

# Groundwater Coordinating Council (GCC)

Legislative Task Force Hearing  
September 5, 2019  
Superior

Jim Zellmer  
Deputy Division Administrator  
Environmental Management Division



## Creation of GCC

- Created by the “1983 Wisconsin Act 410” (the Groundwater Law)
- Interagency council to coordinate and share groundwater-related information
- Provide annual report to legislature





# GCC Membership

- State Agencies
  - Department of Natural Resources
  - Department of Health Services
  - Department of Agriculture, Trade, and Consumer Protection
  - Department of Transportation
  - Department of Safety and Professional Services
  - University of Wisconsin System
  - Geological and Natural History Survey
- Governor's Representative



# GCC Activities

- Joint solicitation for groundwater research and monitoring
- Promote use of research and monitoring
- Consistency in groundwater education, data management and mapping efforts
- Prepare an annual report to the Legislature

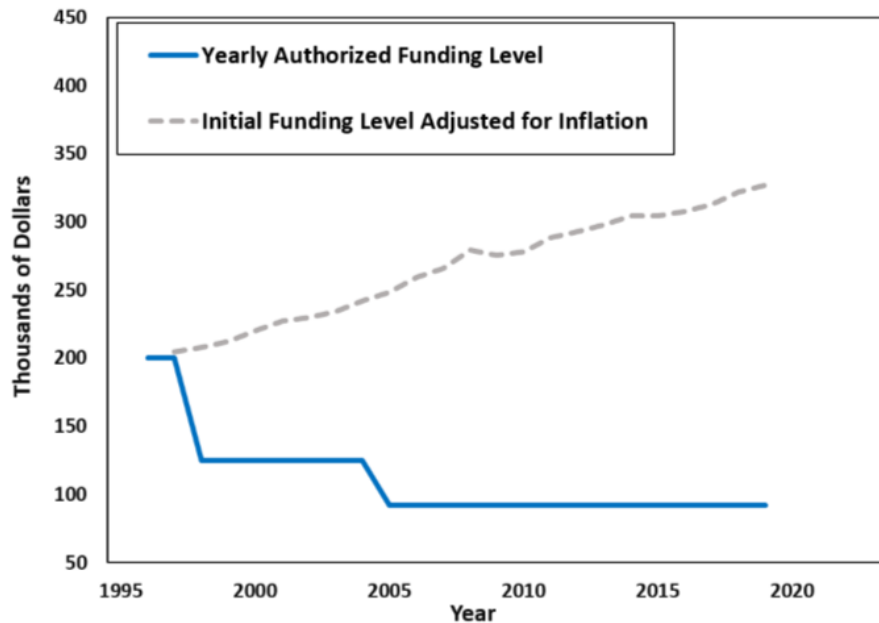


# Key Research Funded by GCC

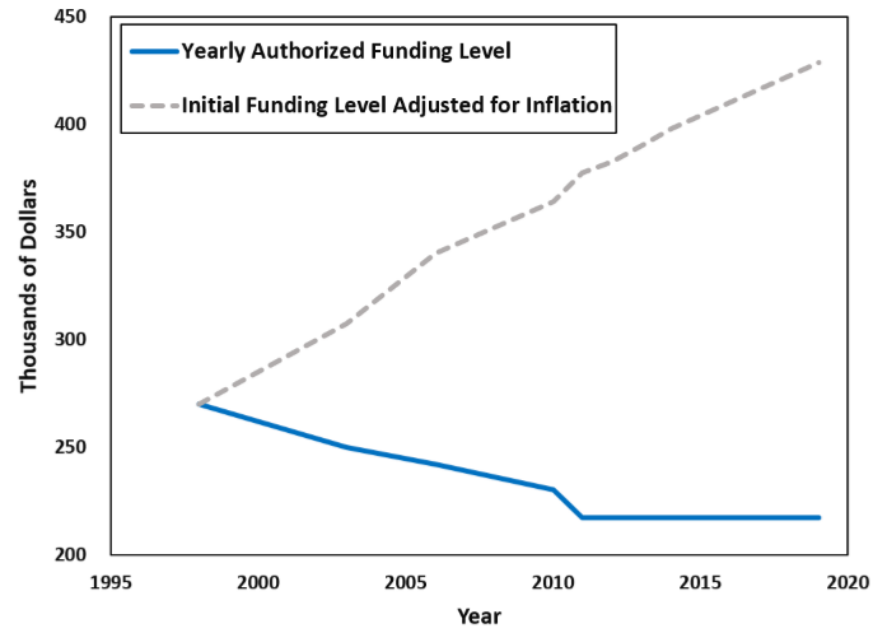
- Pesticides
- Arsenic
- Nitrate
- Fracture Flow/Karst geology
- Radium
- Groundwater/Surface Water Interactions
- Innovative Lab Methods
- Methylmercury
- Viruses
- Emerging Groundwater Contaminants

# Research Funding

DNR Funding for Wisconsin Groundwater Research and Monitoring Program



UW System Funding for Wisconsin Groundwater Research and Monitoring Program



# Annual Report to the Legislature

## Wisconsin Groundwater Coordinating Council

### Report to the Legislature

Fiscal Year 2019

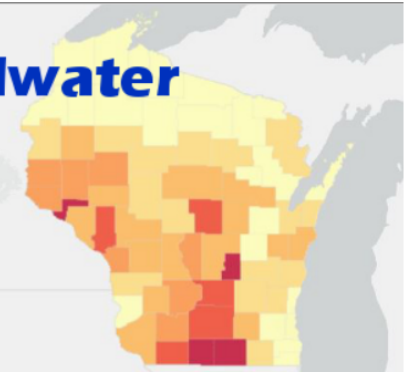


## Wisconsin Groundwater Coordinating Council (GCC) Report to the Legislature

### Nitrate in Groundwater

Nitrate is Wisconsin's most widespread groundwater contaminant. There are approximately 42,000 private wells exceeding the health standard for nitrate in Wisconsin.

[Learn more](#)



3. Year of Clean Drinking Water

[Play](#) [Pause](#)

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The Groundwater Coordinating Council prepares an annual report each year that summarizes the operations and activities of the council, describes the state of the groundwater resource and its management and makes recommendations. The report is due each August for the preceding fiscal year. The latest report is for Fiscal Year 2019 (July 1, 2018 – June 30, 2019) and is contained on these webpages.



# Condition of the Resource

- Groundwater Quality
  - Nitrate is most widespread groundwater contaminant
  - Pathogens are of particular concern in areas with shallow soils or fractured bedrock
  - Metolachlor, alachlor and atrazine are most common pesticides in groundwater





# Recommendations

## **Priority**

- Protect groundwater from nitrate and other agricultural contaminants
- Evaluate the occurrence of viruses and other pathogens
- Address emerging contaminants (e.g. PFAS)

## **Ongoing**

- Implement a statewide groundwater monitoring strategy
- Continue to catalog Wisconsin's groundwater resources
- Continue to support applied groundwater research



# Questions

Jim Zellmer

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# Lead and Drinking Water

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# Outline

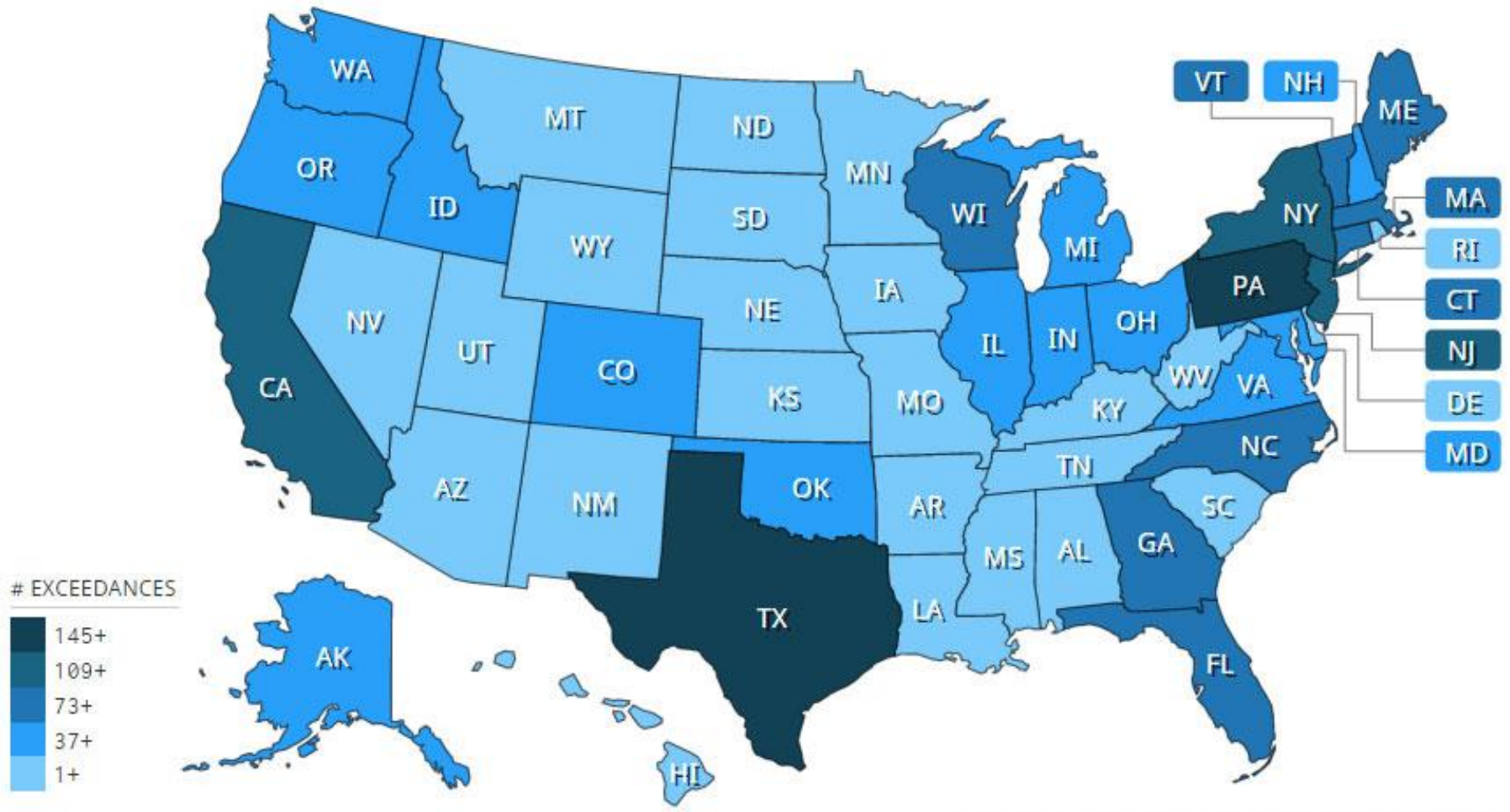
- Overview of Lead and Copper Rule
- Addressing lead and drinking water in Wisconsin
- Identified challenges
- Suggested improvements



# Lead and Copper Rule

- Federal rule (c. 1991)– part of the Safe Drinking Water Act (SDWA)
- DNR implements
- “Treatment technique” rule
- Public water systems sample (“first draw”) at particular (worst case) faucet locations
- “90<sup>th</sup> percentile”: Systems must take action if more than 1 out of 10 samples exceed 15 ppb (Lead Action Level)

# Lead and Copper Rule Action Level Exceedances



Source: USA TODAY analysis of EPA's Safe Drinking Water Information System (SDWIS) database.



# Action Level Exceedance Actions

- Public education
- Add or adjust treatment (i.e., optimize corrosion control treatment)
- Replace lead service lines
- Test more frequently



# Ongoing Regulatory Oversight

- Testing frequency at the correct locations
- Review water quality (pH, alkalinity, etc.)
- Optimize corrosion control treatment
- Engineering review of any changes to treatment
- Is water quality being properly maintained at systems with lead service lines?





# Lead Service Line Replacement

- 2017 Act 137 – allows the use of rate payer funds
  - Cover up to 50% of the private portion of LSL replacement
  - Kenosha, Menasha, Manitowoc = approved
  - Kaukauna, Fond du Lac = applications in to PSC
- Drinking Water State Revolving Loan Fund
  - Used past under-utilized principal forgiveness allotment to fund private side LSL replacement in 2017 and 2018
  - Now these projects must compete with other drinking water infrastructure priorities



# Examples of LSL Replacement

- Ashland - \$600,000 received under DNR private LSL replacement program
- Eagle River - \$500,000 and replaced all LSLs in their system
- Florence - \$325,000 and on track to replace all LSLs in their system
- Green Bay - \$800,000 and on-track to replace all LSLs in the next 2-3 years

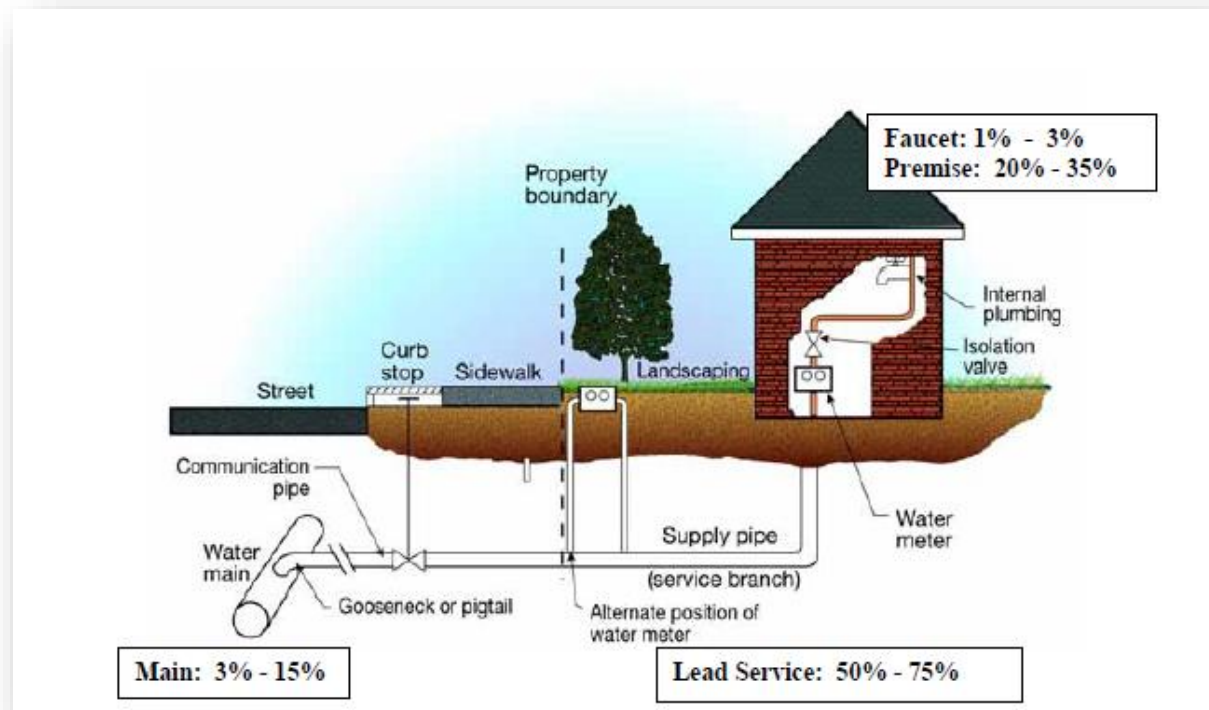


# Madison Example

- Madison example – lead service line replacement
  - Pre-LSL replacement (1997): 90<sup>th</sup> percentile = 17 ppb
  - Post-LSL replacement (2017): 90<sup>th</sup> percentile = 3 ppb

# Challenges to Implementation

- Lack of inventory of where lead service lines and lead pipes exist
  - Public side and private side of line
- No ongoing state requirement for replacement of lead service lines (largest source of lead in the system)



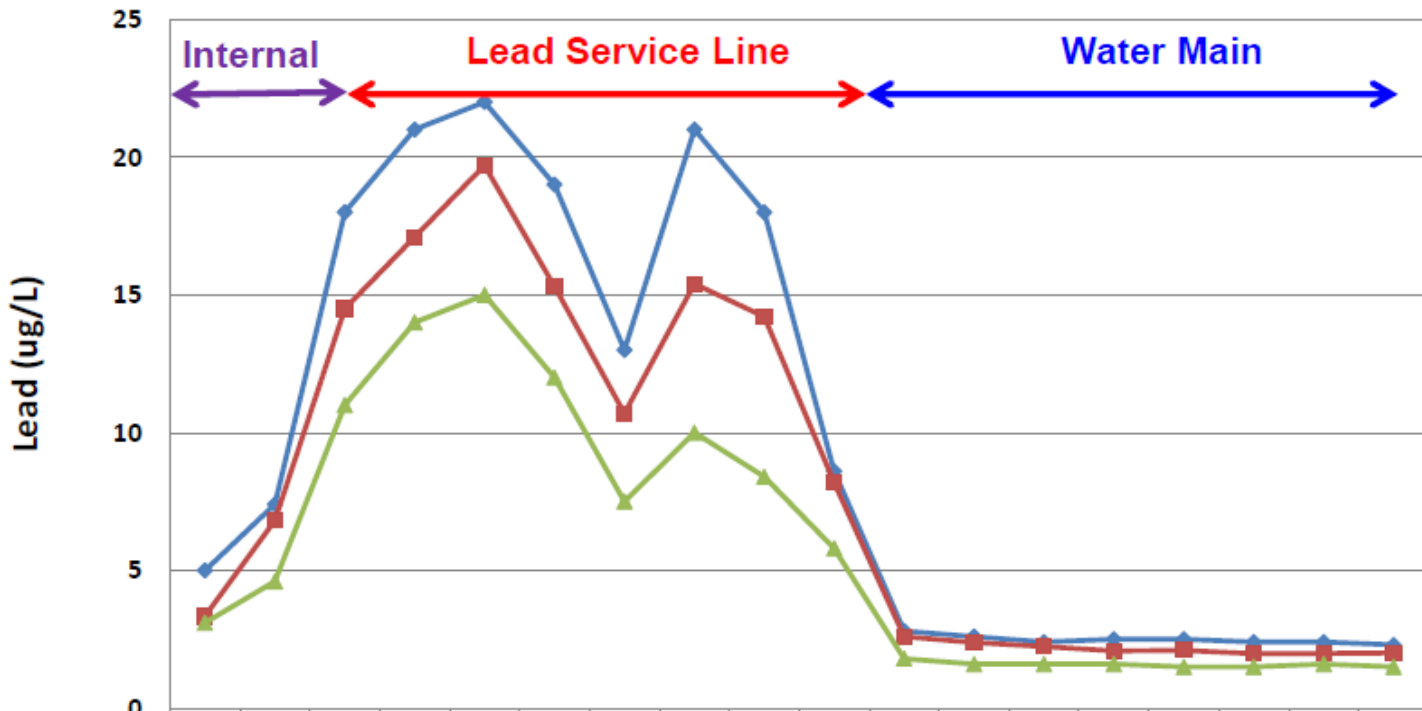


# Challenges to Implementation

- First draw samples are not representative of exposure (levels can be 4-8 times higher)
  - Sequential sampling
  - “Events” that release lead into the water
- Sampling locations
  - In homes with lead service lines or lead solder on copper pipes
- Water quality can change over time, treatment should be adjusted

# First Draw Challenges

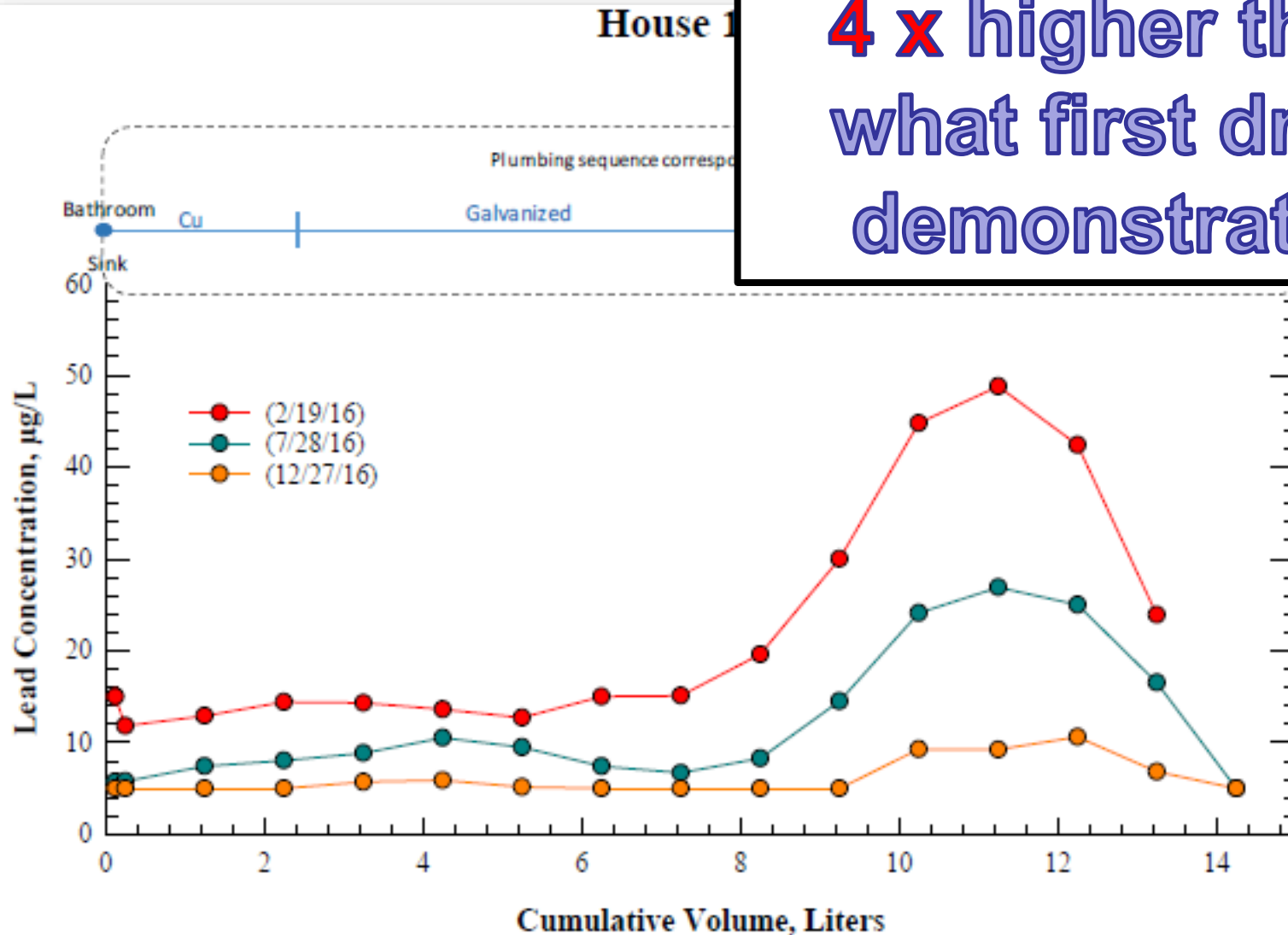
## EX: SEQUENTIAL SAMPLING RESULTS



	S01	S02	S03	S04	S05	S06	S07	S08	S09	S10	S11	S12	S13	S14	S15	S16	S17	S18
7/20/2016	5	7.4	18	21	22	19	13	21	18	8.6	2.8	2.6	2.4	2.5	2.5	2.4	2.4	2.3
9/18/2016	3.34	6.81	14.5	17.1	19.7	15.3	10.7	15.4	14.2	8.19	2.6	2.38	2.24	2.08	2.1	1.98	1.99	2.01
11/13/2016	3.1	4.6	11	14	15	12	7.5	10	8.4	5.8	1.8	1.6	1.6	1.6	1.5	1.5	1.6	1.5

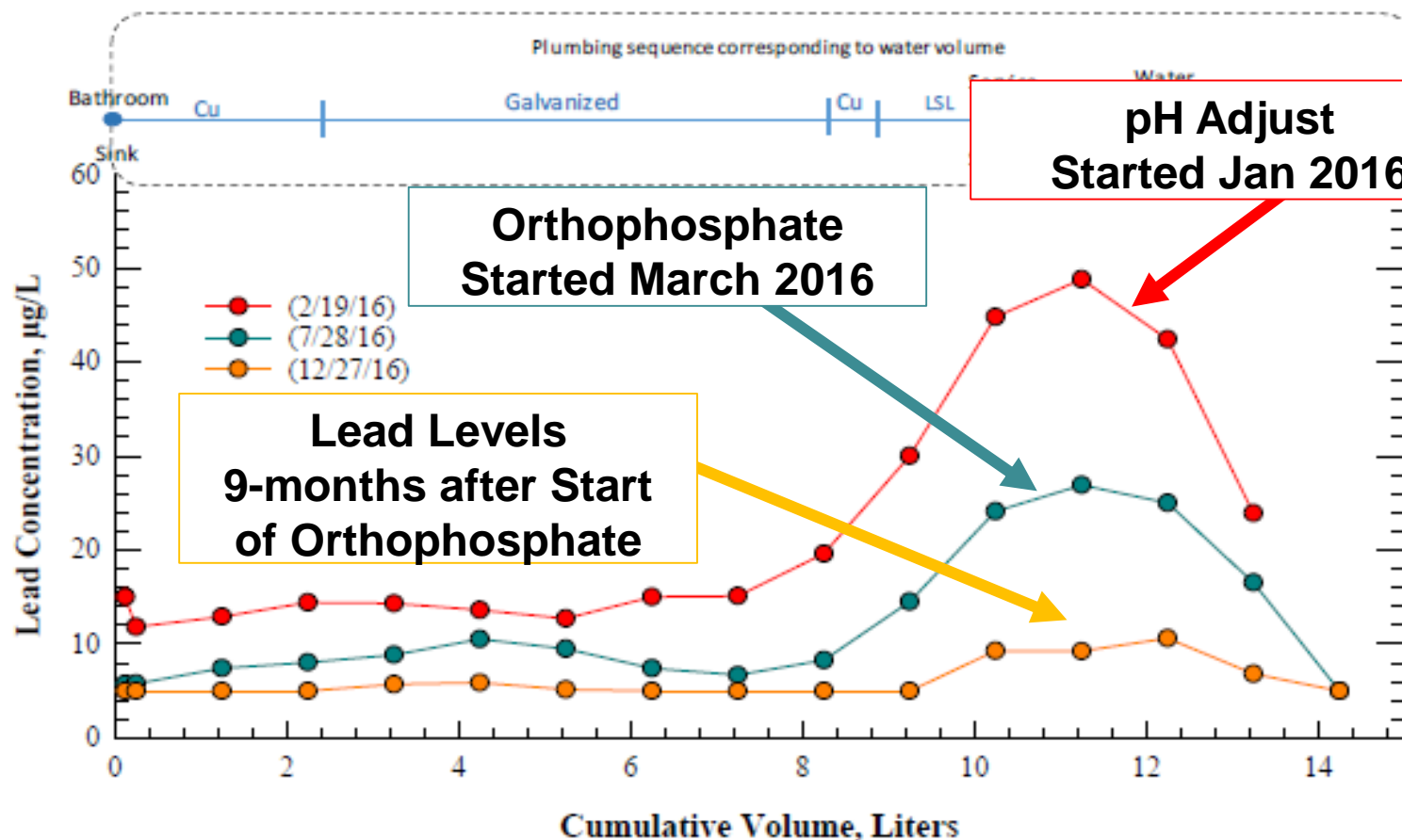
# First Draw Challenges

Peak Lead Levels  
**4 x** higher than  
what first draw  
demonstrates



# Effects of Treatment

## House 1







# Challenges to Implementation

- Orthophosphate contributes phosphorus to our waterways, causing algal blooms
- Lead and Copper Rule Changes expected in 2019



# Suggested Improvements

- Funding for LSL replacement, particularly the private side of the LSL
- Target marginalized communities for LSL replacement support
- Lead drinking water testing in schools
  - Testing currently uses residential sites only
- Require an inventory and plan to replace all LSLs
  - Provide funding for inventory and plan development
- Staffing and funding for corrosion control regulation

# Lead Poisoning

- Lead is a naturally-occurring toxic metal
- Large presence in environment – paint, soil, plumbing components, gasoline
- No known safe level of lead exposure
- Exposure in early childhood linked to decreased IQ and behavioral disorders

# Lead Poisoning from Water

- Major source of lead in water: lead-containing plumbing components
- Water may be a larger contributor to total lead exposure at lower blood lead levels
- Risks highest in young, bottle-fed infants

# DHS Activities: Lead in Water

- Training and education for local health departments
- Scientific review of literature
- Guidance for local and tribal public health agencies, child care facilities, and homeowners
- US EPA WIIN grant, 2-year grant beginning in fall of 2019, for testing drinking water in schools and child care facilities

# Lead in Water: Summary

- Wisconsin needs to address all major sources of lead exposure
- Reducing lead-paint hazards will result in the largest reduction of lead poisoning
- Eliminating lead in water from plumbing fixtures requires long-term infrastructure investments

# DHS Conclusions

- DHS is committed to pursuing innovative methods to increase testing, educate the public, and address lead hazards
- Governor Evers is committed to abating and preventing lead exposure, and has directed the Department to coordinate this work.
- DHS sees lead exposure as a public health priority, and is committed to working across state agencies on this effort.



# Questions?

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Drinking Water and Groundwater Program

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