2026
4. Demand Management Plans for Fiscal Year 2027

1. Summary

This report has been prepared to meet the requirements of the Massachusetts Water Resources Authority's NPDES Permit MA0103284 - Part I, Item 10.c (page 14 of 32). The purpose of the demand management section (including water conservation) in MWRA's NPDES permit is to help maintain the dry day wastewater flow to the Deer Island Wastewater Treatment Plant below the 436 million gallons per day (mgd) permit limit. MWRA's wastewater flow is derived from three flow components: sanitary flow, groundwater infiltration and stormwater inflow. The demand management program will help reduce the sanitary component of wastewater flow as well as provide benefits to the water system and source watersheds. Information on infiltration and inflow reduction is provided in MWRA's Annual Infiltration and Inflow (I/I) Reduction Report for Fiscal Year 2026 (submitted under separate cover letter).

MWRA has maintained the 365 calendar day running average dry day wastewater flow well below the 436 mgd permit limit and well below the 415 mgd trigger (see NPDES Permit Part I, Item 10.a and 10.b). For Fiscal Year 2026 (ending June 30, 2026), the 365-calendar day running average dry day flow to the Deer Island Wastewater Treatment Plant was ***245.5*** mgd; the Plant's dry day flow has averaged approximately ***277.3*** mgd over the last ten years (see Table 1). The dry day flow is reported monthly by MWRA as part of the NPDES Operational Performance Summary.

Table 1: 365-Calendar Day Running Average Dry Day Wastewater Flow FY17 to FY26

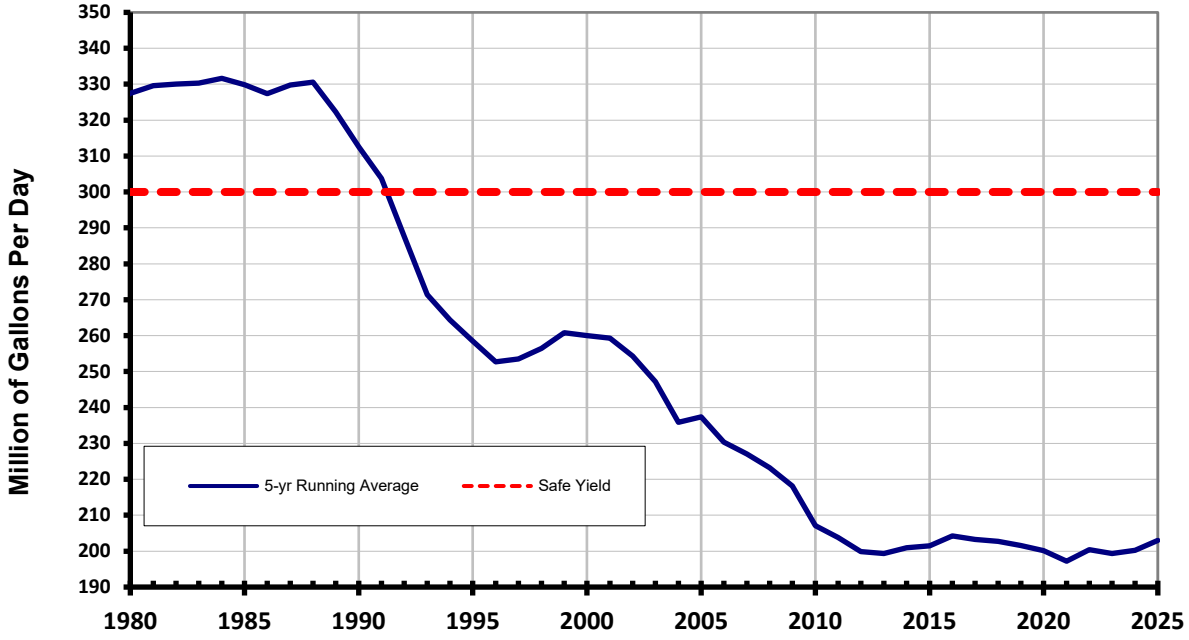
Fiscal Year	Running Dry Day Flow (mgd)
2017	270.6
2018	272.7
2019	316.4
2020	282.9
2021	262.0
2022	297.0
2023	257.7
2024	316.8
2025	250.9
2026	245.5
Ten Year Average	***277.3***

MWRA continues to implement effective water demand management policies and programs for the MWRA-owned distribution system, as well as member community-owned distribution systems. The following provides an overview of demand management actions taken during FY26:
(Background information and details on each program are provided in other sections of this report.)

- Leak detection survey of 30 miles of MWRA distribution main and subsequent leak repairs, saving approximately 0.20 mgd of water;
- Leak detection survey of 3,106 miles of member community distribution main in 23 communities, and subsequent leak repairs, saving approximately 3.8 mgd of water;
- $36 million in interest-free loans to fund 22 local community water system rehabilitation projects, providing 12 miles of new water main and 2 miles of cleaned & lined water main;
- Distribution of 7,847 water saving fixtures (low-flow showerheads and faucet aerators), installation instructions and leak detection dye tablets;
- Distribution of 95,718 pieces of water conservation literature;
- MWRA School Education Program performed 340 classroom presentations reaching 8,025 students in the service area.

The continued effectiveness of MWRA's conservation efforts over the past year is demonstrated by the fact that baseline water demand (MWRA reservoirs withdrawals) continues to remain stable. Withdrawals are comfortably below the system's safe yield of 300 mgd (see Figure 1) even with the addition of new communities and growth within the service area.

Figure 1: MWRA Reservoir Withdrawals (5 year running average)



For Calendar Year 2025, water demand was 204 mgd. Table 2 provides data on water use and wastewater generation over the most recent ten-year period (calendar year data). The "Water Demand (Withdrawals)" data represents total water withdrawals from MWRA reservoirs. The "Wholesale Water Sales" data represents water sold by MWRA to all 53 fully and partially supplied communities (serving a population of about 2.7 million). "Total Wastewater Generation" data represents the total flow to the Deer Island Treatment Facility from all 43 member sewer communities (a sewered population of about 2.3 million). The "Dry Day Wastewater Generation" data represents flow to the Deer Island Treatment Facility during only dry days as defined in MWRA's NPDES Permit. Note that MWRA provides water and/or sewer service to a total of 61 communities (3.1 million people), but not all communities are both water and sewer members. A complete listing of water and sewer communities, as well as, considerable additional data on MWRA demand management and water conservation programs can be found on MWRA's website at www.mwra.com.

Table 2: MWRA Total Water Demand and Wastewater Generation

Calendar Year	Water Demand (Withdrawals)	Wholesale Water Sales	Total Wastewater Generation	Dry Day Wastewater Generation
2016	209 mgd	201 mgd	282 mgd	256 mgd
2017	196 mgd	183 mgd	318 mgd	280 mgd
2018	200 mgd	186 mgd	362 mgd	308 mgd
2019	192 mgd	180 mgd	334 mgd	295 mgd
2020	196 mgd	184 mgd	299 mgd	268 mgd
2021	192 mgd	182 mgd	347 mgd	305 mgd
2022	208 mgd	195 mgd	276 mgd	248 mgd
2023	191 mgd	181 mgd	340 mgd	298 mgd
2024	208 mgd	188 mgd	317 mgd	269 mgd
2025	204 mgd	192 mgd	288 mgd	261 mgd
10 Year Average	***200 mgd***	***187 mgd***	***316 mgd***	***279 mgd***

2. Background and Long Range Water Supply Program

The MWRA, an independent public authority, was established through legislation in 1985 to provide wholesale water and sewer services to 61 cities and towns. Some of the Authority's goals, purposes and objectives relate directly to water demand management efforts, including:

- Efficient and economical operation of water delivery;
- Leak detection programs for member communities; and,
- Repair, replacement, rehabilitation, modernization and extension of the water delivery within the service area of the Authority.

From its inception, MWRA has made demand management/water conservation a high priority. In 1985, MWRA inherited a water system that had been exceeding its safe yield of 300 mgd for almost twenty years. In response to increasing water demand during the 60s, 70s and 80s, several water supply studies were undertaken by MWRA's predecessor agency, the Metropolitan District Commission (MDC). These studies, collectively called the Long Range Water Supply Study - EIR 2020, projected the need for 70 mgd of additional supply by 2020 above a base demand of 340 mgd. The studies identified a series of supply development options including diverting a portion of the Connecticut River's flow.

Demand management options were also examined. In 1986, the MWRA Board of Directors, through a series of water policy decisions, opted to aggressively pursue demand management strategies rather than pursue options for increasing water supply. This commitment to demand management resulted in the implementation of a highly successful water conservation program that has been a role model for water conservation efforts both nationally and globally.

Long Range Water Supply Program

Following the commitment by the Board of Directors in 1986 to demand management, MWRA, in 1987, developed and launched its Long Range Water Supply Program (LRWSP). The LRWSP included 30 different recommendations to be completed over the next decade at a cost of tens of millions of dollars. The LRWSP demand management components were meant to reduce water use and water loss throughout the service area. During a three-year trial program from 1987-1989, MWRA, along with its member communities, initiated demand management efforts that reduced average demand from 326 mgd in 1987 to 285 mgd in 1990. This reduction put average demand below the water system's safe yield of 300 mgd for the first time in over 20 years. With this success, the LRWSP demand management components were continued beyond the trial program. A detailed discussion of the demand management activities developed from the LRWSP, covering the 1991 through 2000 period, was provided in the Fiscal Year 2000 MWRA Demand Management Report (available at https://www.mwra.com/harbor/enquad/pdf/2000-ms-61.pdf).

Drought Management Plan

In addition to long range planning, the need for a short-term drought management plan was made clear after two years of below average precipitation and overuse of the Quabbin-Ware-Wachusett system. This situation led to a potential drought warning in the 1988-1989 period. The MWRA Drought Management Plan was submitted to the Massachusetts Department of Environmental Protection and approved in 1989. Shortly thereafter, precipitation returned to normal and the reservoirs rose back to their normal levels. In Spring 2000, MWRA was involved in the Massachusetts Drought Management Task Force's development of a state drought response

plan. The Massachusetts State Drought Management Plan, last updated in 2023, outlines agency responsibilities during a drought period and sets drought stage triggers based on hydrologic conditions.

The Massachusetts Water Resources Authority also has its own Drought Management Plan due to the sheer size of the Quabbin-Wachusett Reservoir. The MWRA Plan defines drought conditions and triggers response actions based on Quabbin Reservoir elevation, recognizing typical seasonal variations in reservoir levels due to normal fill and drawdown cycles. The plan establishes seasonally adjusted elevation triggers that dictate appropriate response measures to ensure continued water supply reliability. The MWRA Drought Response Plan retains responsibilities for MWRA's direct lines of communication with member communities and customers during a drought. MWRA assumes coordination with the Massachusetts State Drought Task Force with voluntarily alignment of conservation messaging, even when MWRA and state drought conditions do not coincide. This ensures a degree of messaging consistency whether MWRA drought stages are more or less severe than the state-indicated drought levels.

Long-term drought conditions, such as those seen during the 1960's drought of record, would lead to restrictions in the MWRA service area. During the drought period of 2015-2016, the MWRA system performed as expected with storage levels in the Quabbin Reservoir slowly dropping from the seasonal Normal operating range into Below Normal operating range. While many other water systems were severely affected by this drought, the MWRA system did not drop into a Drought Warning or lower stages and was able to provide emergency and/or supplemental water to several communities. While MWRA's storage conditions did not require water use restrictions during this drought period, MWRA did provide public messaging on using water wisely. Despite statewide drought conditions beginning in August 2025, the MWRA supply system stayed within its normal operating band until February 2026, when it dropped into "Below Normal" status for the rest of the fiscal year. While no mandatory water use restrictions are called for by the MWRA Drought Response Plan, MWRA has provided extensive social media outreach and coordination with its customer communities.
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3. Ongoing MWRA Demand Management Programs and Activities during Fiscal Year 2026

Planning and Policies

In December 2018, MWRA completed an updated Water System Master Plan which is intended to serve as the framework for annual capital planning and budgeting decisions (MWRA Master Plan web link: https://www.mwra.com/about-mwra/reports-publications/master-plan). As part of this effort, staff documented supply and demand characteristics of the system to confirm that the 300 mgd safe yield of the MWRA water system is sufficient to meet future demand for both water within the service area and additional demand outside the service area, as may be approved. Staff used the following conservative demand planning scenario to arrive at this conclusion: continuation of current base demand in the existing MWRA service area of approximately 203 mgd (based on the 5-year average demand); projected increased demand from population and employment growth through 2040 within the existing MWRA service area of 29 mgd; and an allowance for the potential additional demand for MWRA water from partially served communities of 17 mgd. The conservative planning scenario represents a potential future demand of 249 mgd, well below the system safe yield of 300 mgd.

MWRA has adopted policies that establish stringent controls and a rigorous approval process for entities seeking admission to the MWRA water system or to use MWRA water on an emergency basis. These policies include:

- **OP.05, Emergency Water Supply Withdrawals.** This policy applies to communities outside MWRA's water service area that are seeking water on an emergency basis. The MWRA may approve emergency withdrawals for no more than six months at a time.

- **OP.09, Water Connections Serving Property Partially Located in a Non-MWRA Community** (also referred to as the "Water Straddle" policy). This policy applies to all parties seeking to obtain water for a location, building, or structure situated entirely outside the MWRA water service area but located on a parcel of land, under single ownership, and which is subject to an integrated plan for use or development, that is partly inside the MWRA's water service area.

- **OP.10, Admission of New Community to MWRA Water System**. This policy applies to communities seeking admission to the MWRA water system, and to state, county, institutional, and federal facilities seeking MWRA water for a location outside MWRA's water service area, as defined in MWRA's Enabling Act.

Demand management is also an important component of the regulations for MWRA's Continuation of Contract Water Supply (360 CMR 11.00) that is applicable to 27 communities that purchase water from the Authority under a cooperative 10-year contract basis. In addition, all communities that purchase water from MWRA are required to complete a leak detection survey and perform follow-up leak repairs of their entire distribution system at least once every two years. The Leak Detection Regulations (360 CMR 12.00) were last updated in 1994. MWRA staff are currently working on proposed revisions to the Leak Detection Regulations with a goal to bring the revisions to the Board of Directors in FY27.

MWRA Capital Projects from the Water Master Plan

Total prioritized water system needs identified in the 2018 Water System Master Plan (for FY19-58) are approximately $2.6 billion including all projects currently in the Capital Improvement Program (CIP) and those recommended for consideration in future CIPs. The prioritization of projects in the Master Plan helps to develop MWRA's annual CIP documents. Staff are currently in the process of updating the Master Plan with an expected publishing date of January 2027.

Leak Detection and Repair of the MWRA Distribution System

The MWRA annual leak detection and repair program (initially established during 1988 to 1990) is performed by MWRA personnel. All MWRA water distribution pipes (334 miles) are surveyed on a regular maintenance schedule for leaks with repairs made promptly. During FY26, a total of 30 miles of MWRA-owned distribution main were surveyed for leaks. A total of 12 leaks were detected and subsequently repaired, accounting for approximately 0.20 mgd of water savings[1]. Table 3 lists data on the last ten years of leak detection services on the MWRA distribution system.

Table 3: Leak Detection Work on the MWRA Distribution System

Period	Miles Surveyed	Number of leaks	Estimated leakage-mgd
FY17	140	22	0.45
FY18	126	34	0.85
FY19	144	20	0.50
FY20	102	24	0.44
FY21	191	22	0.71
FY22	206	16	0.92
FY23	167	11	0.47
FY24	143	7	0.04
FY25	112	16	0.21
FY26	30	12	0.20
10 Year Average	136	18	0.48

Leak Detection and Repair of Member Community Distribution Systems

To help communities identify leaks in their local distribution systems, a program providing a free one-time leak detection survey was establish during 1988 to 1990. Based on the success of the initial program, MWRA developed leak detection regulations (360 CMR 12.00) that went into effect in July 1991. Communities that purchase water from MWRA are required to complete a leak detection survey of their entire distribution system at least once every two years. Communities can accomplish the survey in one of three ways: (1) using their own crews, (2) hiring their own leak detection contractor, or (3) using MWRA's task order leak detection services contract. Leak detection/repair work is generally cost effective as the value of the saved water often far exceeds the cost of the leak

[1] All leaks are repaired as quickly as possible. Some leaks cannot be immediately repaired as they are on pipe segments which cannot be easily shut down without severe service disruption. If those leaks are not deteriorating or causing damage, repair work may be delayed until MWRA or the affected community can make system changes to allow a shutdown.

detection/repair work. During FY26, a total of 3,106 miles of local water pipeline were surveyed for leaks. A total of 324 leaks were detected and repaired in 23 community distribution systems, accounting for an estimated 3.8 mgd of water savings. Table 4 provides summary data for last 35 years of leak detection work on community water mains.

Table 4: Leak Detection Work on Community Water Mains

Period	Miles Surveyed	Number of Leaks	Estimated Leakage (mgd)	(gpd/mile)
FY92 & FY93	6227	1988	24.8	3900
FY94 & FY95	5924	1134	14.1	2400
FY96 & FY97	6013	1527	17.8	2900
FY98 & FY99	5924	1257	12.4	2100
FY00 & FY01	6650	928	9.3	1400
FY02 & FY03	6198	1032	8.6	1400
FY04 & FY05	6753	968	13.2	2000
FY06 & FY07	6871	833	8.5	1200
FY08 & FY09	7879	987	10.8	1400
FY10 & FY11	7219	722	10.3	1400
FY12 & FY13	7677	923	9.4	1200
FY14 & FY15	7403	1035	10.3	1400
FY16 & FY17	8320	830	8.9	1100
FY18 & FY19	7397	767	9.9	1300
FY20 & FY21	4843	462	5.5	1200
FY22 & FY23	5646	595	21.0	3700
FY24 & FY25	5015	461	7.6	1500
FY26	3106	324	3.8	1220
Annual Average	**3288**	**479**	**5.9**	**1790**

Rehabilitation and Replacement of Member Community Water Distribution Systems

MWRA implemented the pilot Water Infrastructure Rehabilitation Financial Assistance Program in 1997-1999. This pilot program provided $30 million in 25 percent grants and 75 percent interest-free loans to member water communities for water system rehabilitation projects. Local projects implemented through this program resulted in the replacement of over 22,000 water meters and rehabilitation or replacement of over 80 miles of distribution pipeline. Water loss from both pipeline and valve leakage was reduced.

In November 1999, MWRA approved the Local Water System Assistance Program (LWSAP). This Program's primary objective was improving water quality in community-owned distribution systems. In the Program's Phase 1, $222 million were distributed to MWRA water communities via ten-year, interest-free loans through FY13. In FY11, an additional $209 million was added as Program Phase 2, through FY25. In FY18, an additional $292 million was added as Program Phase 3 and in FY25, an additional $300 million was added as Program Phase 4. This interest-free loan program helps local

communities finance replacement and/or cleaning & lining of unlined water mains, as well as other water system upgrades. A secondary benefit of the program is the reduction of water pipeline leakage. Quarterly funding distributions under the LWSAP began in August 2000 (FY01). Including all Program Phases since 1998, $670 million has been distributed to 45 communities to fund 711 local projects. Project work has included the installation of 487 miles of newly lined water pipe, cleaning & lining of 209 miles of existing water pipe and replacing over 82,158 water meters. Table 5 summarizes work performed as part of the Pilot and LWSAP water loan programs.

In addition to the Local Water System Assistance Program, in 2016, MWRA's Board of Directors approved $100 million in 10-year zero-interest loans to replace lead service lines. In 2024, in response to ongoing lead and copper rule requirements, the Lead Replacement Program was expanded to include an additional $100 million in funding, and now offers a 25 percent grant for communities that fully fund the removal of lead service lines at no cost to homeowners. This program not only helps remove lead services, but also addresses leaks on the service lines.

Table 5: Pilot and Local Water System Assistance Programs Summary

Period	$ Distributed	Projects Funded	Miles of New Pipe	Miles of Rehabilitated Pipe
FY98/99	$30 million	85	42	39
FY01-FY13	$222 million	257	200	106
FY11-FY25	$209 million	203	149	33
FY18-FY26	$209 million	166	96	31
TOTAL	**$670 million**	**711**	**487**	**209**

Water Metering and Monitoring

Continued annual routine calibration and maintenance of the water revenue meters allows MWRA to track water use and accurately charge its wholesale customer communities. MWRA analyzes nighttime low flow water data and historical trends from the revenue meters to help member communities identify potential water leakage in local systems. During FY26, MWRA continued its ongoing program for operation and maintenance of the water metering system. All meters received routine calibration on a regular schedule.

Residential and Municipal Water Conservation

MWRA continues to provide low-flow device kits to member communities, housing authorities, development ,corporations, environmental organizations and individual retail customers at no cost. The low-flow device kits meet EPA WaterSense specifications and include: 2.0 gallon per minute (gpm) showerheads, 1.5 gpm kitchen and bathroom faucet aerators, fixture installation instructions and toilet leak detection dye tablets. MWRA also maintains its water conservation hotline (617-242-SAVE). During FY26, a total of 7,847 water saving fixtures were distributed to MWRA households and member community water departments.

School Education

MWRA continues to promote water conservation awareness for young people. The ongoing School Education Program is designed to provide a science-based curriculum using a four step process: educational curriculum development, conducting classroom presentations, wide-spread teacher training with continual follow-up, and support to educators including distribution of thousands of coloring books, stickers, and water conservation guides. Educational materials have been designed for students from the elementary level to the high school level. During FY26(2025/2026) school year, MWRA's School Education Outreach Program (including water conservation information) performed 340 classroom presentations, reaching 8,025 students in pre-kindergarten through college level classes in 38 communities. In addition to classroom presentations, the MWRA School Education Program hosted/participated in various events that include "Reel Fun Fishing Day" at Deer and Nut Island, Teacher Training in collaboration with NEWEA at Deer Island Treatment Facility, International Day of Play on Boston Common, and Water fest at the Waterworks Museum.

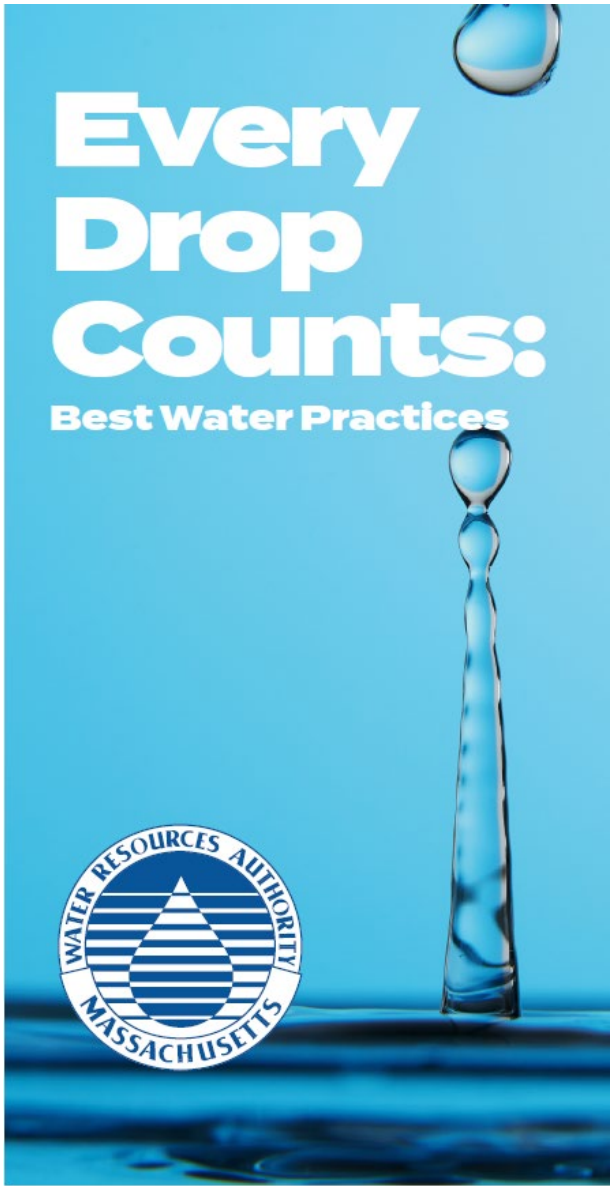
The School Education Program again sponsored a Poster & Writing Contest. Students are asked to use their creative skills to create a poster, video and/or write an essay, story or poem about all the different jobs at the MWRA. There were 1215 total entries-1120 posters and 92 writing entries and 3 video entries.

Public Education Outreach

MWRA continues to provide public education material to communities and individual customers at no cost. Member communities are encouraged to distribute the water conservation information to retail customers. The primary information targeted for retail customers is the Every Drop Counts: Best Water Practices brochure (printed & folded) to be used by member communities as a retail bill insert. This brochure educates customers on water conservation, lead safety, and infiltration and inflow (I/I). It provides practical tips for reducing water use, identifying lead risks, and preventing excess water from entering sewer systems. The goal is to conserve water and maintain sustainable water infrastructures.

MWRA also has developed a bill insert sized brochure titled: "Important Information About Lead in Your Drinking Water". MWRA provides all its brochures directly to communities, retail customers, watershed associations, environmental groups, etc. upon request. During FY26, approximately 124,718 educational brochures were distributed. MWRA periodically reminds communities, via letters/e-mails, that the bill insert educational brochure and water conservation kits are available via a web-based order form at no cost.

Figure 2: MWRA Best Water Practices Educational Brochure



Water Conservation



MWRA water comes from the Quabbin and Wachusett Reservoirs, serving 2.5 million people an average of 200 million gallons per day. The reservoirs are naturally protected, helping to keep MWRA water clean and clear. To ensure safety, streams and reservoirs are tested often and patrolled by the Department of Conservation and Recreation (DCR).

Save Water – Save Money – Save the Planet
Minimizing your water use helps maintain our regional water supply. Conserving water also helps in times of emergencies like fires and droughts. Don't waste water. You never know who will need it most, or when. Every drop counts!

Simple Ways to Conserve Water



At Home/ Indoor

- Check for leaks in your faucets and toilets
- Install water-saving fixtures
- Take shorter showers
- Turn off the faucet when you're not using it
- Don't use the toilet as a trash can
- Monitor water usage
- Only use appliances when full

During FY26, MWRA continued its participation in the US EPA WaterSense program to help consumers save water for future generations and reduce costs on their utility bills. WaterSense aims to decrease indoor and outdoor water use through water-efficient products and simple water-saving practices. The program encourages customers to look for WaterSense labeled products, which have been independently certified for efficiency and performance, and promotes water-saving techniques that reduce stress on water systems and the environment. Information on the WaterSense Program is included on MWRA's website (https://www.mwra.com/your-water-system/water-conservation).

During FY26, MWRA continued to provide the Annual Drinking Water Quality Report that is mailed to every household in the MWRA service area, a distribution of more than 962,000. While focused on water quality, the report also includes information on water conservation. The report is

available online at https://www.mwra.com/your-water-system/drinking-water-quality/annual-water-quality-test-results-0.

Industrial, Commercial and Institutional Water Management

MWRA has found that conservation initiatives for industrial, commercial and institutional water users are widely available through private consulting firms and via the web. MWRA developed and offers at no cost a Guide to Water Management that contains detailed information to help local facility managers reduce overall water use. In addition, detailed fact sheets on industrial, commercial and institutional water users are available on MWRA's web site at https://www.mwra.com/your-water-system/water-conservation. These include specifics on hospitals, schools, colleges and athletic facilities, restaurants and commercial buildings.

Water Supply Citizens Advisory Committee

MWRA's 1986 decision to aggressively pursue water conservation rather than look for additional sources of water was strongly advocated by the Water Supply Citizens Advisory Committee (WSCAC). This unique citizen group was formed in 1977 to review a proposed Connecticut River water diversion plan that would supply water to the metropolitan Boston area. From its beginning, the group has been a strong supporter of water conservation measures and helped formulate the water conservation language in MWRA's Enabling Act legislation. In 1986, WSCAC encouraged MWRA to pursue demand management rather than look for new water supplies. During the late 1980's and early 1990's, the citizen group promoted trigger and drought management planning. With its long commitment to the water supply system, WSCAC continues to provide independent citizen input on MWRA's policies and programs, while voicing public support of source protection and conservation. During FY26, the Water Supply Citizens Advisory Committee has continued to support MWRA's water conservation efforts. The committee has been active providing review and input on water system expansion issues. A one-year contract for continuation of WSCAC was authorized by the MWRA Board of Directors on June 24, 2026.

4. Demand Management Plans for Fiscal Year 2027

During FY27, MWRA plans to continue its demand management efforts at a similar level as FY26, including the proposed revisions to the Leak Detection Regulations and monitoring drought conditions. MWRA's long-range planning, leak detection, system rehabilitation, water conservation and educational outreach programs have long been established as essential components of demand management. The MWRA Community Support Program will continue to work with both water and sewer member communities to foster water conservation activities and help minimize wastewater flow.