



Water and Sewer Advisory Board

Duxbury Selectboard Update:
Town Well PFAS Levels and
Water Use Concerns



Overview

1. EPA Maximum Contaminant Levels and Health
2. Duxbury Water Quality Monitoring Update
3. Recommended Actions for Lake Shore Well
4. Current Water Use and Recommended Actions to reduce demand

EPA Maximum Contaminant Levels (MCLs) for PFAS

- EPA has established MCLs for PFOA and PFOS at 4 nanograms per liter (ng/L) or Parts per Trillion (PPT)
- The most significant PFAS compound affecting Duxbury's operating wells is **PFOA**

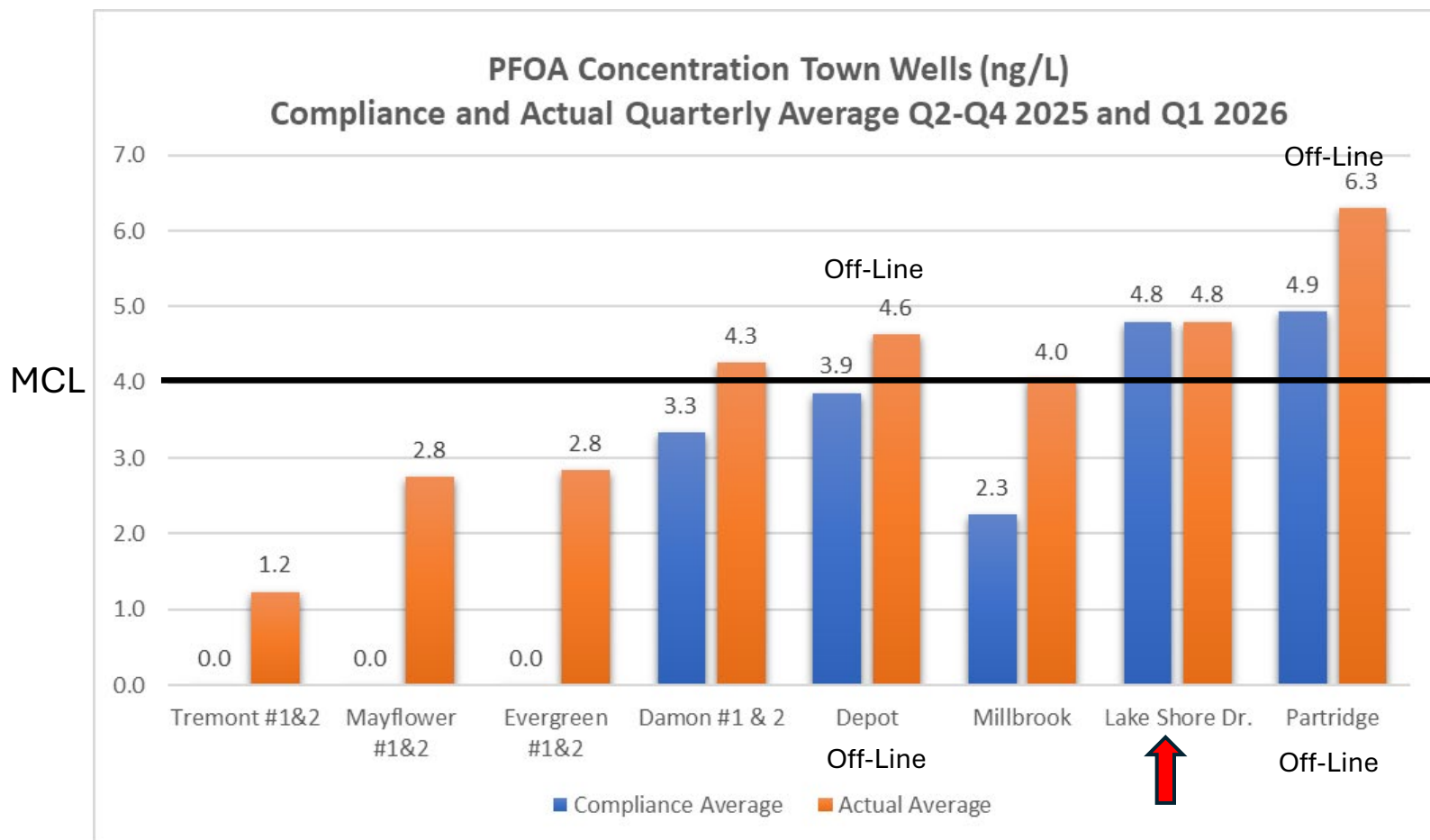


(EPA)

Note:

- On April 10, 2024, EPA promulgated MCLs for the PFAS compounds PFOA and PFOS.
- Because “PFAS exposure over a long period of time can cause cancer and other serious illness... PFAS exposure during critical life stages such as *pregnancy or early childhood* can also result in *adverse health impacts*.” (EPA)
- EPA arbitrarily proposed to extend the MCL compliance deadline until 2031.

PFAS Monitoring Update

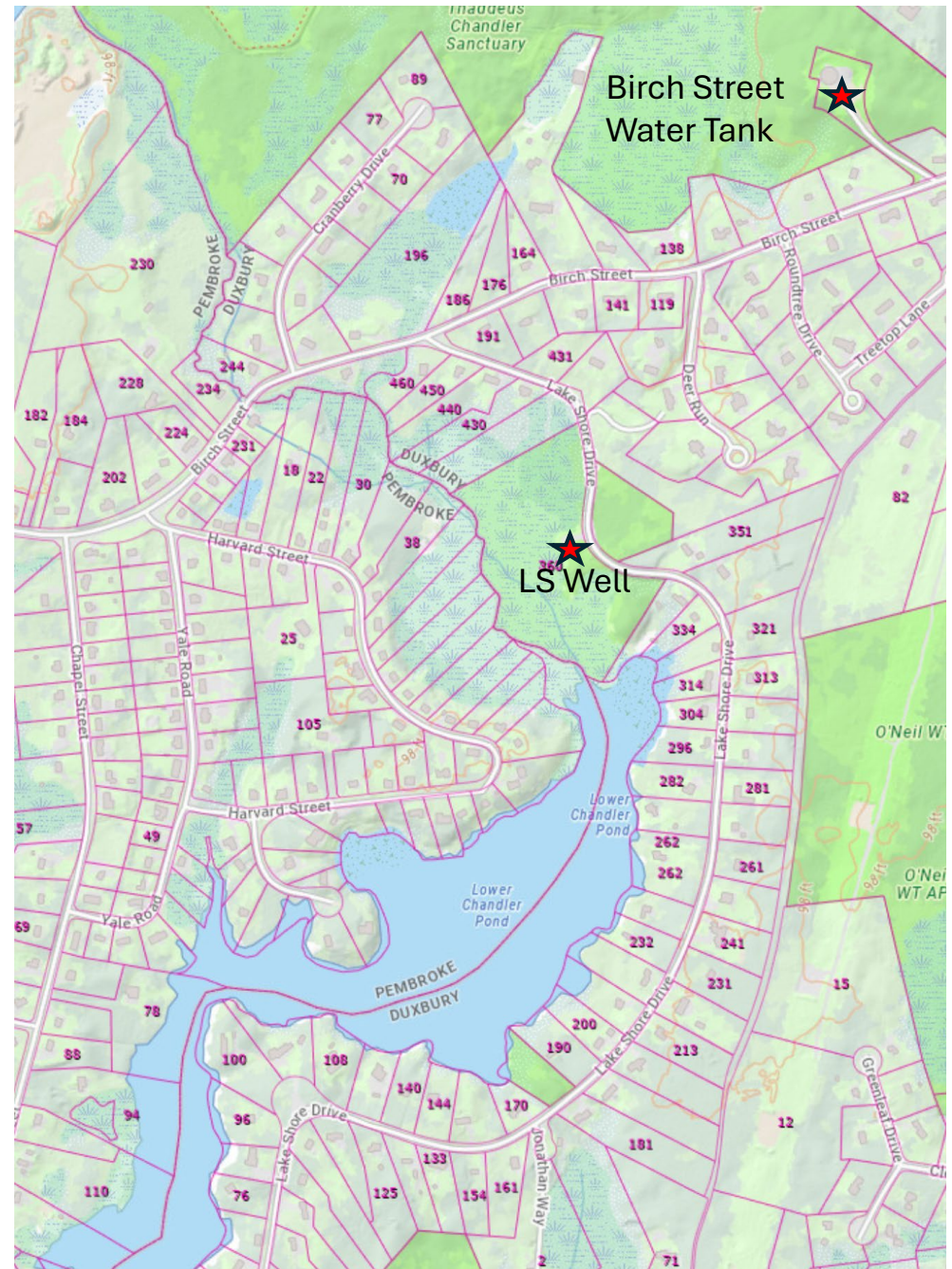


1 of the active Town Well Sites (Lake Shore) exceeds EPA PFOA MCL Compliance Average (values < 4 = 0)
1 additional active Town Well Sites (Damon) exceeds the MCL using the real average concentration

Recommended Actions:

1. Shutdown Lake Shore Well ASAP to avoid continued PFAS exposure
2. Communicate directly with Lake Shore area residents
3. Manage water demand to permanently eliminate the need for Lake Shore (Requires elimination of summer spike in lawn irrigation demand) *
4. Maintain Lake Shore on Standby for emergency supply (e.g. other High Zone Wells cannot fill Birch Street Tank)
5. Authorize Water Department Engineer to evaluate High Zone flow and demand
6. Investigate source of PFAS at Lakeshore

*or Install temporary seasonal treatment to eliminate exposure to PFAS concentrations. (Higher cost and longer exposure time)

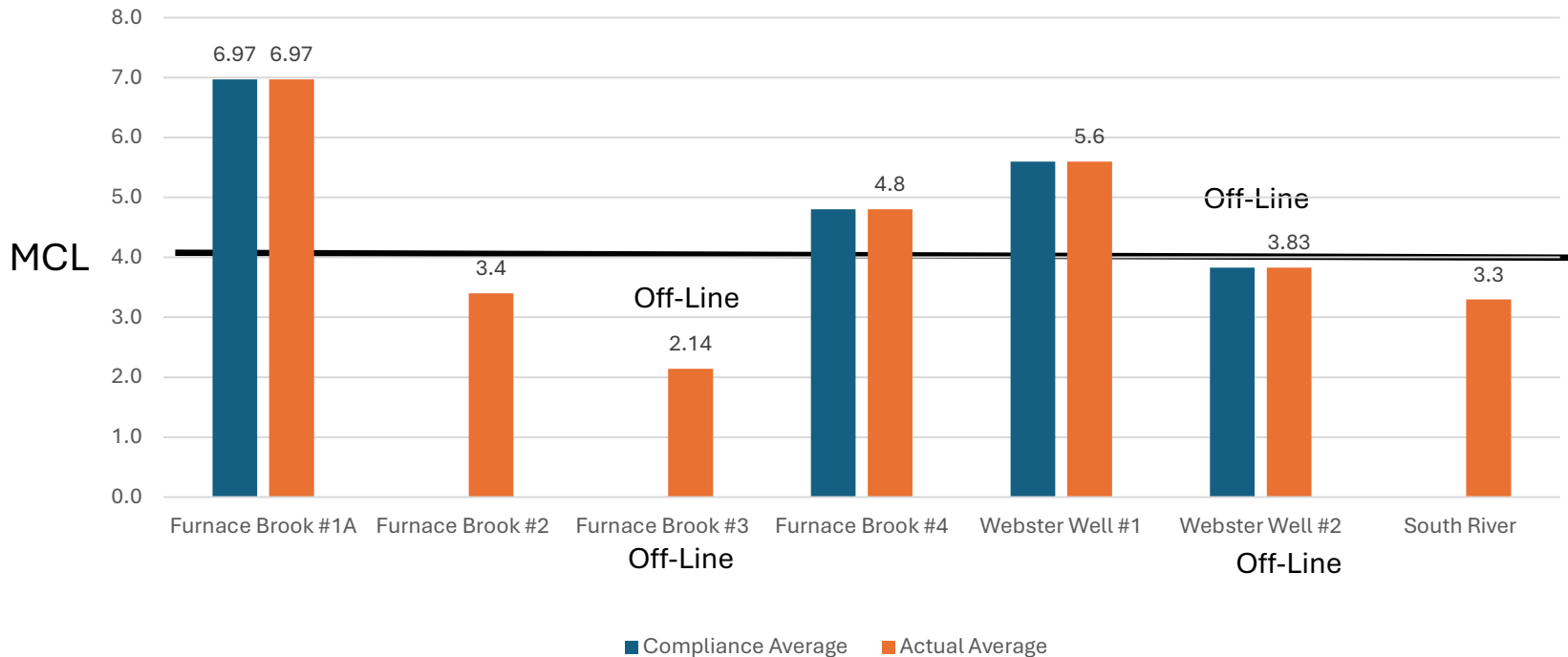


PFOA in Water Supplied by Marshfield to Duxbury Residents on Gurnet Road is also Greater than the MCL

- Water Supply to Duxbury Residents in Gurnet Road area is supplied by Marshfield. (Approximately 150 homes)
- In 2024 Marshfield reported PFAS 6 levels up to 10 (ng/L) with PFOA above the EPA MCL



Marshfield PFOA Concentration Town Wells (ng/L) Compliance & Actual Quarterly Average 2025 and Q1 2026



3 out of 7 Town Well Sites exceed the PFOA MCL (all of these are currently active)

Duxbury Water Dept. Sampled the Marshfield Connection Point - April 16, 2026:
- PFOA Concentration 6.07 (ng/L)

Recommended Actions for Water Supplied by Marshfield to Duxbury Residents

1. Communicate directly with Gurnet Road area residents
2. Conduct additional monitoring of the connection point
3. Establish Inter-Municipal Water Supply Agreement
 - a. evaluate appropriate water rate for Duxbury residents receiving Marshfield water, and
 - b. request information from Marshfield on plans for PFAS treatment
4. Evaluate options to reduce exposure to PFAS on Gurnet Road

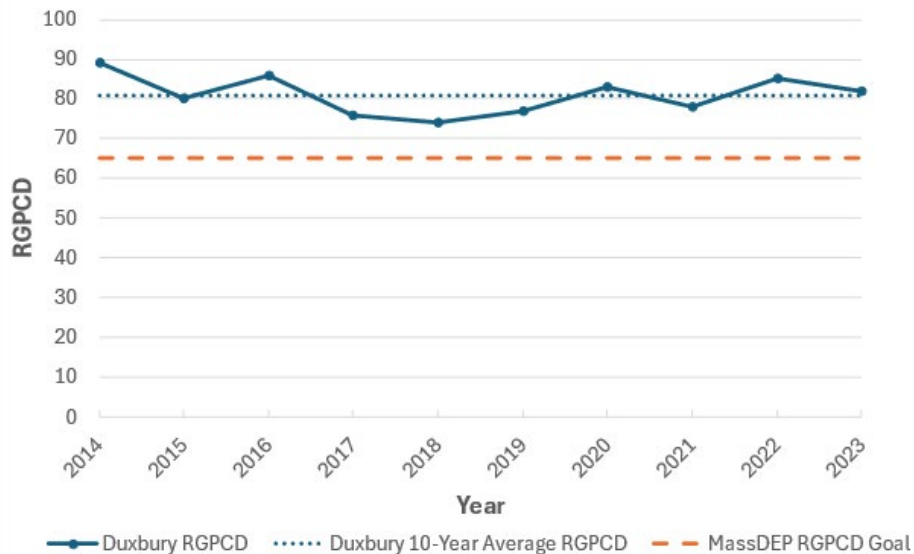
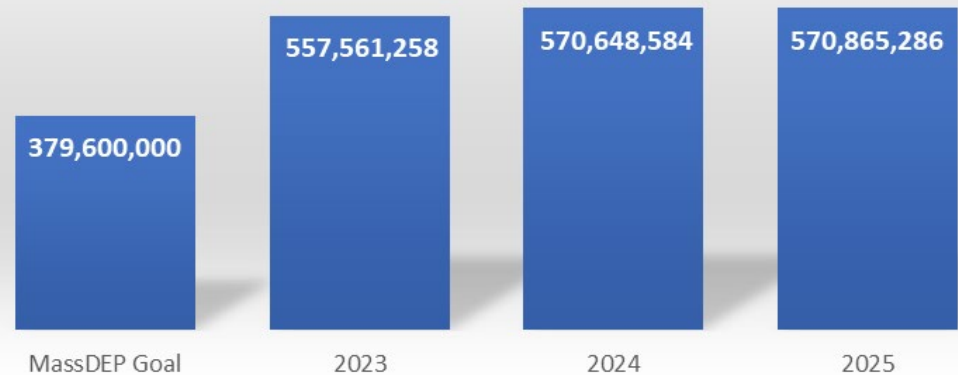


Duxbury Water Use/Conservation to Manage Closure of Lakeshore Well

The current situation:

- Townwide water use exceeds MassDEP goal of 65 gallons per person per day
- Higher water rates in the summer of 2025 did not reduce water use – water use increased overall

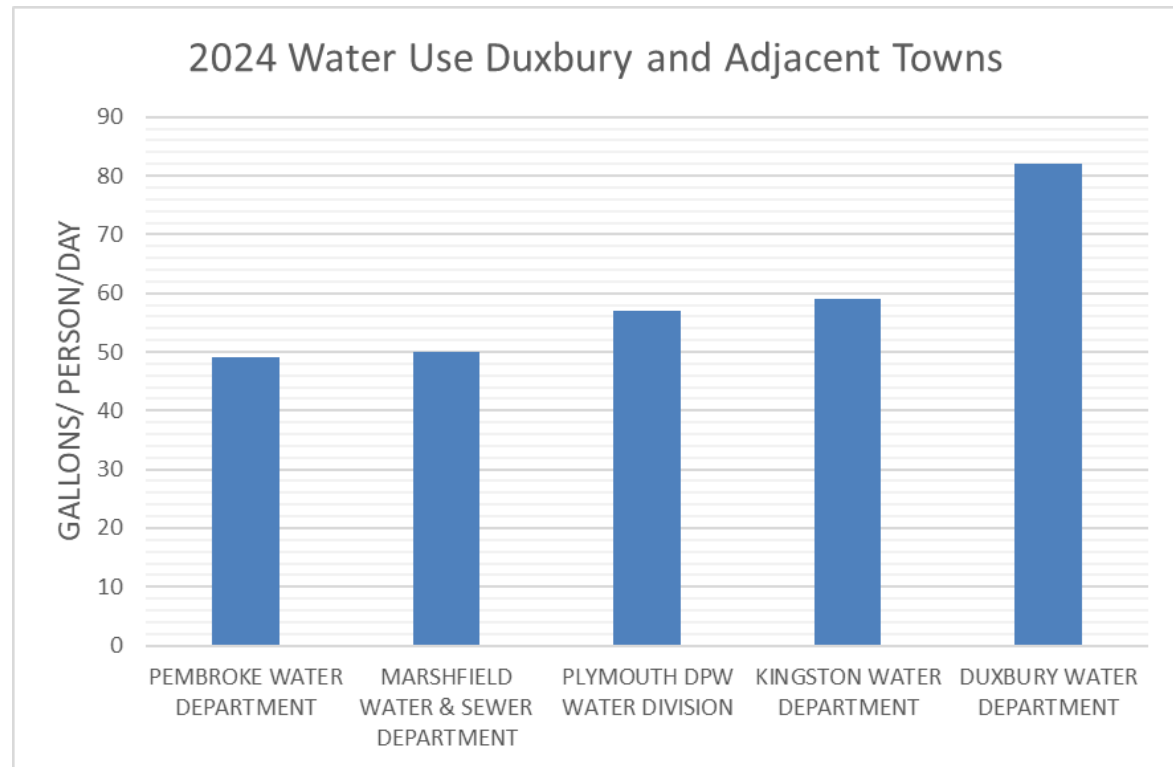
Duxbury Annual Water Use Compared to MassDEP Standard (65 gallons/person/day)



Massachusetts Goal = 65 gal/capita/day
RGPCD = Residential Gallons per Capita Day

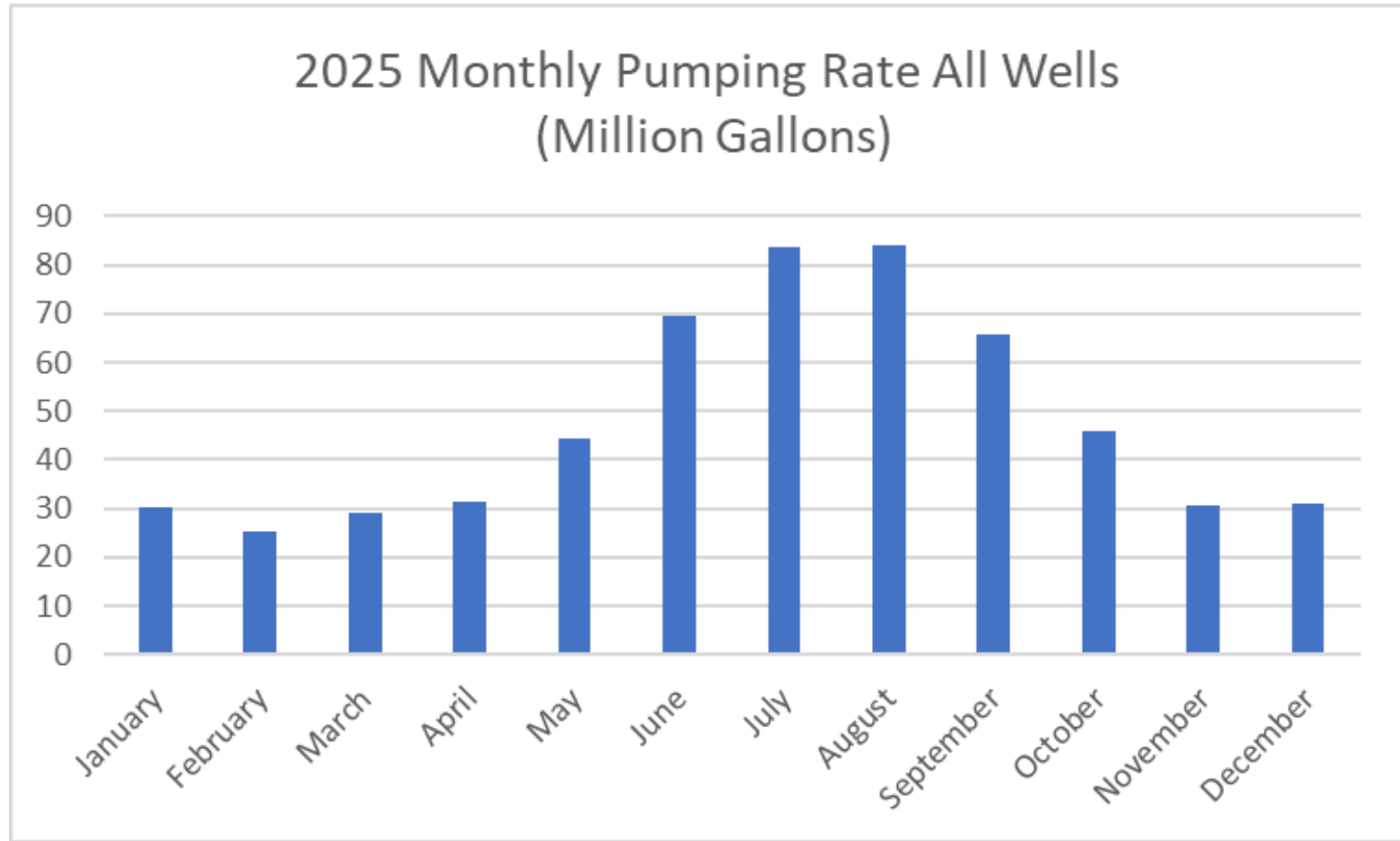
The current situation:

- Duxbury is one of the top 10 water users per person in the state
- Use is more than 30% higher per person than all surrounding towns

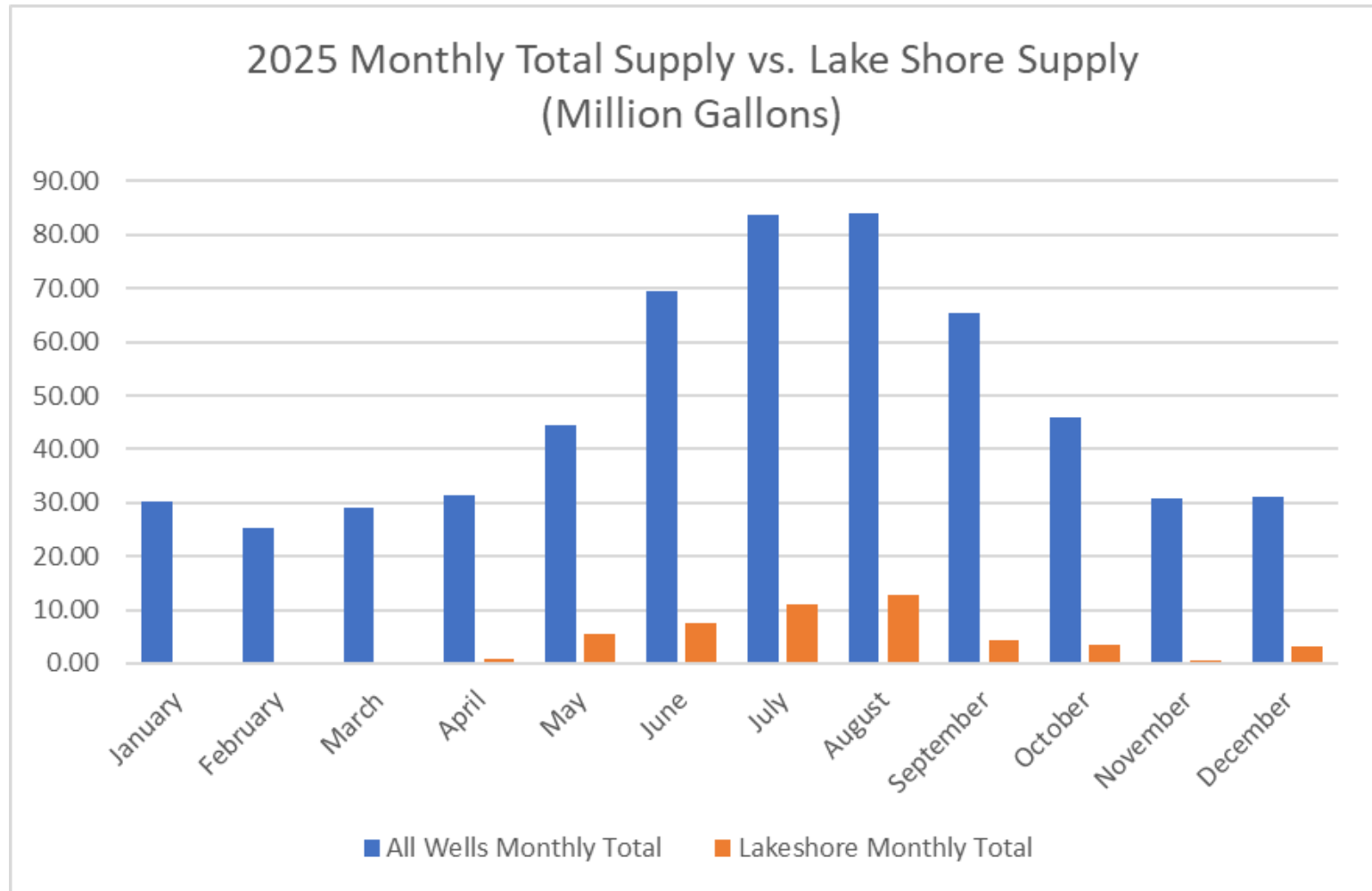


Adjacent Towns are all below 65 gallons/day.

Duxbury Water Use Spikes in Summer



Lake Shore supply is a relatively small compared to the total supply



Duxbury Water Use & Implications for Closure of Lake Shore Well

- Peak water use all wells - **85** million gallons/month in August 2025
- Peak use of the Lake Shore Well - **13** million gallons per month in August 2025
- Water use all wells averaged **34** million gallons per month January through May & October through December 2025
- With Lake Shore shut down, summer water use at peak could still be **72 million gallons per month (110 % higher than cool season months)**

Water Conservation Recommendations

- Implement additional outdoor watering restrictions to reduce summer water use
- Evaluate extent of automated lawn irrigation to inform water use restriction levels needed
- Update, finalize and implement the draft 2025 Duxbury Water Conservation Plan prepared for the Town by APEX
- Conduct public outreach to reduce water use
- Provide resources to support improved communications/public outreach on:
 - a. how residents are informed about watering restrictions
 - b. landscape alternatives to traditional lawns
 - c. user friendly web sites for information on water conservation (e.g.:<https://www.epa.gov/watersense/outdoors>)

Questions?

