

Duxbury Water Conservation Plan

Water Resources Commission Meeting
September 11, 2025



Background

2024 Duxbury PFAS Prioritization Plan

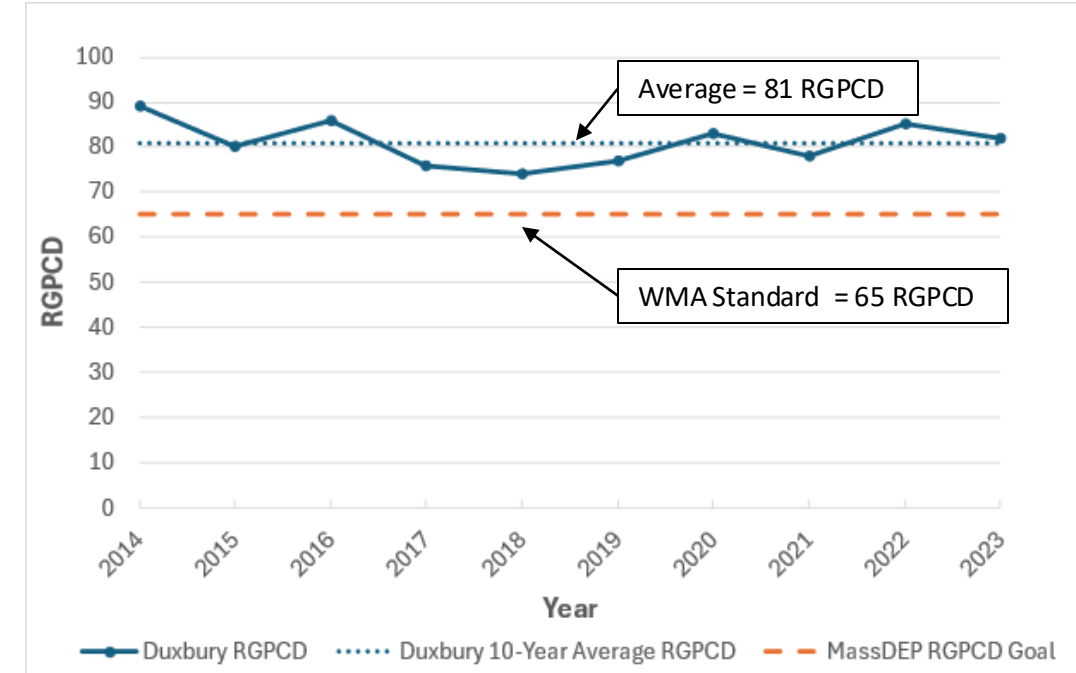
Reviewed existing water quality, water quantity, and recommended PFAS treatment prioritization of 8 sources.

Conclusions

- 3 sources have PFAS levels that exceed at least one EPA MCL:
 - 2 sources are offline due to PFAS and manganese issues.
 - 1 source must be taken offline by April 2029 without PFAS treatment.
- 2 sources at risk of exceedance.
- Treatment upgrades at all sources exceeds \$150 million.
- Residential usage exceeds the WMA performance standard.

Recommendations

- Implement PFAS treatment at the priority source (~\$40 million estimate).
- Develop a Water Conservation Plan to reduce residential per capital usage and overall system demand.



Annual Residential-Gallons-Per-Capital-Day

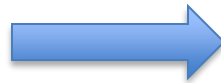
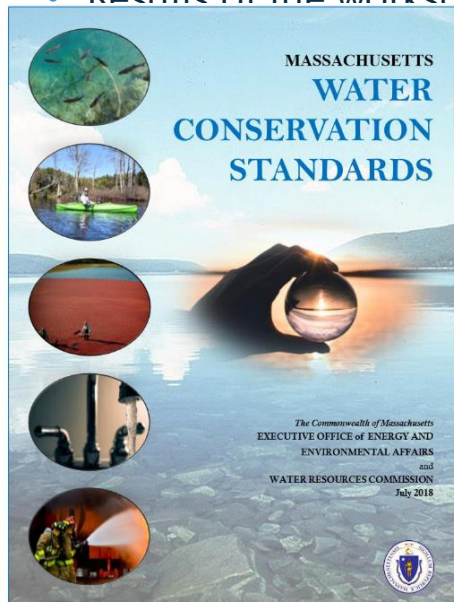
Water Conservation Plan Development

2024 Grant Opportunity: The Drought Resiliency and Water Efficiency Grant

- New grant offered by the Massachusetts Executive Office of Energy and Environmental Affairs (EEA).
- The Town received \$27,800 in grant funding to develop a water conservation plan.

Development of the Duxbury Water Conservation Plan

- Summarized Federal, State, and surrounding communities' water conservation guidelines.
- Hosted a workshop with the Town to discuss advantages and disadvantages of each various strategies and solicited feedback.
- Results of the workshop were used to develop a water conservation plan catered to the Town.



Water Conservation Strategies – Public Outreach

Public Outreach Strategy No. 1: Water Conservation Outreach Campaign

Educate and engage residents about water conservation using a variety of communication tools and platforms:

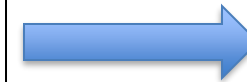
- Social media campaigns (Instagram/TikTok/Facebook).
- Mailers, bill inserts, posters, workshops.
- Short video clips with DPW/water department staff.
- Branded content, "tip of the week," watering reminders, and real-time updates.

Advantages		Disadvantages	
<ul style="list-style-type: none">• Provides broad audience outreach across platforms.• Repeated messaging increases awareness and behavior change.• Builds a recognizable brand for the water department.		<ul style="list-style-type: none">• Requires consistent content creation and staff effort.• Engagement may vary by demographic.• Hard to measure long-term impact without integrated metrics.	

Town Feedback		
Interest Level	Feasibility	Additional Comments
<input checked="" type="checkbox"/> 1 (High)	<input checked="" type="checkbox"/> High	<ul style="list-style-type: none">• The DPW has a Facebook page to post relevant notifications to the public. The Department can post information on water conservation to this webpage.• The Town website has an "Online Resources" webpage with some materials on water conservation but no dedicated staffing available to update/expand this page. The Department also does not have the capacity to develop this page.• The Duxbury Safe Water Committee hosts an independent website with public information for safe drinking water. There may be an opportunity for the Department to collaborate with the Committee to include water conservation strategies on this website.• The Department has an external organization to print quarterly water & sewer bills. There is a QR code linked to the annual CCR, with space to add additional QR code(s) for water conservation information to the public.
<input type="checkbox"/> 2 (Medium)	<input type="checkbox"/> Moderate	
<input type="checkbox"/> 3 (Low)	<input type="checkbox"/> Low	

APEX

Duxbury Water Conservation Planning Workshop





APEX COMPANIES, LLC

WATER CONSERVATION PLAN

June 2025

PREPARED FOR:
Town of Duxbury, MA

FUNDED BY:
The Executive Office of Energy and
Environmental Affairs

Water Conservation Plan Recommendations

Phase 1 – Low-Effort Water Conservation Strategies

Inexpensive and easily implementable strategies:

- Initiate Water Conservation Public Outreach
 - Dedicated water conservation page on Town website
 - Incorporate water conservation information to water bills
- Update water use Town By-Laws
 - Consolidate existing water conservation initiatives (ongoing)
 - Transition to zone-based water use restriction

Phase 2: Infrastructure Upgrades and Technology Improvements

Town funded strategies that targets infrastructure upgrades and technology improvements:

- Upgrade to Advanced Meter Infrastructure and customer portal to access real-time water usage
- Replace leaky water mains

Phase 3: Initiatives Requiring Additional Personnel to Implement

Complex initiatives that require significant resources to implement:

- Develop local partnerships and incentive programs
- Implement in-house Leak Detection Program
- Promote

WATER RATES

BASE CHARGE (SEMI-ANNUAL PER 1,000 GALLONS)	
Full Rate	\$40.00
Senior Rate (Must be 62 years of age or older)	\$20.00

Senior Discount may not be applied retroactively. To qualify for Senior Rate, call the Water/Sewer Department 781-934-1100 x 6005

CONSUMPTION (SEMI-ANNUAL PER 1,000 GALLONS)	
0-20,000 gallons	\$4.55 per thousand
20,001 - 60,000	\$5.83 per thousand
60,001 - 120,000	\$6.70 per thousand
120,001 and over	\$8.05 per thousand


SEWER RATES (If applicable)

SNUG/BLUE FISH	
80% of the consumption total X \$9.02 per one thousand gallons Plus an Administration Fee of \$199.08 Example: (36,000 x 0.80) / 1000 = 30.4 x 9.02 = \$274.20 Plus \$199.08 = \$473.28	

GURNET ROAD	
\$384.50 ADMINISTRATIVE CHARGE TO MARSHFIELD INCLUDES FIRST 20,000 GALLONS. 20,001 GALLONS AND OVER = \$3.50 PER THOUSAND GALLONS.	

BAY ROAD SHARED	
80% of the consumption total X \$1.64 per one thousand gallons Plus an Administration Fee of \$105.90 Example: (36,000 x 0.80) / 1000 = 30.4 x 1.64 = \$49.85 Plus \$105.90 = \$155.75	

<https://www.town.duxbury.ma.us/water-sewer-department/pages/consumer-confidence-reports>



Did you Know?

*The Average Duxbury Resident uses 10,000 gallons of water per quarter. How do you compare?


*Reducing your water consumption is good for water conservation and saves you money on both water and sewer bills! How's that for a triple advantaged plan?!

Tips For Saving Water:

*Old shower heads use about 5.5 gallons of water per minute while new shower heads only use 2.5 gallons per minute. Converting to a new, low-flow shower head can save 30 gallons of water in a 10 minute daily shower and result in an estimated annual savings of 10,950 gallons of water per person each year!

*New dishwasher models use less water than hand washing, clean more thoroughly, and let you skip a pre-wash!

Scan this QR Code with your cell phone for more water saving tips!



Example of space utilization

Lessons Learned

Existing Water Conservation Consideration

The plan consolidated existing water conservation initiatives.

- 😊 Updated water rates to curtail non-essential outdoor usage.
- 😊 New outdoor irrigation Town-By Laws on November 2024.

New Water Conservation Consideration

Importance of soliciting direct Town feedback and interest.

- 😊 Water conservation information to water bills.
- 😞 Online portal for residents to report violators of water use restriction/water ban.

Balancing Act

Town generates revenue through the sales of water.

- 😞 More conservation = less water revenue
- 😊 Use smart. Waste less.

Resource Limitations

Town had limited financial and staff resources.

- 😞 Exacerbated by the loss more than 30 Town staffing positions and budget cuts starting in July 2025.
- 😊 Phased approach provides flexibility to scale up implementation in the future.

SOUTH SHORE NEWS

DUXBURY

Override Failure Leaves Duxbury Facing \$1.7M Budget Shortfall for FY26

Town must now consider reducing staff and services across multiple departments to balance budget

JUSTIN EVANS
MAR 22, 2025



Reduction of 2 Firefighters/Paramedics

- Increased response times
- Increased OT to cover shifts
- Loss of ambulance revenue



Reduction of 2 Patrol Officers

- Increased OT to cover shifts
- Increase mandatory recalls/OT
- Decrease in traffic enforcement and investigations



Reduction of 5 DPW Positions

- Road closures and traffic delays
- Delayed school openings after storms
- Increased costs to repair vehicles by 3rd party vendors
- Inability to maintain parks/fields at current level, may result in closures
- Less manpower for snow removal and storm cleanup



Library Closed on Sundays

- Loss of Arts & Culture Series



Duxbury Public Schools

- Reduction up to **18.7 FTE**
- Reduced Student Supports
- Increased K-5 Class sizes
- Reduced course choices in 6-12
- Diminished ability to hire & retain high-quality staff



Reduction of 2 Finance Positions

- No backup for Accounts Payable & Payroll
- Delayed reconciliations and increased risk of internal control failure
- Delayed closing of annual books
- Delayed certification of free cash
- Delayed annual audits
- Delayed abutters lists, exemption/abatement processing



Reduction of 2 Admin Assistants

- Delays in permit processing, renewals and scheduling for septic, food establishment, event permits and liquor licenses
- Loss of critical support services to departments

Questions?



Thank you!

