

## Public Drinking Water for Public Health Officials







## **RCAP's Primary Funders**





US Department of Agriculture

**Environmental Protection Agency** 

Health and Human Services





RCAP National Office 1701 K St. NW, Suite 700 Washington, D.C. 20006 www.rcap.org

Western RCAP Rural Community Assistance Corporation www.rcac.org

Midwestern RCAP Midwest Assistance Program www.map-inc.org

Southern RCAP Communities Unlimited www.communitiesu.org

Great Lakes RCAP Great Lakes Community Action Partnership www.glcap.org

Southeastern RCAP Southeast Rural Community Assistance Project www.sercap.org

Northeastern RCAP RCAP Solutions www.rcapsolutions.org

### National Bureau of Economic Research

*"Between 1900 and 1936 clean water was responsible for nearly half of the total mortality reduction in major cities, three-quarters of the infant mortality reduction, and nearly two-thirds of the child mortality reduction."* (Cutler and Miller, 2004)







### Massachusetts

#### -Home of the first Health Department in U.S.

- 1799 in Boston
- Formed to fight a potential outbreak of cholera
- Paul Revere was first Health Officer







### Connecticut

- Chartered a state medical society in 1792 to address concerns from health threats
  - -Smallpox, Tuberculosis, Cholera, Typhoid Fever
- Medical Training became increasingly institutionalized (1800's)
- Increased sanitary practices (1900's)





# Private Vs. Public Drinking Water





### Public Water System (PWS)

A Public Water System (PWS) provides water for human consumption through pipes or other constructed conveyances to at least 15 service connections or serves an average of at least 25 people for at least 60 days a year.

-US EPA, CT DPH, MA DEP





### **PWS Classifications**

- <u>Community PWSs (CWS)</u> People live there
- Noncommunity PWSs People don't live there (two types)
  - –<u>Nontransient Noncommunity (NTNC) PWS</u> The same people return for work or school
  - -<u>Transient Noncommunity (TNC) PWS</u> Different people are just passing through





### Public Water System Basics

- The US has approximately 161,000 public water systems.
- More than two-thirds are privately owned.
- Safe Drinking Water Act started it all





### PWS in Massachusetts

- Regulated by MASS DEP
- 1677 Public Water Systems
  - -523 Community
  - -260 non-transient
  - -894 transient





### PWS in Connecticut

- PWS are regulated by Connecticut Department of Public Health, Drinking Water Section (CT DPH DWS)
- 1428 Public Water Systems
  - -501 Community Water Systems (CWS)
  - -505 Non-transient non-community (NTNC)
  - -1,428 Transient non-community (TNC)





# Many Types of Facilities Can Meet the Definition of a PWS

- Mobile home parks, apartments, day care centers, campgrounds, restaurants, motels, golf courses, nursing homes, fitness centers
- Multiple wells on commonly owned property may be regulated as a PWS





## Changes in use

- If a business changes its use and provides water from its own source, it can cause the system to be classified as a PWS.
- The business would not be able to operate until all applicable MassDEP standards, permits and approvals have been met.





### Common Changes in Use

- Conversion from offices or stores in a strip mall to a day care facility, restaurant or fitness center.
  - Expansion of a gas station and convenience store to include a coffee shop and restaurant.





### New PWS in Mass

<sup>"</sup> Proponents creating any new or potential public water system <u>should be directed by the local board</u> <u>of health</u>, planning board, building department, and other local permitting offices to contact the MassDEP Drinking Water Program before finalizing a site plan or developing the property, as they could be subject to 310 CMR 22.0 and all applicable MassDEP standards, permits and approvals."

"Constructing and /or Operating Unapproved Public Water Systems" MassDEP





### Case Study: Colonial Convenience Store & Dunkin' Donuts

- Operated as an unapproved PWS
- Water samples revealed over 2000 ppb MTBE (Methyl-tertiary-butyl-ether)
- Food service shut down & food handling permit revoked





### Condominium Developments & PWS Requirements

- Some types of construction, such as residential or business condominium developments, proposing to use 2 or more wells to serve the on-site facilities, may be considered public water systems.
- Refer the applicant to MassDEP for a written determination of public or private water system status during the design phase, and/or prior to issuance of local permits.
- Communicate with local planning office, planning board, building inspector's office and the applicant





### Pre-existing wells

 MassDEP "...reserves the right to evaluate and determine whether two or more wells located on commonly owned property, that individually may serve less than 25 people, but collectively serve more than 25 people for more than 60 days of the year should not be regulated as a public water system, taking into account the risk of public health."





### Semi-Private Wells

- Not a PWS but high risk
  - –Daycare w/ under 25 occupancy
  - -Food establishment open less than 60 days a year
  - -Sports Camp open less than 60 days a year
  - -Campground or Hotel open less than 60 days a year
  - -Shared well under PWS criteria
  - -Vacation Housing Rentals





## **Boil Orders**





## Why a Boil Order?

- E Coli (Human and/or animal poop) is detected in the water during routine or follow up sampling
  - -24 hr. turn around from sample to lab notification
  - Lab analyzes for Total Coliform, if positive screens for E Coli
  - -Triggers corrective actions and notifications
  - -EPA's Revised Total Coliform Rule (RTCR) dictates



requirements



### Public Health Concerns

- Young/Old & immune compromised most at risk
- Boil Water (at least 1 minute rolling boil) or Use Bottled Water
- Bathing-Try not to swallow, sponge bath infants/young
- Brushing teeth–Use boiled or botted water





### Restaurants

- Discard ice or any other product made with contaminated water. Make new with boiled or bottled water
- Dishes-Wash as normal, finish with sanitizer bath (1 min.) and air dry
- Washing food–With boiled or bottled water
- Hand washing–With boiled or bottled water or finish w/ sanitizer











### What are PFAS?

- PFAS are Per- and polyfluoroalkyl substances:
  - Man-made chemicals
  - Used in stain-resistant, water-resistant, and non-stick products, firefighting foams, food packaging, outdoor clothing, carpets, leather goods, ski waxes, and more.
- Persistent in the environment, leaching into groundwater from spills, landfills, air deposition.
- Linked to health risks, particularly in immunocompromised individuals, women who are pregnant or nursing, and infants





### MA. PFAS Drinking Water Standard

- "PFAS6" MCL is 20 ppt for the sum of six PFAS compounds
- PFOS, PFOA, PFHxS, PFNA, PFHpA, PFDA
- Applies only to Community and Non-transient Public Water Systems, not Private Wells or Transient PWS's unless local Board of Health institutes a regulation
- No federal standard: PFOS and PFOA health advisory only





### PFAS for CT Drinking Water

- 2013-2015 CT's large PWS's conducted testing (six compounds)
- 2018 CT DPH and PWS's collaborated on risk assessments
- July 2019 The Interagency Task Forces created
- June 2022 Action Level established (four compounds)
- June 2023 Added another six compounds





### Overall Approach to PFAS

- 1. Minimize risk to Public Health
- 2. Minimize future releases of PFAS into the environment
- 3. Identify, Determine and Remediate previous environmental releases of PFAS





### Proposed EPA Standard

PFAS Compound	Proposed MCLG	Proposed MCL
PFOA	0 ppt	4.0 ppt
PFOS	0 ppt	4.0 ppt
PFNA		
PFHxS	1.0 (unitless Hazard	1.0 (unitless Hazard Index)
PFBS	Index)	
HFPO-DA (GenX)		





### New PFAS Standard Impact

POTENTIAL IMPACT ON COM AND NTNC PWS				
IF EPA PROPOSED REGULATION BECAME FINAL				
	Number of COM and NTNC PWS required to test for PFAS impacted by the draft EPA MCL*	% of total COM and NTNC PWS required to test for PFAS impacted by the EPA draft MCL		
PWS currently over Mass PFAS6 MCL and working with MassDEP to reduce levels	49	7%		
PWS newly impacted by draft EPA MCL	149	22%		
Total PWS impacted by draft EPA MCL	198	29%		
*Includes both PFOA, PFOS and HI impacted systems				





Human Exposure and sources of PFAS





Image from MassDEP, adapted from Oliaei et al. 2013



### PFAS & Local BOH's

- DPH advisory for fish from certain lakes/ponds
- Found in food products & bottled water
- Compost facilities and waste disposal
- Wastewater affluent from septic systems & plants
- Firefighting activities (municipal responsibility)





### Real Life Scenario

 Dunkin Donuts tested for PFAS6 as required and has elevated levels. Treatment is not required by MASS DEP due to being a transient, noncommunity public water system.





### Poll

- Would you issue a food permit to an establishment who has PFAS6 over 20 PPT ?
  - -A-Yes
  - -B-No

-C-Bring to BOH's attention and let them decide





### Support "An Act Promoting Drinking Water Quality for All" Bill SD.2387 / HD.3322

- Authorize MASS DEP to write & implement a Minimum Standard for Private Wells
  - -Join Coalition for Safe Drinking Water as an individual and/or as a Town Board of Health
    - www.whatsinyourwellwater.org
    - #whatsinyourwellwater





# Questions?





### **Contact Information**

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### Thank You!



