Update – Select Board

Water Resources Protection Task Force

Tuesday, January 17, 2023

Progress Since Last Update (9/22)

Six Working Groups nearing completion

- Usage & Conservation, Supply & Sources, Climate Change, Quality & Contaminants, Citizen Engagement, Responsibility & Metrics

Significant new input from geohydrologist consultants

- Scott Horsley, Danna Truslow, Harvard & Tufts Ph.D. students

Excellent support and guidance from Chuck Dam, Nate Desrosiers and Water Dept.

Task Force to report findings & recommendations on schedule

Discussing possible budget needed in FY24

- Monitoring wells, conservation education/outreach, analyzing impact of rate changes, new meters & real-time info, staffing and/or volunteers to maintain momentum

Status of Recommendations from 1990 Horsley-Witten Study

Regulatory – most were implemented

- Overlay protection ✓
- Board of Health regulations ✓
- Not Subdivision rules and regulations

Non-Regulatory – progress on most, all are ongoing

- Contaminant removal
- Surface runoff management
- Acquire conservation restrictions
- Emergency response and water conservation plans
- Citizen education/awareness
- Develop additional water supply sources
- Work with Town of Hamilton re Chebacco Road landfill

Key Findings of Task Force

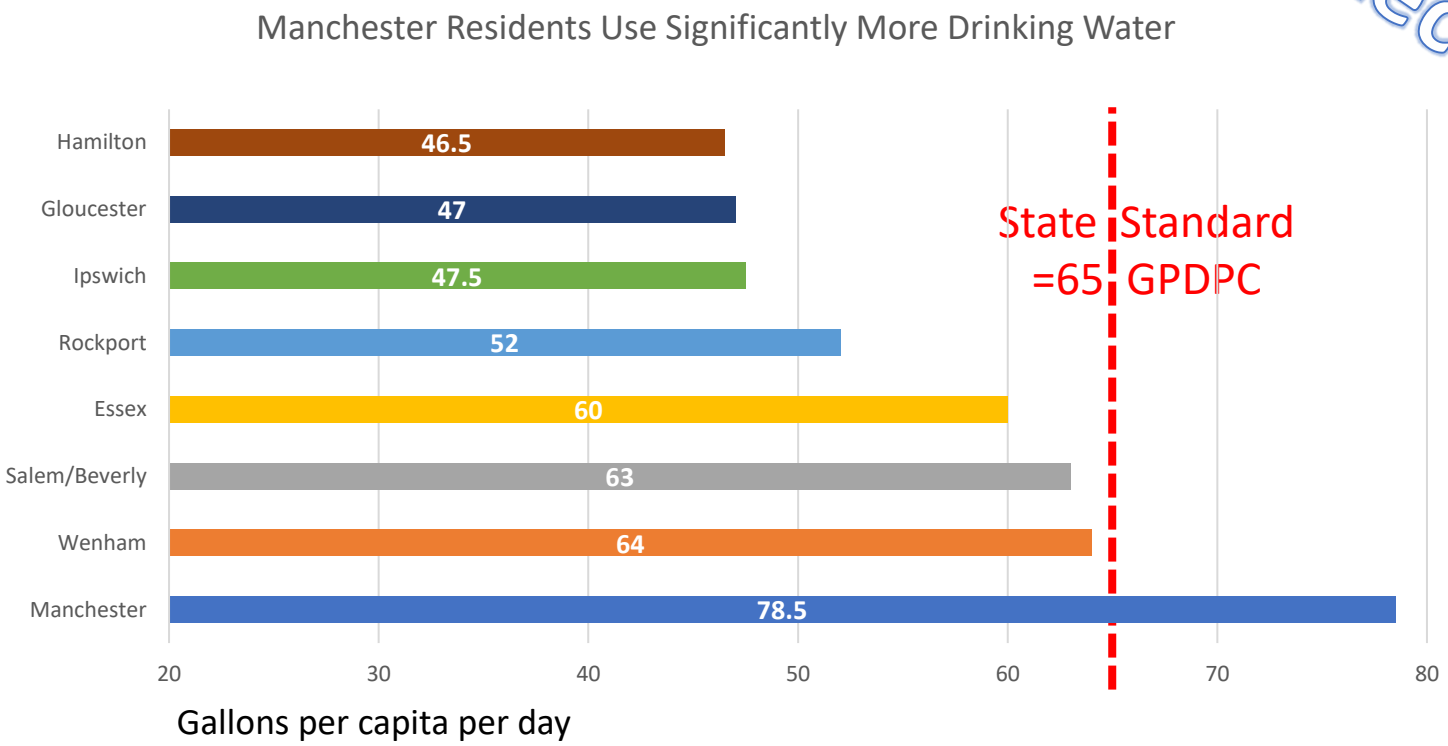
- Use a lot of drinking water compared to others
- Irrigate too much
- Waste a lot of drinking water
- Face growing issues & tightening standards re PFAS
- Other concerns from climate change, development and yet-to-be-recognized contaminants
- Likely to take our eye off these strategic issues once the Task Force wraps up
- Ample short-term supplies of drinking water

How Much Water Do We Use?

- We consume about 150 million gallons of water per year, per our meters
  - vs. about 200 million gallons leaving our treatment facilities at Gravelly Pond and Lincoln Street Well
  - >90% used by residential customers
- The DEP's Water Management Act (WMA) permits us to withdraw 250 million gallons of water per year
  - Based on the capacity of our sub-basin, which includes the aquifers for Lincoln Street and Round Pond wells in addition to the Gravelly Pond reservoir

✓ 1. “Manchester residents on average tend to use more water per capita than most other communities, and by a large margin.”

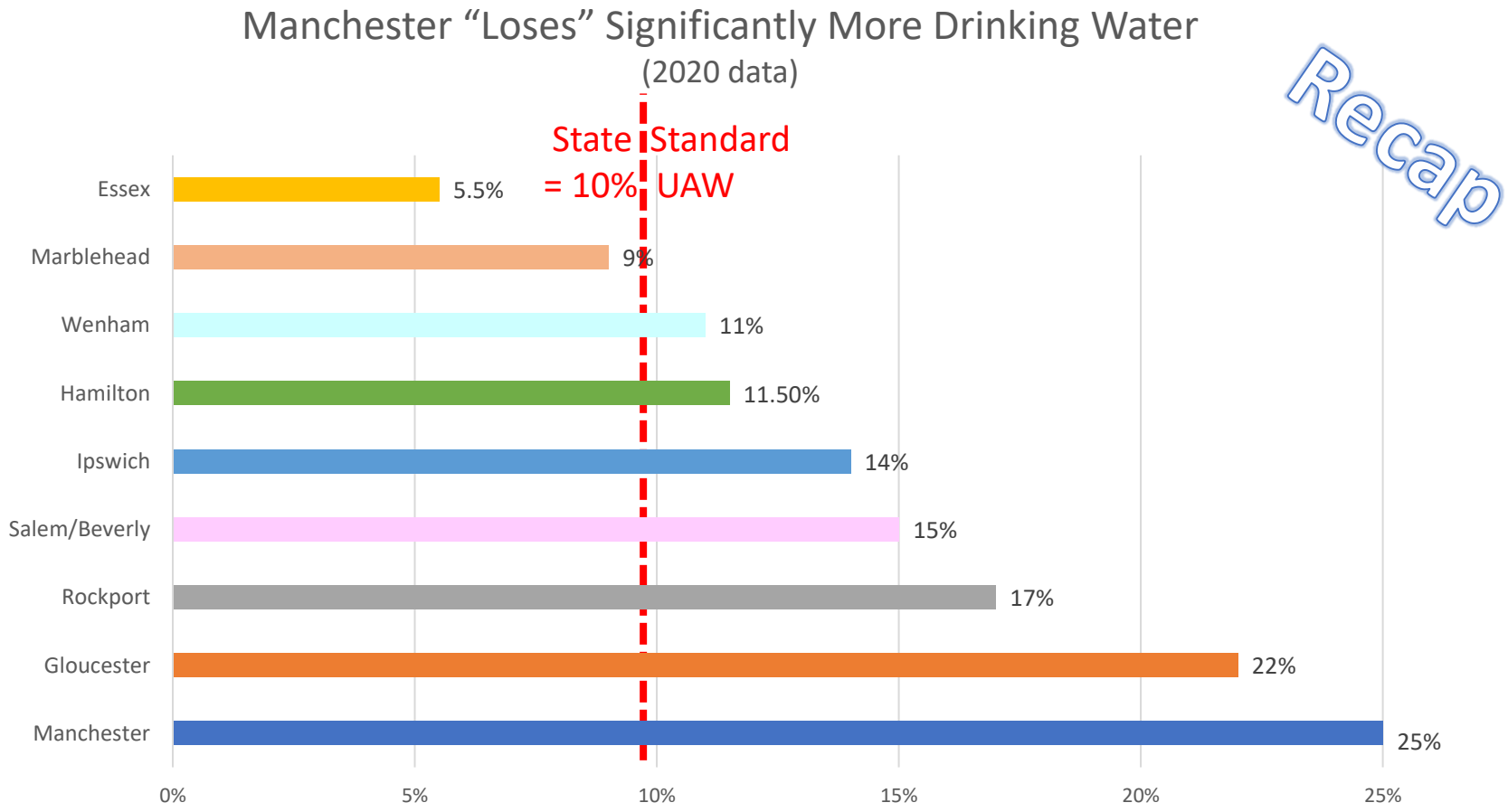
Recap



Note: Manchester’s per capita usage puts us in the “Worst 10” out of 287 communities

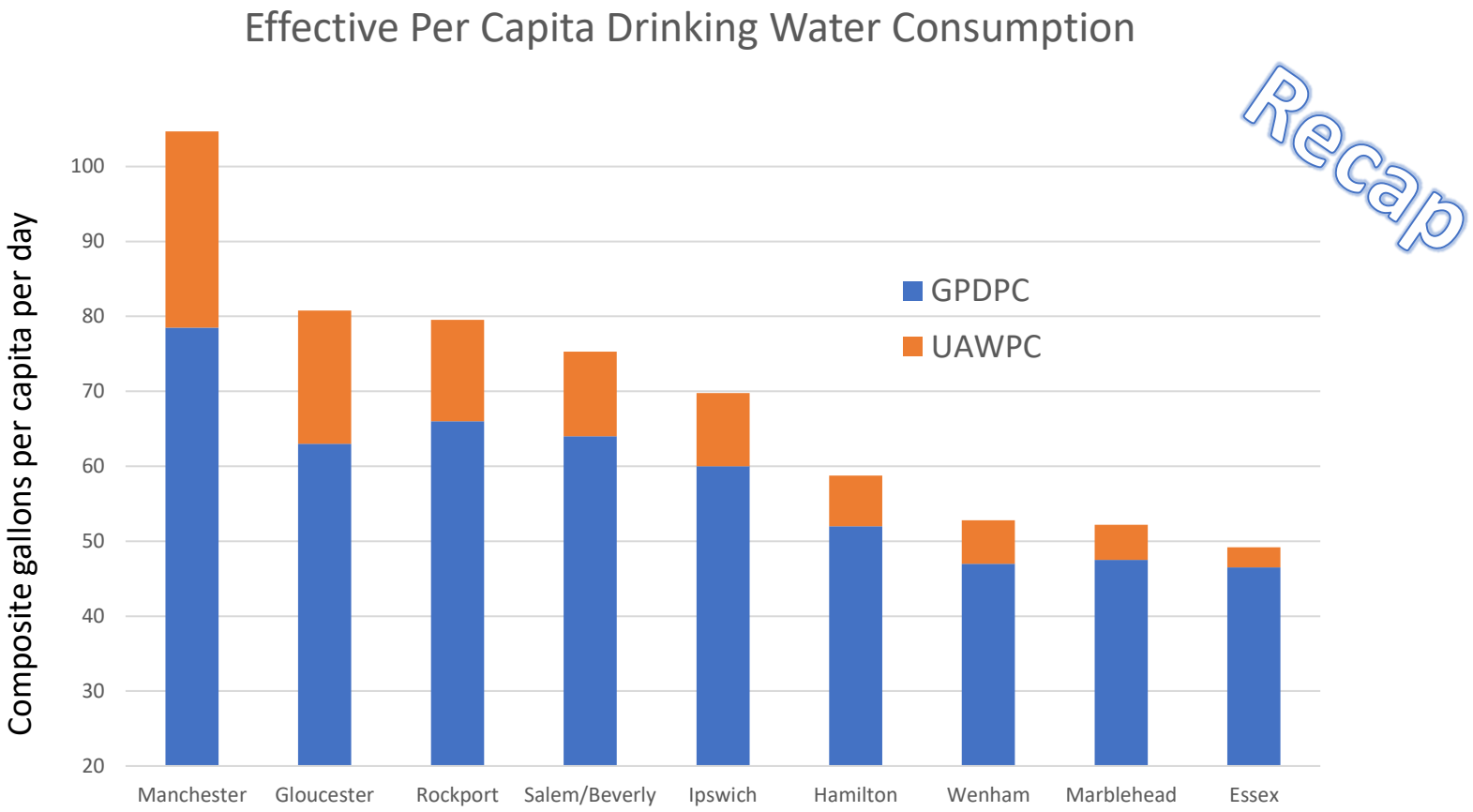
Sources: DPW Water Department database, US Census, State drinking water statistics

Our UAW is higher than most towns or cities in Massachusetts



Note: Manchester's UAW puts us 13th highest out of 287 communities in 2020

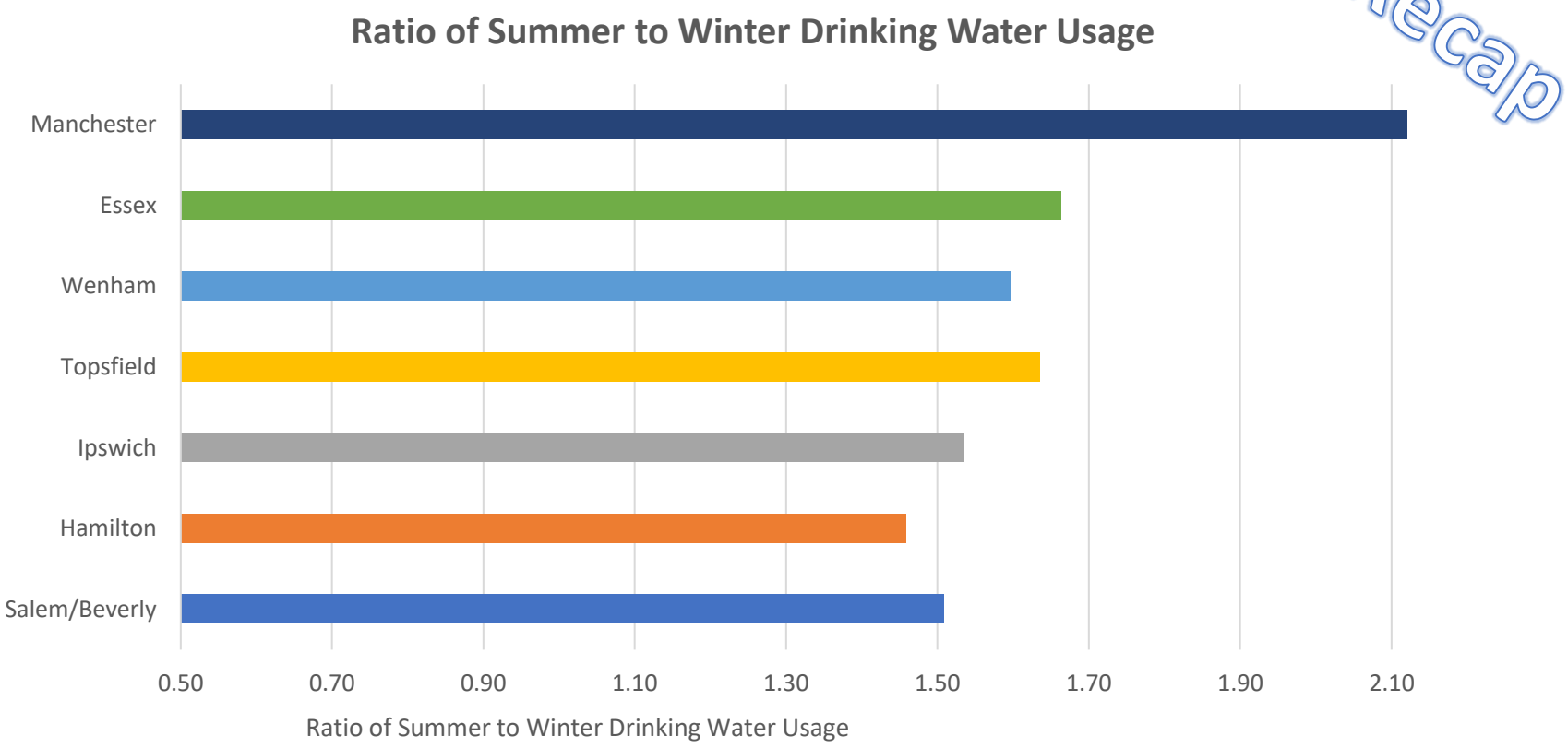
1. “Manchester residents on average tend to use more water per capita than most other communities, and by a large margin.” ✓ ✓



Note: Manchester’s composite puts us 8th out of 287 communities

Manchester's "summer bump" in water usage far greater than neighboring towns

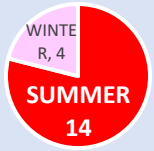
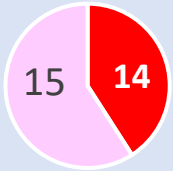
Recap



WHO USES THE MOST WATER?

(# are million gallons per year)

Recap

SUMMER/ WINTER	<75,000 gal/yr	75-150,000 gal/yr	>150,000 gal/yr	
Summer >2x Winter	344 HH 	169 HH 	150 HH 	663 HH • 62 summer • 13 winter
Summer 1.25-2x Winter	409 HH 	83 HH 	9 HH 	501 HH • 17 summer • 11 winter
Summer < 1.25 x Winter	719 HH 	107 HH 	16 HH 	842 HH • 22 summer • 22 winter

Updated 11-30-22

TOTAL ANNUAL DRINKING WATER USAGE

Growing PFAS Concerns

1. PFAS = perfluoroalkyl substances; family of synthetic chemicals that do not break down easily ("forever")
2. Are used in lots of consumer & industrial products
3. Persist in the environment; present in drinking water
4. Are found in virtually all Americans' blood; associated with several serious health issues
5. DEP requires that we test for them and maintain very low levels in drinking water
   - EPA is likely to tighten these standards
6. Removing PFAS from our Lincoln Street well is feasible but projected to be expensive ($10M+)
7. PFAS levels are typically very high in/near landfills such as Manchester's and Hamilton's

Other Medium-Long Term Concerns

Climate change - salt water intrusion, more severe droughts

Municipal/Residential/Commercial development

Other currently-unknown contaminants?

Probable Recommendations

1. Improve bills to show historical water usage in gallons
2. Replace out-of-date meters with smart meters
3. Continue pipe replacement and leak detection
4. Provide monies for contaminant monitoring near drinking water
5. Step up education initiatives
6. Significantly increase rates for higher usage tiers
7. Collaborate with Hamilton & Gordon College to protect drinking water
8. Revise Water Protection Districts and add conservation restrictions for Zones 1-2 around Gravelly Pond
9. Create ongoing capabilities within Town government
10. Seriously consider dramatic reconfiguration of our supply system
11. Utilize a 10-Year Plan (Task Force to draft) with regular reporting