

January 30, 2019

Drinking Water and HAA5



Springfield City Council
Health and Human Services Committee

Introductions

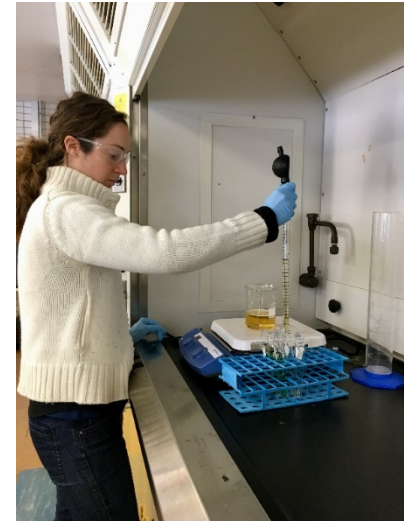
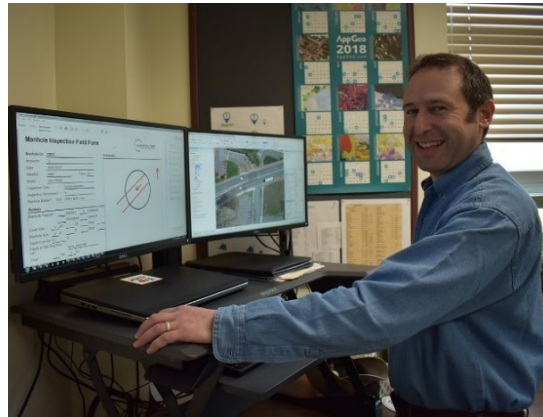
- **Joshua Schimmel, Executive Director**
- **James Laurila, Director of Water Operations**
- **Sue Tower, Laboratory and Regulatory Manager**
- **Jaimye Bartak, Communications Manager**



Who We Are

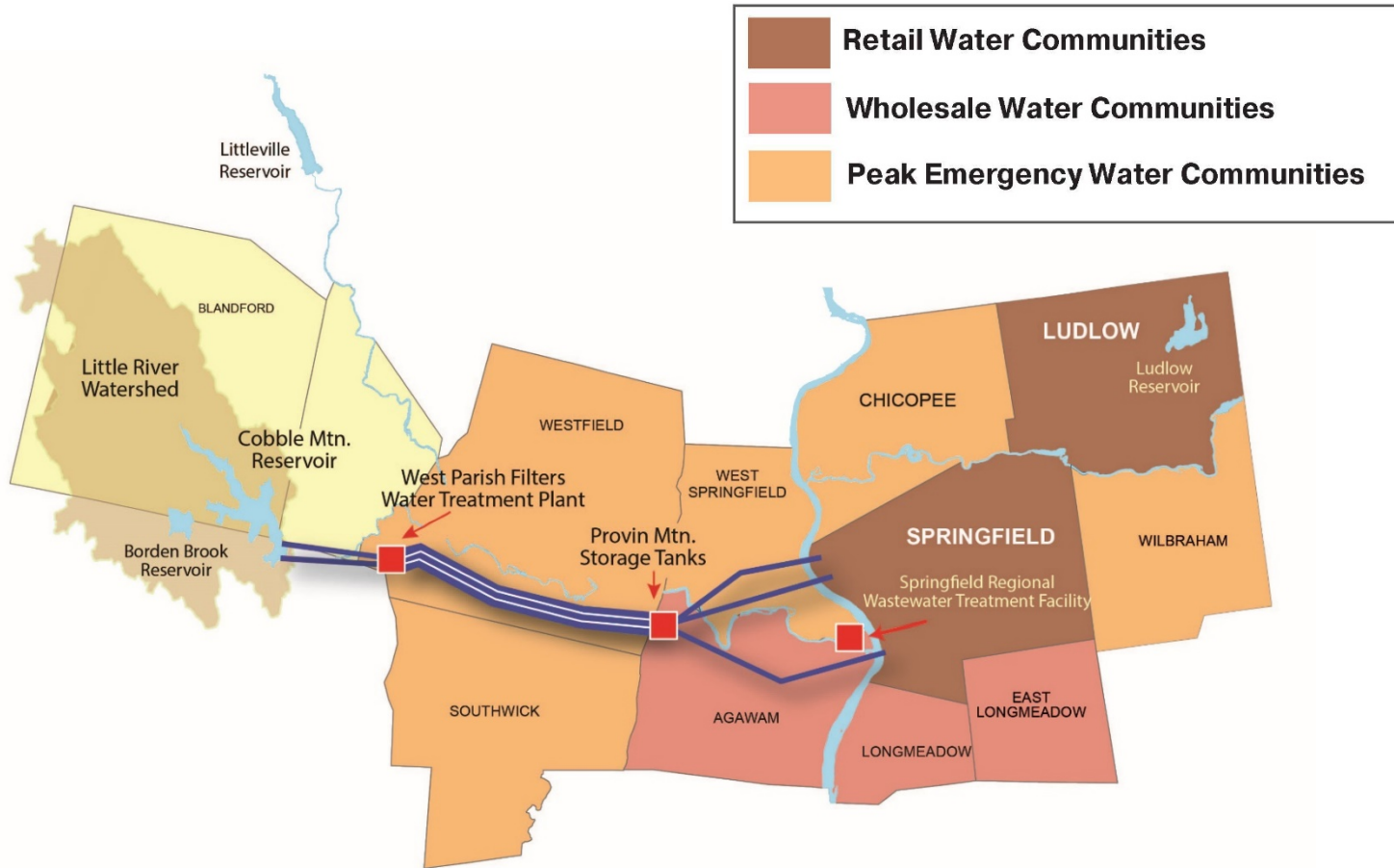
We Serve 250,000 Customers in the Lower Pioneer Valley

- **Established in 1996** out of Springfield DPW
- **250 Employees** stationed in Westfield, Agawam, Springfield, and Ludlow
- **Stewards** of the largest water and wastewater system in Western Massachusetts



Drinking Water Operations

Retail, Wholesale, and Peak/Emergency



Public Notification for HAA5

Issued January 18, 2019

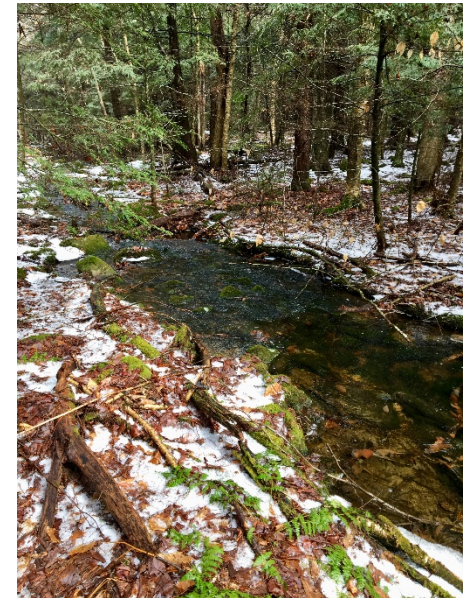
- Public notification (PN) mailed to all retail customers
- PN required for exceedance of Maximum Contaminant Level (MCL) of haloacetic acid (HAA5)
- Public notification requirements
- Locational Running Annual Average (LRAA) exceeded MCL of 60 parts per billion (ppb) at 3 locations in Springfield
 - 1400 State Street, Springfield: 66.8 ppb
 - 833 Page Boulevard, Springfield: 63.8 ppb
 - North Main Fire Station, Springfield: 63.5 ppb



Haloacetic Acids (HAA5)

What They Are

- Natural Dissolved Organic Matter (NOM) enters reservoir water through rain/snow runoff from the surrounding forest
- Formed when disinfectants (chlorine) react with NOM
- Regulation of HAA5 began in 1998, updated regulations implemented in 2012



HAA5 and Public Health

Why They Are Regulated

- ***Not an immediate or short-term health hazard***
- Regulated due to potential long-term health risks if consumed at levels above regulatory limits for many years (decades)
- Health concerns related to elevated *long-term* (decades) consumption
- More HAA5 and health information:

MassDEP

<https://www.mass.gov/service-details/haa5-in-drinking-water-information-for-consumers>

EPA

<https://www.epa.gov/dwreginfo/stage-1-and-stage-2-disinfectants-and-disinfection-byproducts-rules>



HAA5 Results

2018

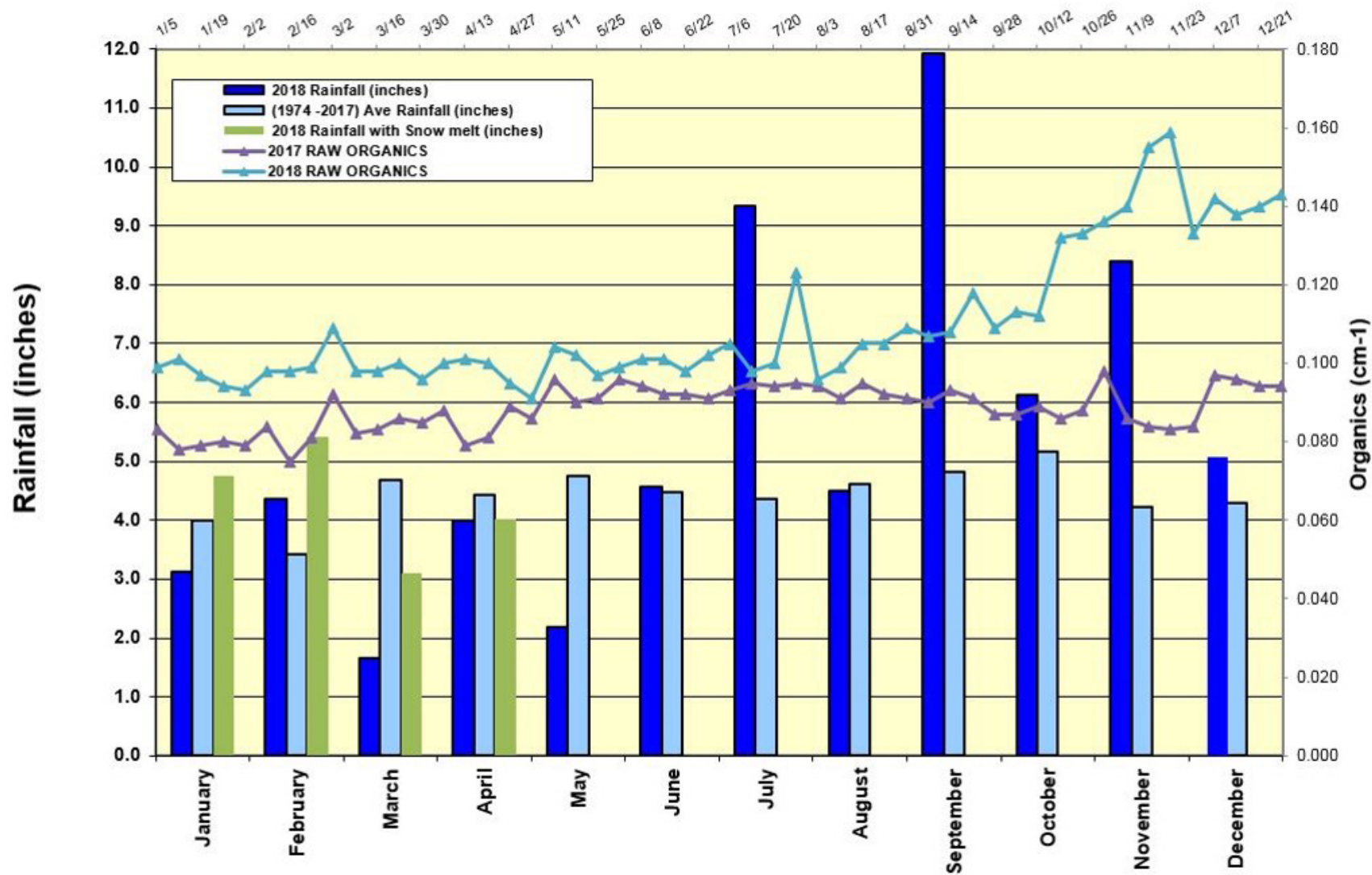
- Above-average rainfall in 2018 increased NOM by 50%
- More NOM interacting with chlorine increased annual average of HAA5 levels above the MCL at 3 sampling stations in Springfield

C. HAA5 COMPLIANCE

Sample Location	Q1 (Jan - Mar)		Q2 (Apr - Jun)		Q3 (Jul - Sep)		Q4 (Oct - Dec)		OEL ¹ Q4	LRAA
	Date	ppb	Date	ppb	Date	ppb	Date	ppb		
Chapin St Pump Station	3/6/2018	55.0	6/5/2018	36.0	9/4/2018	63.0	12/6/2018	82.0	65.8	59.0
Parkview Specialty Hospital	3/6/2018	59.0	6/5/2018	50.0	9/4/2018	65.0	12/6/2018	93.0	75.3	66.8
833 Page Blvd	3/6/2018	56.0	6/5/2018	50.0	9/4/2018	60.0	12/6/2018	89.0	72.0	63.8
322 Main Street	3/6/2018	45.0	6/5/2018	46.0	9/4/2018	57.0	12/6/2018	84.0	67.8	58.0
North Main Fire Station	3/6/2018	59.0	6/5/2018	45.0	9/4/2018	60.0	12/6/2018	90.0	71.3	63.5
Center Street Fire Station	3/6/2018	60.0	6/5/2018	47.0	9/4/2018	49.0	12/31/2018	68.0	58.0	56.0
Sumner Ave Fire Station	3/6/2018	50.0	6/5/2018	49.0	9/4/2018	57.0	12/6/2018	80.0	66.5	59.0
Catalina Pump Station	3/6/2018	58.0	6/5/2018	50.0	9/4/2018	51.0	12/31/2018	68.0	59.3	56.8
MCL = 60 (ppb)			Was OEL exceeded? ¹			YES	Was MCL exceeded?:			YES

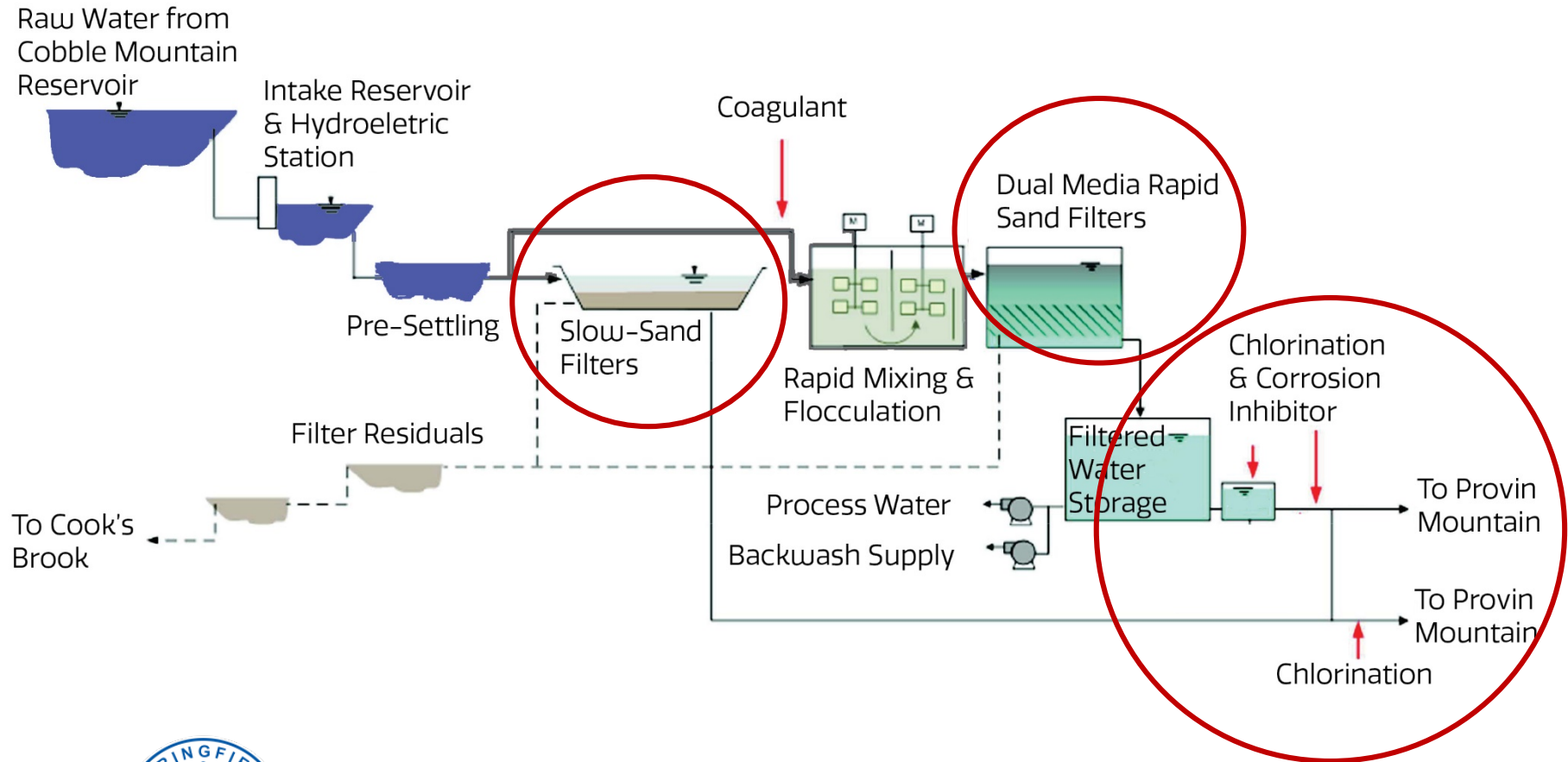


Rainfall (inches) at Borden Brook Reservoir & WPF Raw Water Organics (cm-1)



Drinking Water Treatment Overview

West Parish Filters Water Treatment Plant, Westfield



Short Term Strategies

Optimize Current Treatment

- Optimize chlorine dosing
- Coagulant optimization trials
- Reduce water storage time
- Adding storage tank mixing
- Maximize NOM removal
- Flush distribution system to limit amount of chlorine needed



Long Term Plans

Add New Treatment Processes

- UMass bench study completed in 2018 for pre-oxidation to remove NOM
- UMass study moving to pilot phase in 2019
- Comprehensive facilities plan underway

\$1M + spent on planning and process optimization

\$38M spent annually on water treatment and delivery



Communications

HAA5 Sampling

- Next round of sampling in March
- If necessary, any additional PNs would be issued by early April



Communications

- PN issued via mail, website, press release/media coverage, postings in public venues, communication with public officials
- <http://waterandsewer.org/haa5-frequently-asked-questions/>
- All questions will receive a response:
413-452-1302 or jaimye.bartak@waterandsewer.org
- Keep an eye out for tour announcements!



Contacts and Information

Questions about HAA5

Jaimye Bartak, Communications Manager

jaimye.bartak@waterandsewer.org, 413-452-1302

<http://waterandsewer.org>

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