

Commercial Township, Cumberland County Private Well Testing Outreach 2021



Jessie Gleason, MSPH and Rebecca Schwartz
NJ Department of Health
November 9, 2021



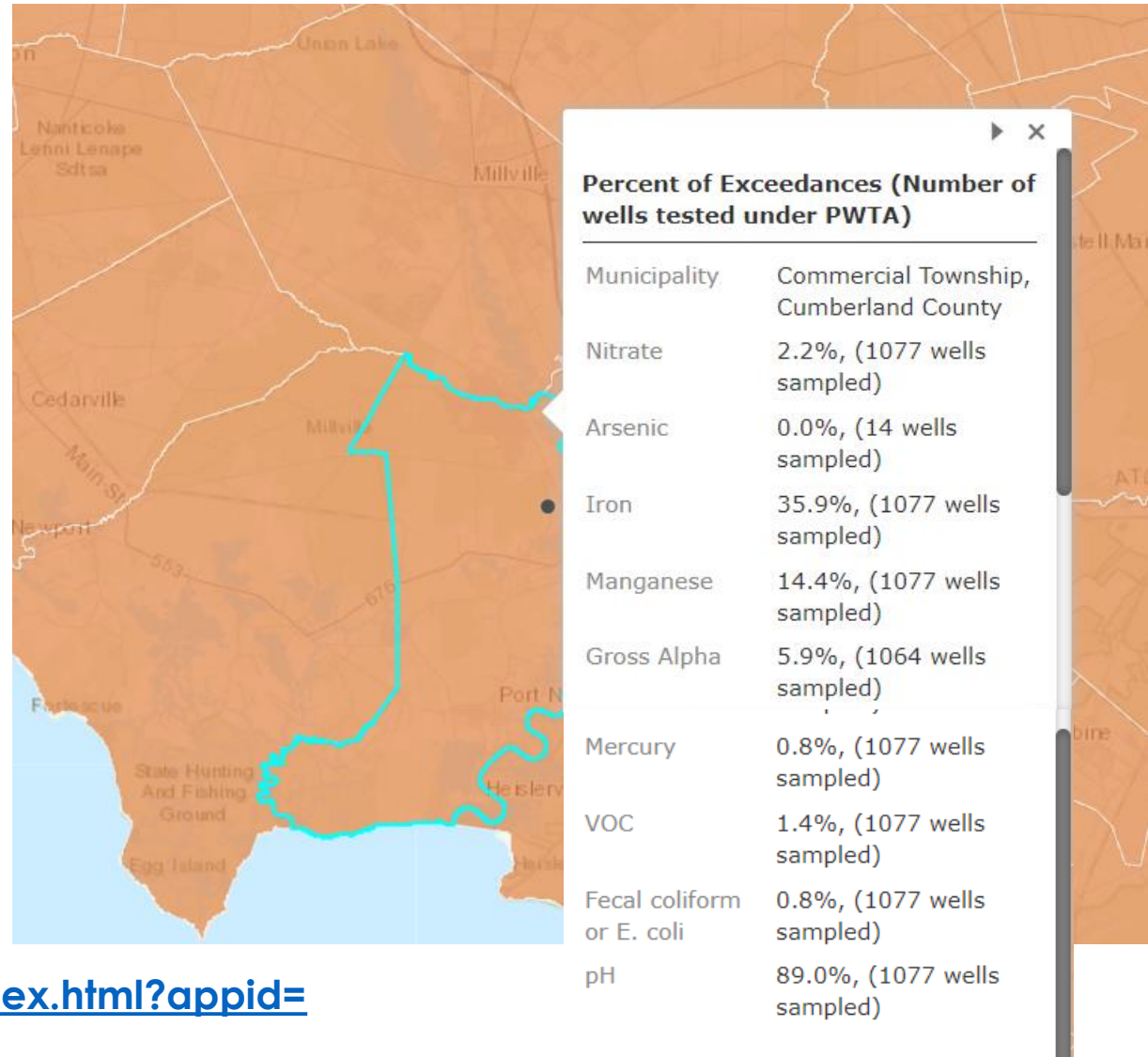
NJ Private Wells

- **400,000** private wells are used for drinking water consumption in NJ (about **12%** of population)
- NJ PWTA - Requires buyers or sellers of real estate property to test for variety of parameters in raw/untreated water before closing of title
- Only about **100,000 (25%)** wells have been tested under the Private Well Testing Act (PWTA) since 2002
- The quality of private well drinking water is solely the responsibility of the homeowner.
- NJDOH awarded funding from CDC to support well testing in communities



NJ PWTA Summary Data: Commercial Township, Cumberland County

- Percent of PWTA tested wells exceeding the standards
- Secondary contaminants of concern:
 - Iron – **35.9%**
 - Manganese – **14.4%**
 - pH – **89.0%**



Outreach Implementation

- Partnered with Commercial Twp. Environmental Commission
- Informational flyers posted online and at community locations; Online Registration
- Funding available to sample and test ~60 private wells
 - 47 homeowners completed registration and submitted samples
- Participants self-collected first draw and flush water samples
- Tested for lead, iron and manganese (raw or treated)
- NJ Department of Health's Public Health Environmental and Agricultural Laboratory performed analyses (NJDOH PHEL)

Private Well Testing Commercial Township, NJ 2021

Instructions:

1. Included in the envelope you will find two empty sample bottles. Each bottle is labeled with a **Sample ID**.
2. On your phone or computer visit this link <http://healthsurveys.nj.gov/NoviSurvey/n/zz2o8.aspx> or use the shortened version bit.ly/Commercial_WellTesting
3. Complete the online form. Double check the **SampleID** you enter matches the label on the bottles. This information will be used to match your water results to your home.
4. Follow water sample collection instructions below.
5. Place your sealed bottles back in the bag and return to Town Hall by Friday July 16th.

Water Sample Collection:



1. Select a faucet in your home used most frequently for drinking and/or cooking, most commonly the kitchen sink.

#1 Large



2. The large sample bottle will be used to collect a water sample for lead testing. Collection of a water sample for lead involves letting water stand undisturbed in your pipes prior to collecting the sample. Ensure that no water from your faucets or toilets is used at all for at least 6 hours, but no more than 24 hours. Most people elect to let the water sit unused overnight to minimize the inconvenience of being unable to use it. Once the faucet has been unused for between 6 and 24 hours, place the large bottle under the faucet and fill it to the neck of the bottle from the cold-water tap. Do not run the water at all prior to filling the bottle - collect the first bottle full of cold water that comes out. Tightly screw lid on.

#2 Small



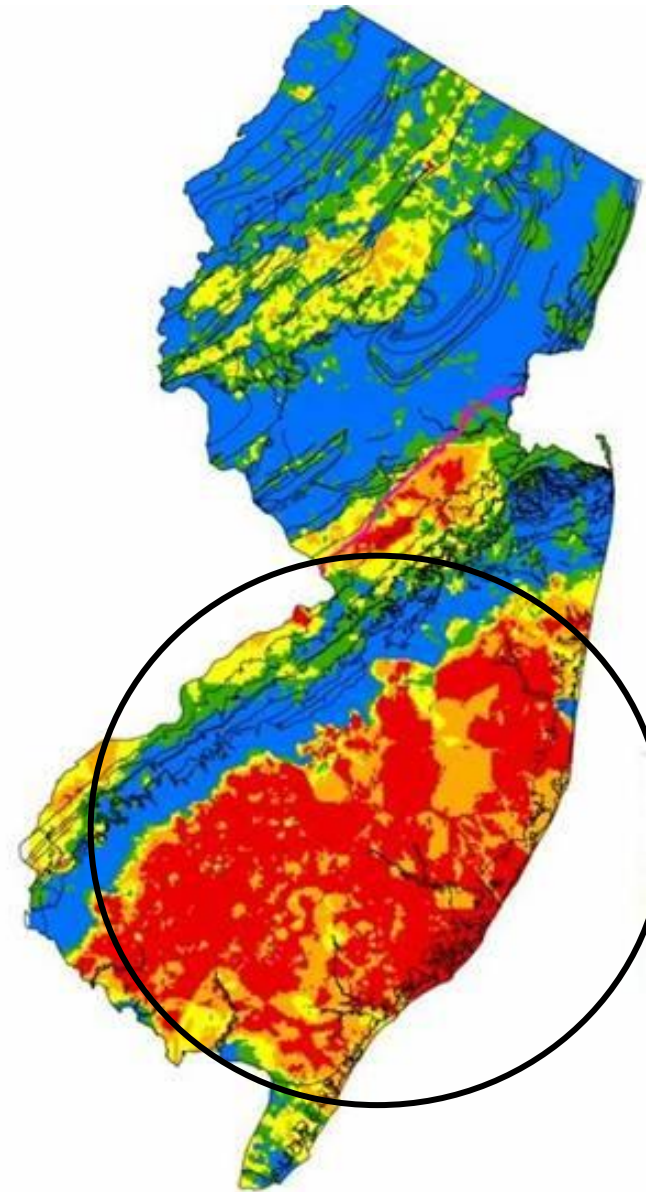
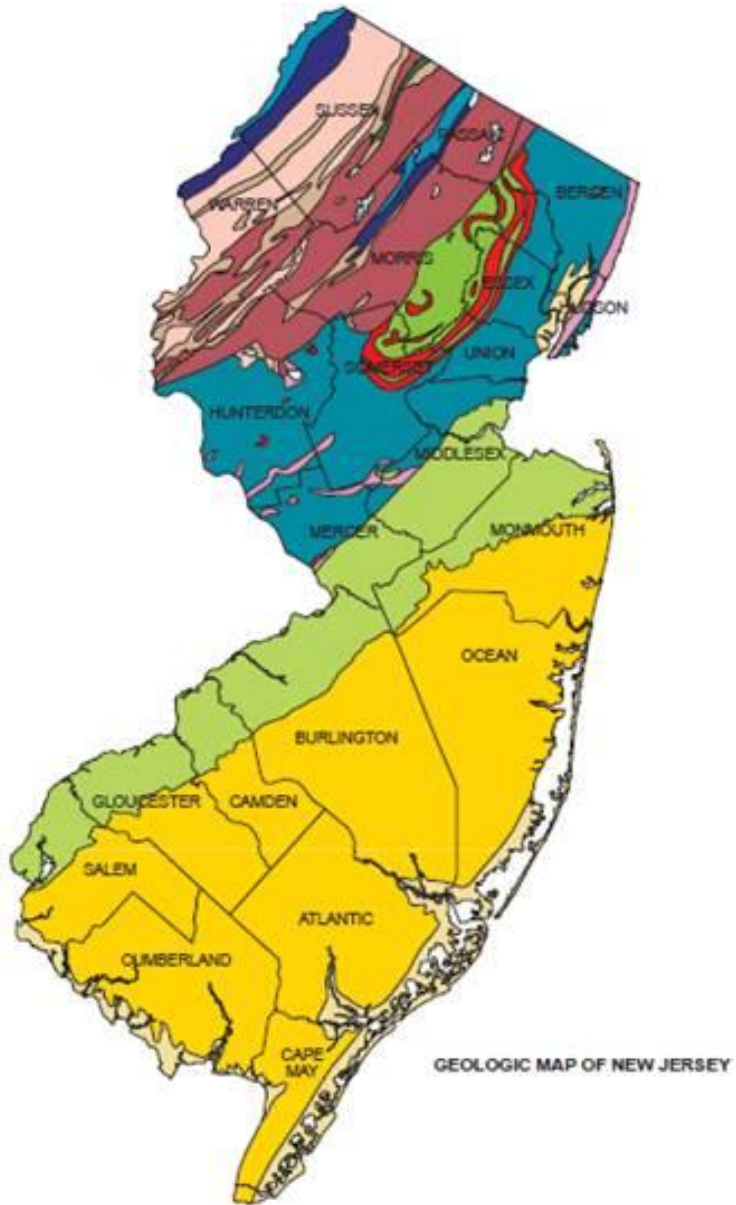
3. Flush the cold water for 2 minutes. Use small bottle to collect sample for iron and manganese. Fill to the neck of the bottle and tightly screw lid on.

If you have any questions or if you need help accessing the online form, you can email rebecca.schwartz@doh.nj.gov or call John Nardone from the Commercial Twp Environmental Commission at (609) 351-3987

pH and Lead in Drinking Water

- Recommended pH range: 6.5 - 8.5; Acidic pH levels (< 6.5)
- Low pH (acidic) can increase corrosivity of water
- Lead materials may be present in your water delivery system (lead pipes, lead solder, brass in faucets, or “packer” elements in the well)
- Corrosive water can cause lead to leach from these plumbing materials
- Lead rarely occurs naturally in groundwater
- Lead is harmful, particularly to the brain/neurological development of children.

Bedrock Geology vs pH



Lead in Drinking Water Recommendations

- **There is no safe level of lead.**
- Drinking water guidelines:
 - 0 µg/L - Maximum Contaminant Level Goal (MCLG)
 - 1 µg/L - American Academy of Pediatrics' recommendation for drinking water for children
 - 5 µg/L - NJ Ground Water Quality Standard
 - 15 µg/L - Action Level (AL)

Lead in Drinking Water Recommendations

$\leq 1 \mu\text{g/L}$:

- No further action required

$> 1 \mu\text{g/L}$ and $\leq 15 \mu\text{g/L}$:

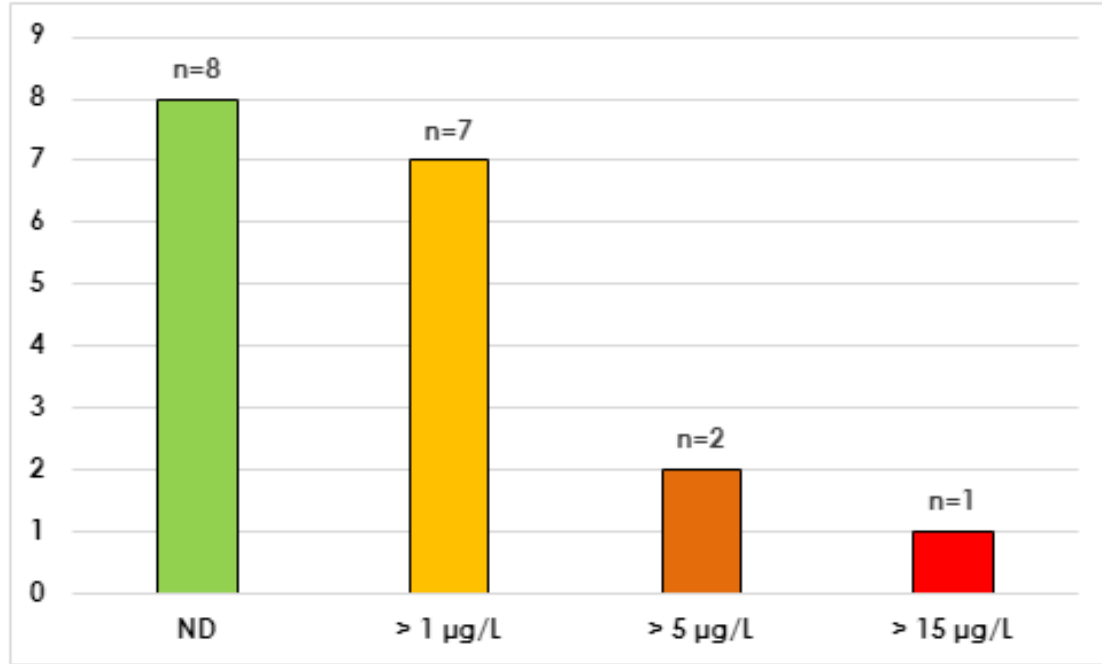
- Flush water before cooking and drinking; use cold water
- Water treatment is recommended
- Granular activated carbon filters or reverse osmosis and consider whole-house pH neutralizer

$> 15 \mu\text{g/L}$:

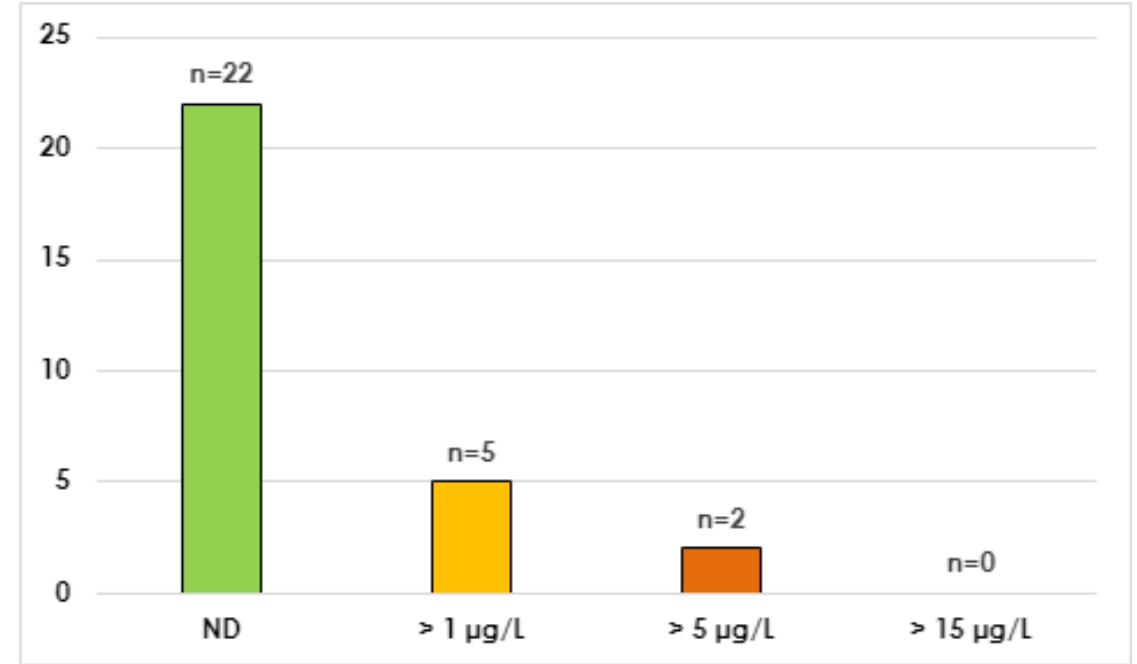
- Water treatment is strongly recommended
- Granular activated carbon filters or reverse osmosis and consider whole-house pH neutralizer
- Test for lead after installation and at least once every year

Lead in Drinking Water Results

Raw Water (n=18):



Treated Water (n=29):



■ Not Detected (ND)

■ > 1 µg/L (American Academy of Pediatrics' recommendation for drinking water for children)

■ > 5 µg/L (NJ Groundwater Quality Standard)

■ > 15 µg/L (Action Level)

Who is being exposed?

10 raw water + **7** treated water = **17** out of 47 (**36%**)

Iron and Manganese Background

- Naturally occurring minerals in rock and soil that can leach into groundwater
- Can cause aesthetic issues (odor, staining, taste)
- Very high levels of manganese ($> 300 \mu\text{g/L}$) in drinking water can be a public health risk
- Both iron and manganese have a Secondary MCL (SMCL), which is a guideline to assist in monitoring drinking water for aesthetic concerns or cosmetic effects
 - **Iron:** SMCL= **300** $\mu\text{g/L}$
 - **Manganese:** SMCL= **50** $\mu\text{g/L}$, Health Advisory= **300** $\mu\text{g/L}$

Iron Recommendations

$\leq 300 \mu\text{g/L}$:

- No further action required

$> 300 \mu\text{g/L}$ and $\leq 1,000 \mu\text{g/L}$:

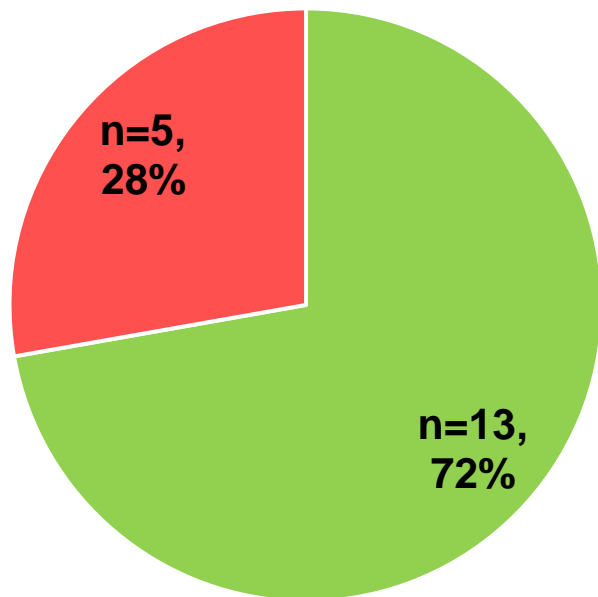
- Install a water softener

$> 1,000 \mu\text{g/L}$:

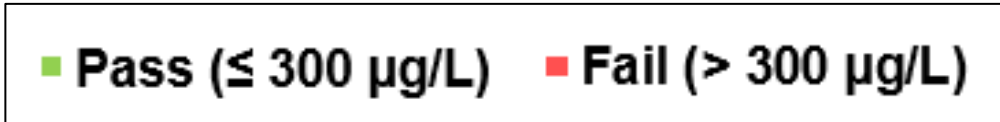
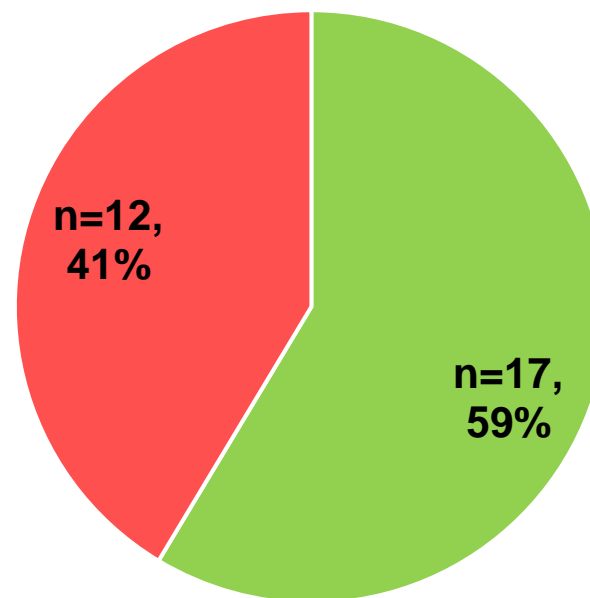
- Consult with water treatment professional

Iron Results

Raw Water (n=18)



Treated Water (n=29)



Who is being exposed?

5 raw water + **12** treated water = **17** out of 47 (**36%**)

Manganese Recommendations

$\leq 50 \mu\text{g/L}$:

- No further action required

> 50 and $\leq 300 \mu\text{g/L}$:

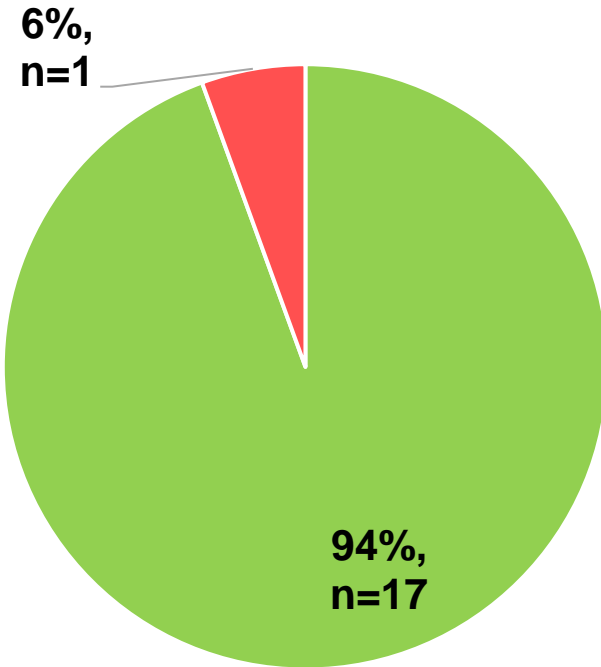
- Water Softener

$> 300 \mu\text{g/L}$:

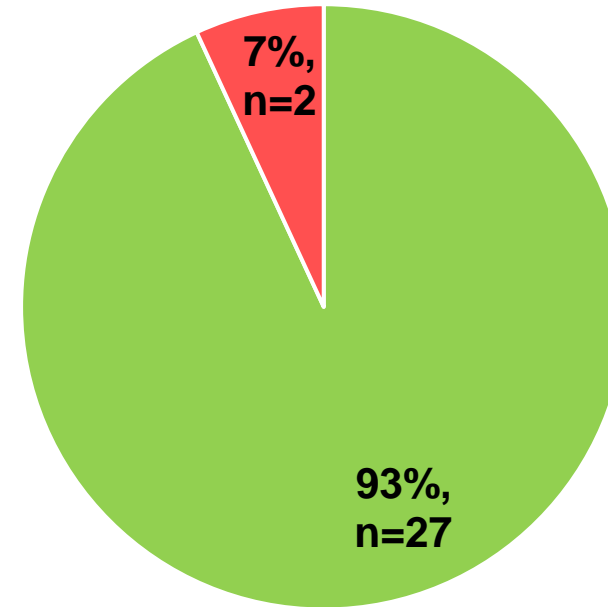
- Consult with water treatment professional

Manganese Results

Raw Water (n=18)



Treated Water (n=29)

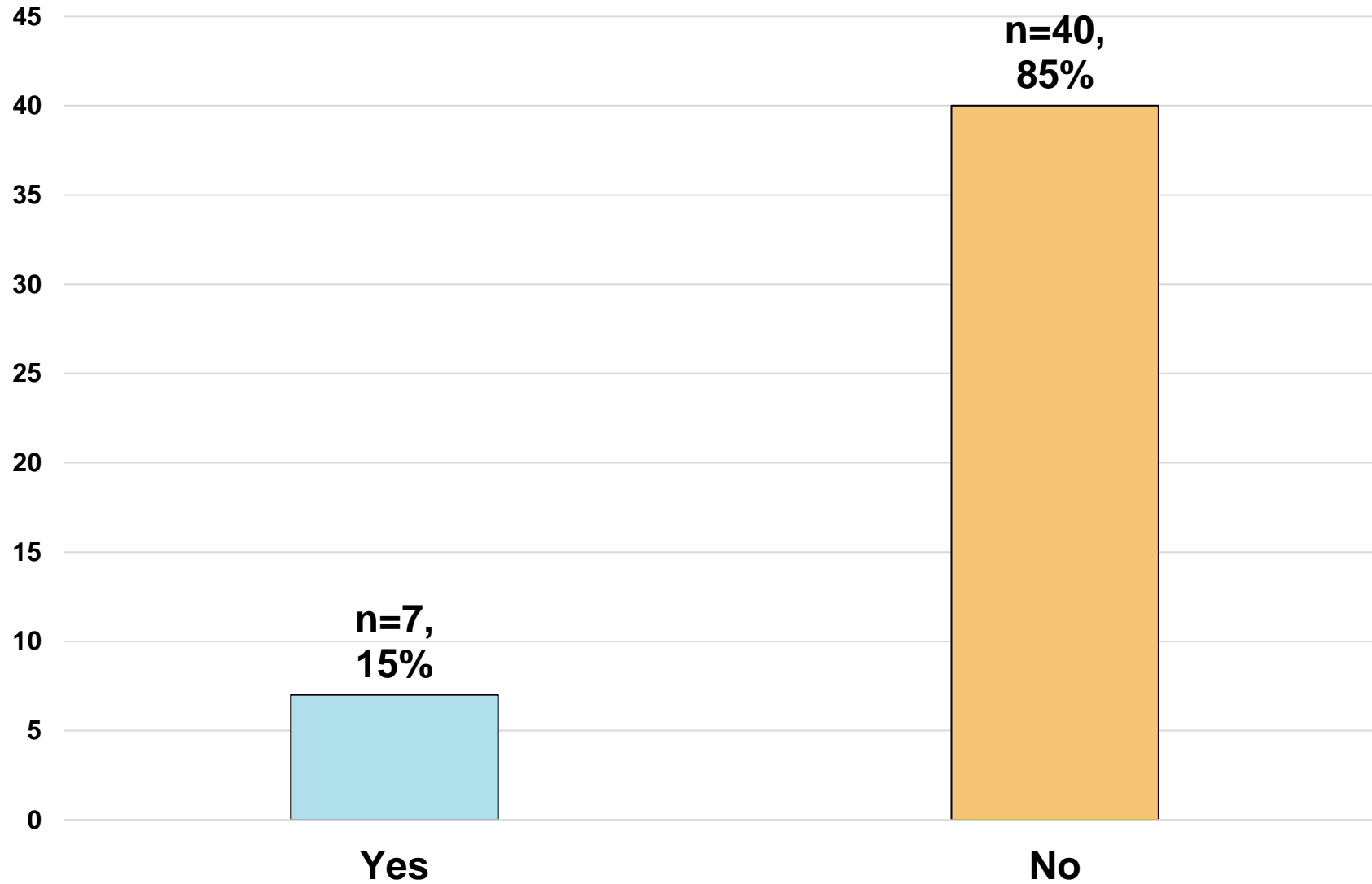


■ Pass ($\leq 50 \mu\text{g/L}$) ■ Fail ($> 50 \mu\text{g/L}$)

Who is being exposed?

1 raw water + 2 treated water = 3 out of 47 (6.4%)

Previous Testing for Lead, Iron and Manganese



Water Treatment Financing

- NJ Housing and Mortgage Finance Agency: Potable Water Program
- A no-interest mortgage loan is available – up to \$10,000
- Violations of primary drinking water standards
- Also includes standards for: **iron**, **manganese**, **lead**, sodium, chloride, mercury



https://www.njhousing.gov/dca/hmfa/consumers/docs/ho_potablewater_fs.pdf

Community Certification – Private Well Outreach

A **FREE** certification program for municipalities that want to go green, save money and take steps to sustain their quality of life over the long term.



Private Well Outreach and Testing

10 Points 15 Points 20 Points 25 Points

Print Get PDF

Why is it important?

Who should lead and be involved with this action?

Timeframe

Project costs and resource needs

What to do, and how to do it ("How to")

What to submit to earn points for this action

Resubmission Requirements

Approved Action Expiration Date

Gold Star Standard

Spotlight: What NJ municipalities are doing

Resources

education about the safety of drinking well water and how to inform community residents in proactively testing their drinking well water. By promoting regular well water testing and sharing information with the community on known areas of well contamination and corrective actions to reduce or eliminate contaminants, the green team can help reduce the risks to residents caused by drinking unhealthy water. A municipality can earn up to 25 points for this action based on the three tiers outlined below.

Tier 1 (REQUIRED): Produce and share with the community a report that includes private well testing data for your municipality available from the New Jersey Department of Environmental Program and information on relevant treatment and remediation methods for various contaminants. The report must have been compiled in the current or previous two calendar years. (10 points)

Tier 2: (OPTIONAL): Encourage private well testing by implementing a well testing event or program for the community. The event or program must have occurred in the current or previous two calendar years (additional 5 points).

Tier 3: (OPTIONAL): Adopt a well testing ordinance that requires testing procedures established by the New Jersey Private Well Testing Act (PWTA) prior to the transfer of property or change in use or tenancy and remediation of contaminated wells. (additional 10 points)

For certified communities, this action can count toward Gold Stars in both Health and Water. See the Gold Star Standard section of this action for more information.

Why is it important?

Approximately 11% of New Jersey's population, or 1 million people, rely upon an estimated 400,000 private domestic wells for drinking water supply. But there are few protective measures to ensure the quality of water from these wells.

<https://www.sustainablejersey.com/actions/#close>

What's Next -

- Encourage your neighbors to test their well water
- Learn about water treatment
- Test annually, make sure your treatment is maintained and is effectively reducing the concentration of contaminants in your water
- Consider testing for other recommended contaminants:
https://www.state.nj.us/dep/watersupply/pwta/pwta_faq.htm

Contact Information:

Email: jessie.gleason@doh.nj.gov

Program Phone: 609-826-4984