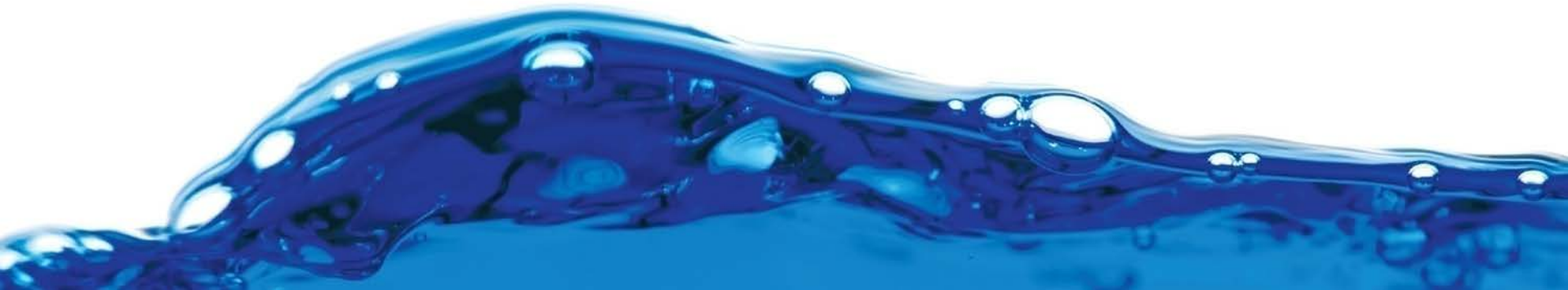


Lead and Public Water Supply





Imagine a Day Without Water
September 15, 2016

[Participate](#) [Sign Up](#) [Highlights](#) [Resources](#)

Imagine:

No water to drink, or even to make coffee with. No water to shower, flush the toilet, or do laundry. Hospitals would close without water. Firefighters couldn't put out fires and farmers couldn't water their crops.

Some communities in America already know how impossible it is to try to go a day without our most precious resource: Water. Imagine a Day Without Water is an annual day to raise awareness and educate America about the value of water.



?? Questions on lead ??

- Why is lead a problem?
- How are we exposed to lead?
- How is lead regulated in water?
- What happened in Flint?
- How do Ottawa County water supplies address lead?
- What do I tell the public when they ask me about lead?
- How does the Flint Water Crisis impact Ottawa County?



Lead poisoning

Lead buildup in the body causes serious health problems

Symptoms

- Headaches
- Irritability
- Reduced sensations
- Aggressive behavior
- Difficulty sleeping

- Abdominal pain
- Poor appetite
- Constipation
- Anemia

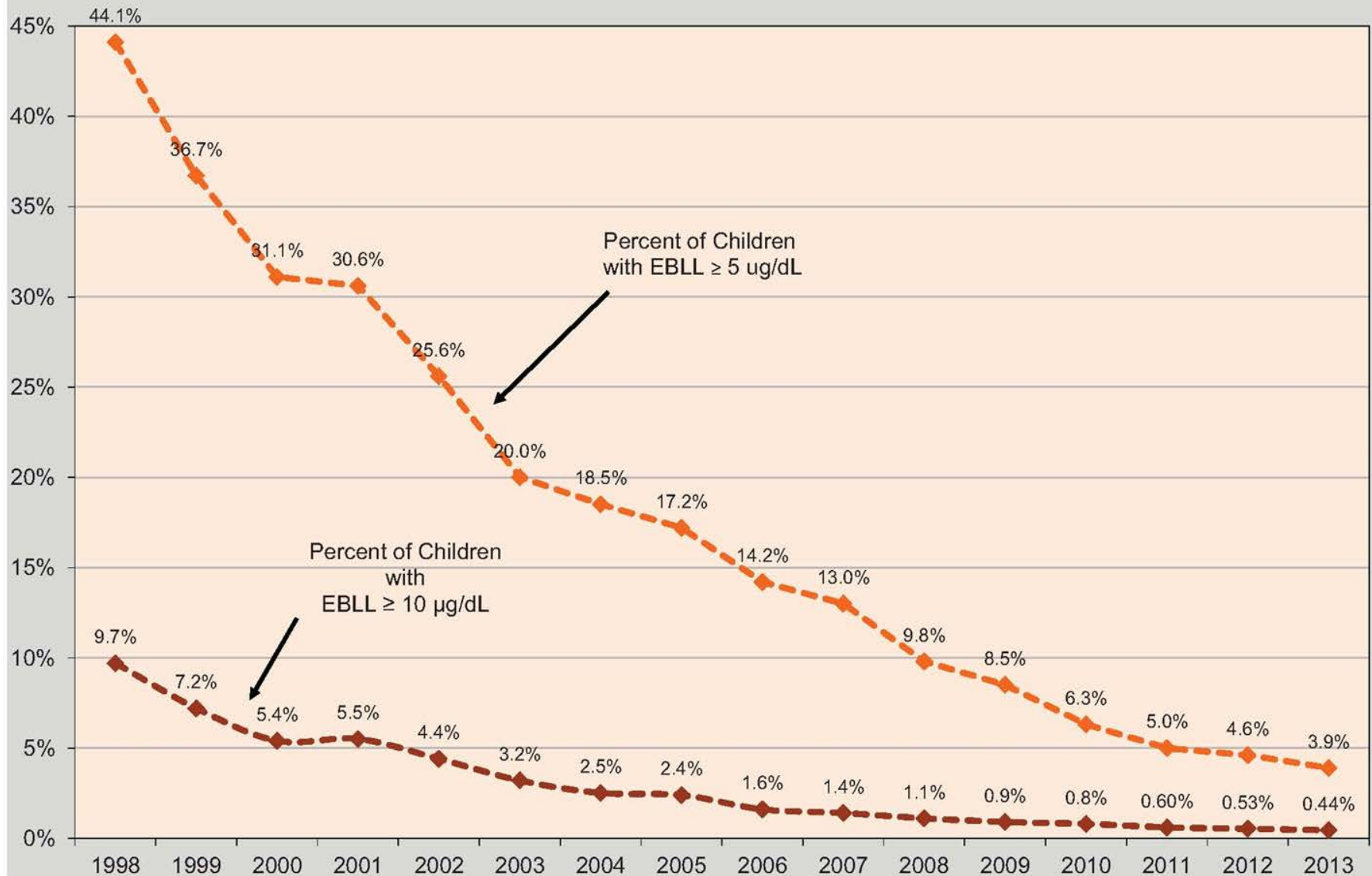
Additional complications for children:

Lead is more harmful to children as it can affect developing nerves and brains

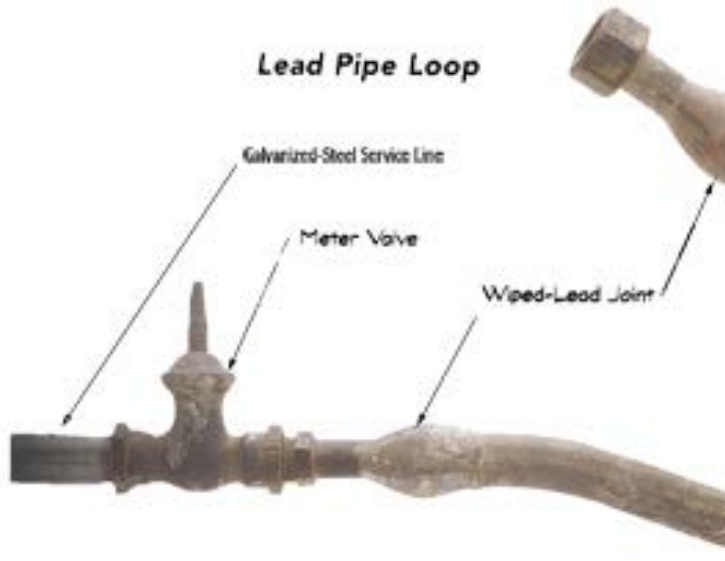
- ▶ Loss of developmental skills
- ▶ Behavior, attention problems
- ▶ Hearing loss
- ▶ Kidney damage
- ▶ Reduced IQ
- ▶ Slowed body growth

Elevated Blood Lead Levels (EBLL) in Michigan 1998 - 2013

Children less than Six Years of Age



Lead Exposures



Lead can be found throughout a child's environment.



1 Homes built before 1978 (when lead-based paints were banned) probably contain lead-based paint.



When the paint peels and cracks, it makes lead dust. Children can be poisoned when they swallow or breathe in lead dust.



3 Lead can be found in some products such as toys and toy jewelry.



4 Lead is sometimes in candies imported from other countries or traditional home remedies.



2 Certain water pipes may contain lead.



5 Certain jobs and hobbies involve working with lead-based products, like stain glass work, and may cause parents to bring lead into the home.

Lead paint and the related dust and chips are the leading cause of high lead levels in U.S. children, representing about **70% of childhood exposures** to lead (Levin et al. 2008).

How is lead regulated in water?

- Safe Drinking Water Act – Lead Copper Rule (1991)
- Action Levels: Pb=0.015mg/l; Cu=1.3mg/l
- Lead free: < 0.2% in solder/flux; <0.25% weighted average.
- Maximum Contaminant Level vs. Action Level



Major Monitoring Provisions

- Develop sampling plan.
- Sample for lead and copper at customer tap.
- Every 6 months. Reduced monitoring – 3 yrs.
- 5 to 100 samples, based on system size
- Water Quality Sampling > 50,000 people.
- Within 30 days, customers must receive lab results.



Actions

- When a system exceeds the Action Level:
 - Public Education
 - Source Water Monitoring and Source Water Treatment
 - Corrosion Control Treatment
 - Lead Service Line Replacement



What happened in Flint?

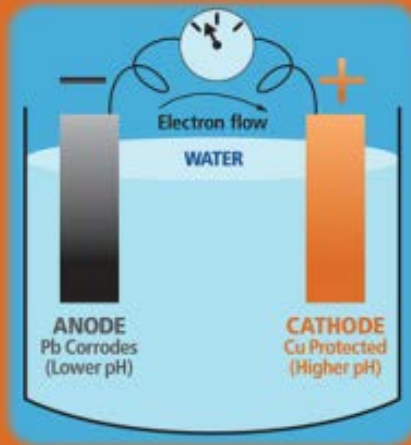


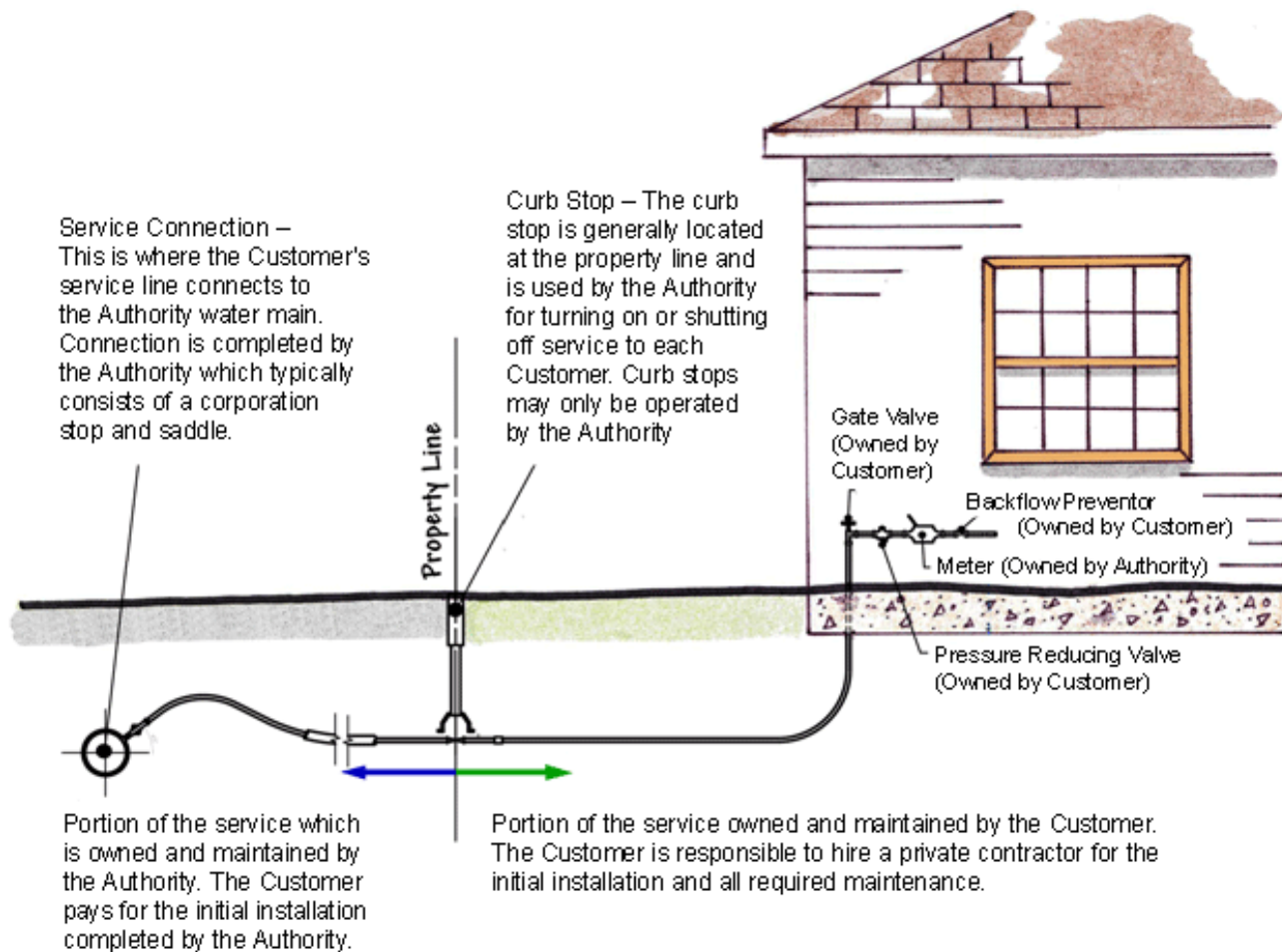
What happened in Flint?

- March 25, 2013, City Council votes to approve a switch in water supplies from DWSD to Karegnondi Water Authority (KWA).
- April 25, 2014 – switched to Flint River as temporary primary source.
- Color, taste and odor complaints ensued.
- Boil water notice due to coliform contamination in August – September 2014.
- Disinfection byproducts (TTHMs) violations.
- Concerns raised about lead exposure, corrosion control, improper site selection and sampling by the City of Flint.
- Allegations that the MDEQ misinterpreted the Lead Copper Rule.
- Now looking for links to Legionnaires' disease outbreak.

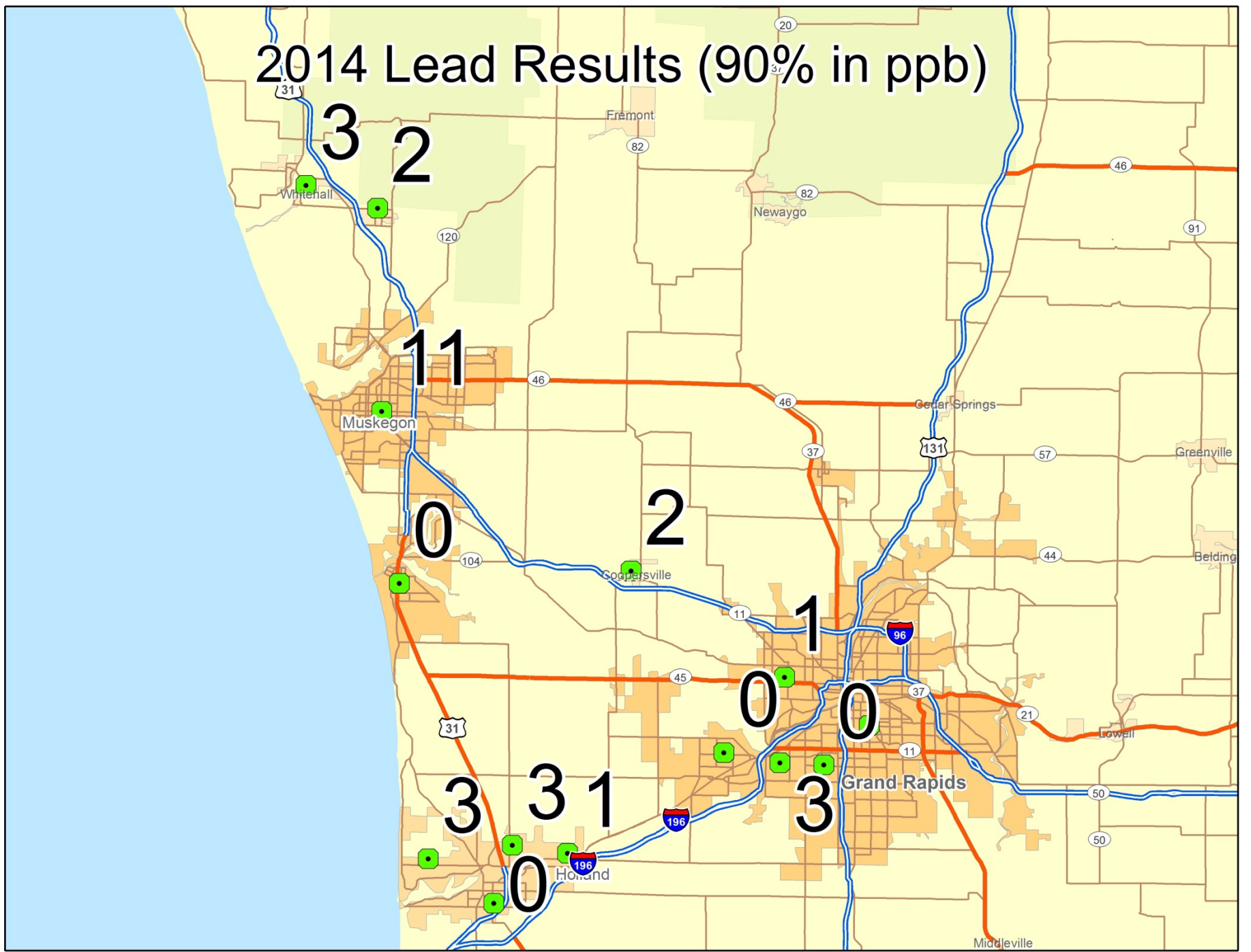








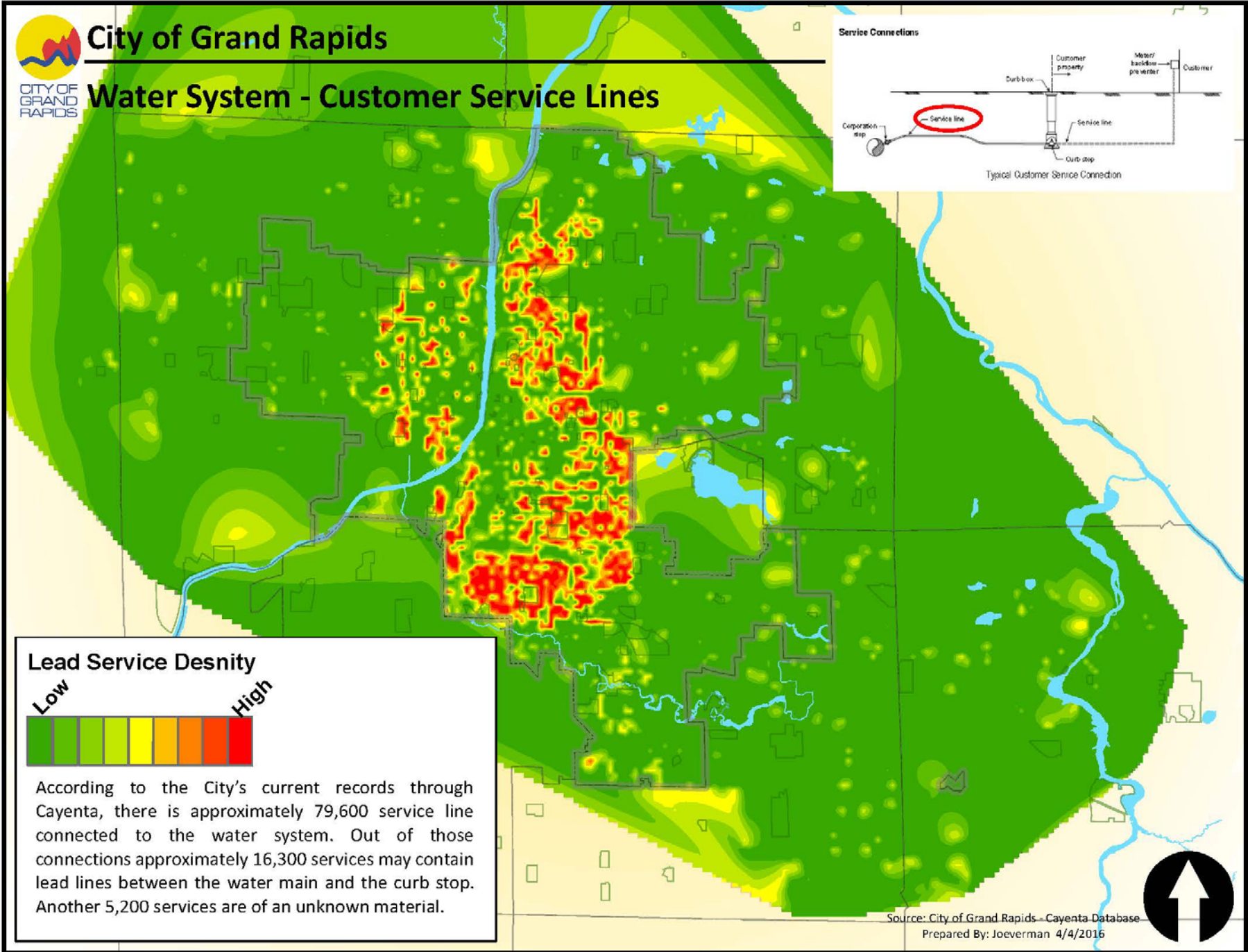
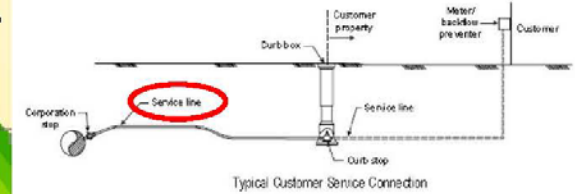
2014 Lead Results (90% in ppb)





Water System - Customer Service Lines

Service Connections



Lead Service Density

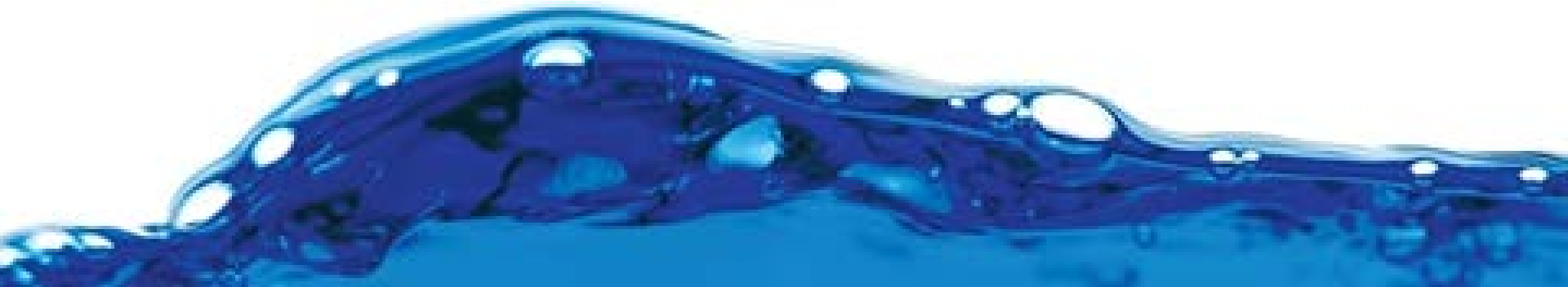


According to the City's current records through Cayenta, there is approximately 79,600 service line connected to the water system. Out of those connections approximately 16,300 services may contain lead lines between the water main and the curb stop. Another 5,200 services are of an unknown material.



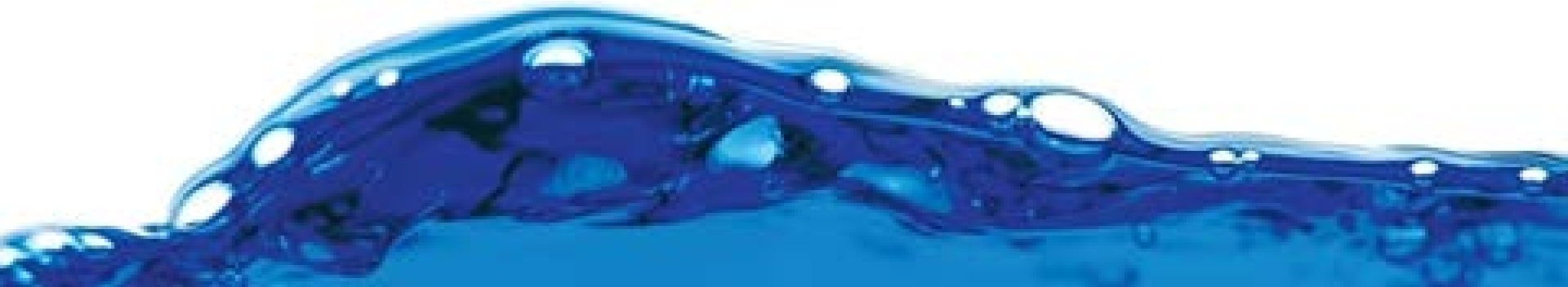
Local unit updates

- GR at 4ppb (1) in 2016.
- Muskegon due to sample in 2017.
- Holland. 27ppb in one home – investigation resolved issue.
- Wyoming at 2.2 ppb; Holland Twp at 13 ppb (2)
Starting treatment technique study.
- Northwest Ottawa. Crockery at 2ppb, other at zero.
GH Twp had one at 13 ppb.



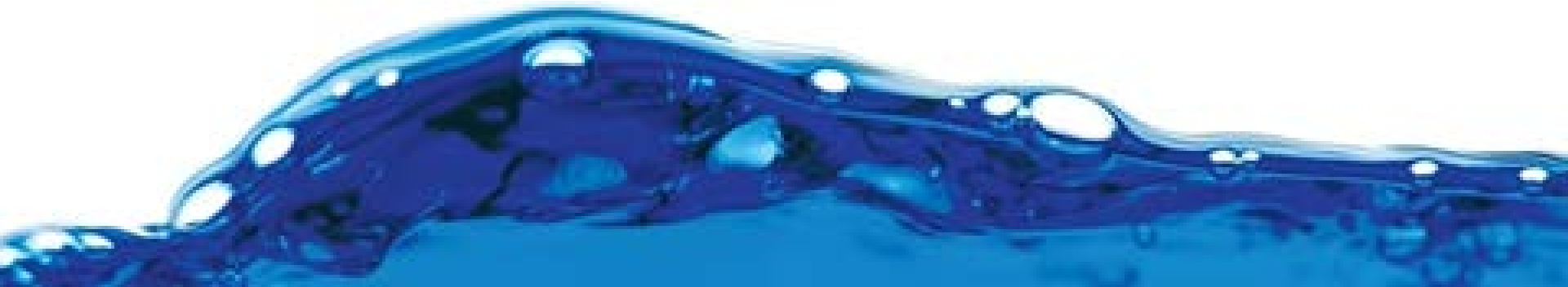
What do I tell the public when they ask me about lead?

- ***There is no safe level of lead!***
- Educate yourself on lead.
- Have the plumbing in your home inspected.
- When in doubt, sample.

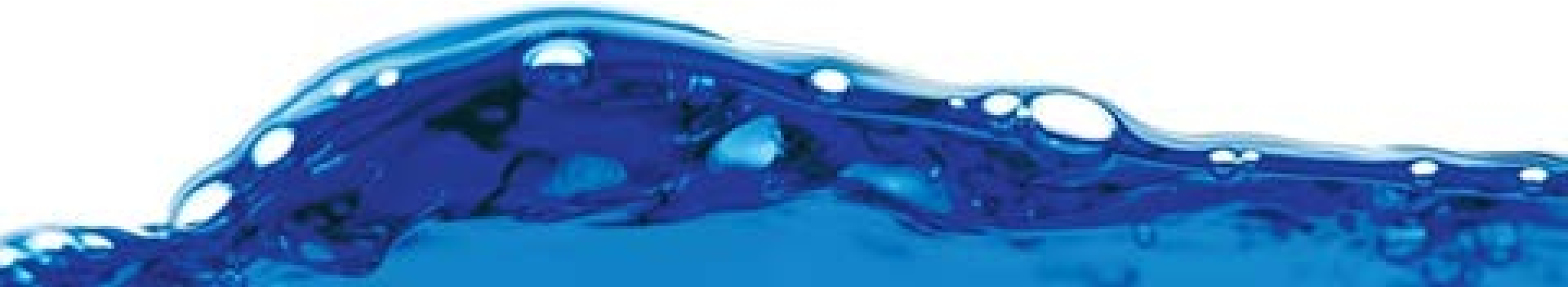


How does the Flint Water Crisis impact Ottawa County?

- All Michigan taxpayers will be supporting Flint with the emergency funding.
- Short term – MDEQ staff stressed out and spread thin.
- Long term – more enforcement?
- Reduces the public's trust in the public water supply.
- Brought lead education back into the spotlight.



**THERE IS NO SAFE
LEVEL OF LEAD!**



Key highlights of the recommendations by the FWICC Policy Subcommittee include:

1. Protect the public better by requiring annual lead and copper testing for all schools, day cares, adult foster care facilities, substance abuse clinics, and public hearing facilities as well as initial testing at license grant or opening.
2. Improve protection of residents by continuously assessing and making recommendations regarding science, testing, monitoring protocols, water treatments, and corrosion control through a new Advisory Commission on Drinking Water Quality.

3. Ensure water customers have a stronger voice by requiring each public water system serving more than 500 customers to create a Water System Advisory Council responsible for local oversight and input.
4. Protect homebuyers and renters by requiring disclosure of lead service line status in all home sales and rental contracts.

5. Alert the public better by requiring notices to all customers as well as public notices to all schools, community centers, and child care centers when a public water system exceeds the lead action level.
6. Protect water systems better by requiring public water systems to follow defined corrosion control treatment standards. Also define proper testing protocols to follow regarding the frequency, size, site selection, and draw of water samples.

7. Protect water supplies better by requiring comprehensive lead and copper analysis prior to any significant change in water source or treatment by a public water system. Also require all corrosion control to be performed under the guidance of a licensed engineer.
8. Provide better healthcare by requiring strict notifications and access to blood testing for households that test over 40 parts per billion for lead.

9. Protect residents more by requiring public water systems to conduct a complete inventory of all service line materials up to the interior meters.
10. Improve water systems by requiring every public water system to adopt a full lead service line replacement program within 10 years. Also prohibit partial lead service line replacements.

11. Protect residents more by phasing in a reduction in the lead action level from 15 ppb to 10 ppb by 2020 to align with the standards currently used by the World Health Organization.
12. Enforce water treatment protections by establishing state fines for violations of state rules to assure accountability and transparency.

**THERE IS NO SAFE
LEVEL OF LEAD!**

