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## APC & Nemasket Watershed Management and Climate Action Plan

### Existing Conditions and Anticipated Climate Change Impacts Overview

#### DRINKING WATER SUPPLY

#### Levels in the APC for New Bedford / Taunton and the Supplies used by Pondsides Communities

#### CURRENT CONDITIONS IN WATERSHED

Taunton Water Division Withdrawal: Water Management Act Permit 9P425293.04, issued May 24, 2011. The APC is one of several withdrawals that serve the City of Taunton Water Division. The Taunton Water Division supplies water to all of Taunton (correct?), Dighton through their purchase of water to augment their own supply,

From Taunton SWAP: The drinking water supplied by the Taunton Water Department is withdrawn from a complex of six reservoirs: Assawompsett; Elders; Long; Poksha; Great Quittacas; and Little Quittacas. These water bodies are located in Lakeville, Middleborough, Freetown and/or Rochester. The water is treated at the Taunton Water Treatment Plant located on Elders Pond. Color and turbidity are removed through filtration. Bacteria are removed through disinfection. The acidity of the water is reduced for corrosion control and the water is fluoridated before being delivered to the customer. The City of New Bedford also withdraws drinking water from this reservoir system.

Source Names and IDs, from SWAP

- Assawompset Pond4293000-01S
- Elders Pond4293000-02S
- Long Pond4293000-03S
- Pocksha Pond4293000-04S
- Great Quittacas4293000-05S
- Little Quittacas4293000-06S
- Devers School was added in the 2011 WMA Permit.

Water for Taunton is pumped from the APC underground to Elders Pond, and then to their treatment plant before it is delivered to residents of Taunton. Water for New Bedford is pumped in the south, from Little Quittacas Pond. In really dry times when water levels get low,

New Bedford has the ability to pump from Great Quittacas Pond into Little Quittacas Pond, and had to do so during the Phase 3 drought that occurred in the summer and fall of 2020 for the first time in many years.

Key Contact: Cathal \_\_\_\_\_ (He just left for Falmouth. Jack Hamm, consultant to DPW, is the City of Taunton contact for water)

Assawompset Elementary School is served by a well located on Source Water Protection Land owned by the City of Taunton, located in Lakeville, adjacent to the APC.

Other small public water supplies....

New Bedford Water Department Withdrawal:

New Bedford and Taunton also then supply surrounding communities... need to get a list and idk if we get the extent of the service area or just the mgd figures and then try to get an understanding of what portion this is of total public water supply? Different directions to go here.

Population and Volume

Average Annual withdrawal limit

MaxDay Limit:

Firm Yield is for the entire pond, so Taunton and New Bedford should reference ceth same firm yield.

How much developed property (or all property) lies below a given flood elevation? How much is at risk? FEMA FIRM should have an elevation to consider - compare with observed flood conditions.

### **Additional Data Points to Explore (sources included, if known)**

Inflows to the watershed - use assumptions and methodology from our Taunton Watershed Report. Recharge, Stormflow directly to surface waters, impervious cover connectivity.

Describe the sand and gravel makeup and other key geology from TWP.

More active management will be needed to prepare for and release flood events. Rainfall will be flashier, will occur more in winter, less snowpack and spring thaw.

Would be good to look at their withdrawal permits from the state for more information. New Bedford recently examined their Firm Yield (per Ymane 11/23/20).

Annual Statistical Reports must be reported by every permit holder on an annual basis.

Look at SWMI reports/online map viewer. Did not exist when we did the Taunton Watershed Study.

The Source Water Assessment and Protection Plans produced in 2003 provide a basic description of all sources of public water in MA. The PDF for Southeastern MA is here (see page 961 for Taunton): <https://www.mass.gov/doc/southeast-region-source-water-assessment-protection-swap-program-reports/download#page=5&zoom=auto,-265,67>

Look at these docs too: <https://drive.google.com/drive/folders/16Njrb-mLiExqAFQyJLIInQppSM4l7I-R?usp=sharing>

## **TRADE-OFFS AND CO-BENEFITS WITH OTHER INTERESTS**

### **Stabilized Drinking Water Supply and...**

- 1. Water Quality: Co-Benefit.**
- 2. Floodwater Management: Neutral to Trade-Off.**
- 3. Stormwater Management: Co-Benefit.**
- 4. Ecology, Unique Habitats and Natural Resources:**
- 5. Increased Land Development:**
- 6. Increased Inter-Agency Cooperation:**
- 7. Recreational Access:**
- 8. Increased public stewardship:**

## **IMPLICATIONS OF ANTICIPATED CLIMATE CHANGE IMPACTS**

**Increased drought**

**Increased rainfall intensity**

**Increased flashiness of the system, or volatility of the rainfall**

**Warmer water**