

# Waterford Township – Private Well Testing Outreach 2021

Jessie Gleason, MSPH and Rebecca Schwartz  
NJ Department of Health

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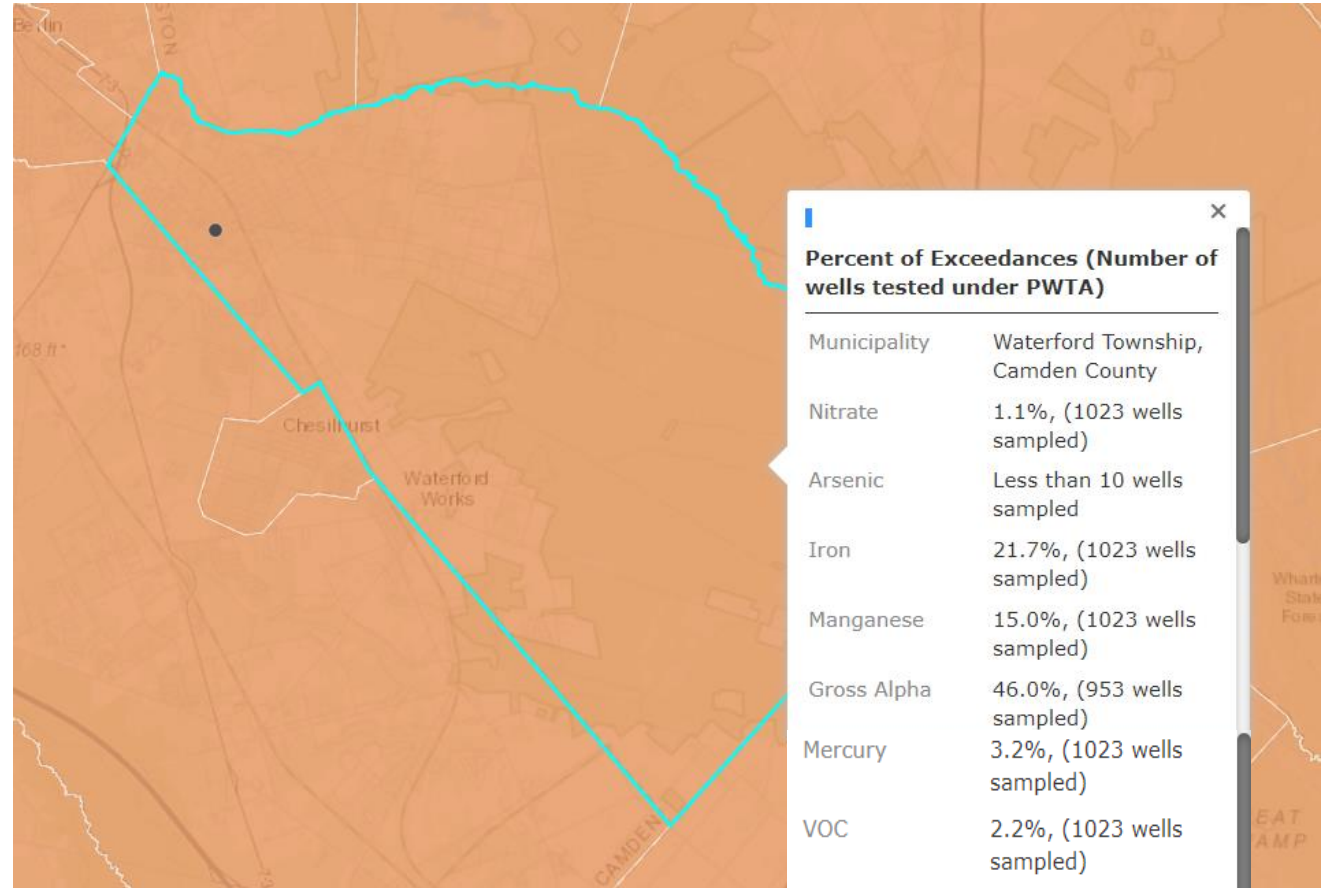
# NJ Private Wells

- **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: Waterford Township, Camden County

- Percent of PWTA tested wells exceeding the standards
- Primary contaminant of concern
  - Gross alpha – **46.0%**
- Secondary contaminants of concern:
  - Iron – **21.7%**
  - pH – **97.5%**



# Waterford Twp. 2021 Outreach Implementation

- In partnership with Waterford Township
- Informational flyers (n=334) delivered to Waterford elementary school household with a private well
- Funding available to sample and test ~60 private wells
  - Received 82 registrants before closing registration
  - 61 homeowners had their private well water sampled
- NJ Analytical Laboratory conducted water sampling and analyses for gross alpha (raw and treated water)

## WATERFORD TOWNSHIP FREE PRIVATE WELL TESTING EVENT

### Did you know?

In Waterford Township, **46%** of wells tested exceeded the standard for **gross alpha**



**SIGN UP ONLINE @**  
[bit.ly/waterfordtesting](https://bit.ly/waterfordtesting)

Waterford Township and the New Jersey Department of Health are offering free, confidential private well testing for gross alpha. Funding for this testing, which is **valued at \$300**, is being provided by the Centers for Disease Control and Prevention and is available for an estimated 65 private wells. Use the above link to register. Homes registered by the closing date will be chosen by a lottery system and others will be placed on a waitlist.  
**Sign up today to protect your family and test your well water!**

### How can I sign-up and participate?

Click the link below to sign up by:  
**April 12<sup>th</sup>, 2021**

[bit.ly/waterfordtesting](https://bit.ly/waterfordtesting)

After you register, you will receive a confirmation email with instructions on next steps.

If you have any questions or concerns, feel free to email us at:

[rebecca.schwartz@doh.nj.gov](mailto:rebecca.schwartz@doh.nj.gov)  
or  
[jessie.gleason@doh.nj.gov](mailto:jessie.gleason@doh.nj.gov)

**Gross alpha** is a total measurement of radioactivity in drinking water. In South Jersey, this radioactivity is usually indicative for the presence of **radium**. Chronic exposure to elevated levels of **radium** is associated with adverse health effects such as bone and sinus cancer.



# Gross Alpha Background

## Abbreviations:

pCi/L = picocuries per liter

## What is Gross Alpha?

- A measure of total radioactivity in drinking water
- Radium most prevalent and likely element contributing to radioactivity in South Jersey wells

## Drinking Water Standard

- Gross alpha: MCL=**15** pCi/L
  - MCL is a maximum contaminant level which is an enforceable limit on amount of contaminant permitted in public drinking water
- Radium: MCL = **5** pCi/L

## Health Effects

- Drinking water with radium over a long period of time is associated with bone and sinus cancer

# Gross Alpha Recommendations

## < 5 pCi/L:

- No further action required

## 5 – 15 pCi/L:

- Advised testing for radium-226 and radium-228
- MCL for combined radium-226 + radium-228 = 5 pCi/L
- Water treatment is recommended
- Water Softener or Reverse Osmosis (RO)

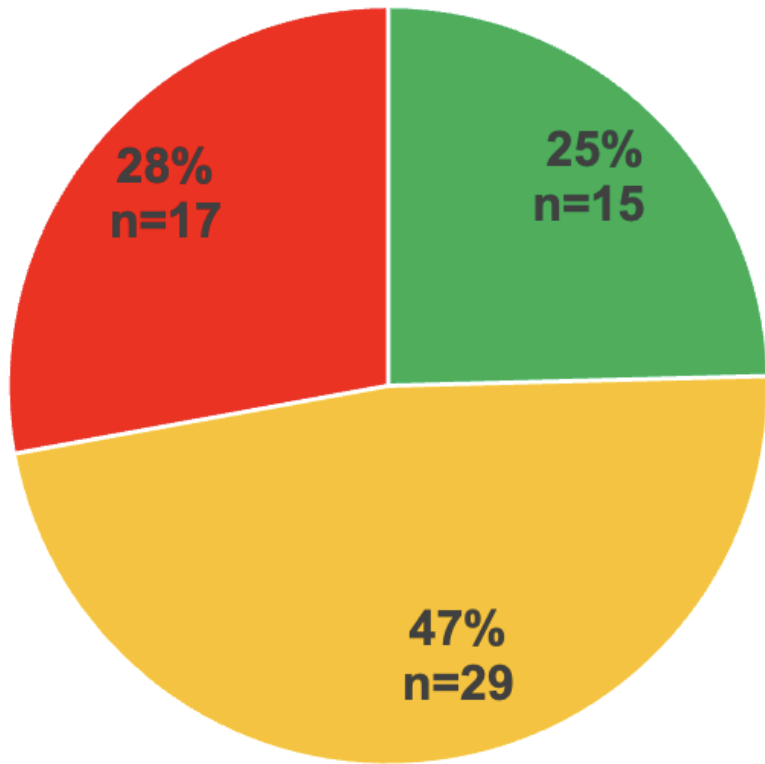
## > 15 pCi/L:

- Water treatment is strongly recommended
- Water Softener or Reverse Osmosis (RO)
- Test for gross alpha again after installation
- Maintenance and monitoring of water treatment, test at least once every year

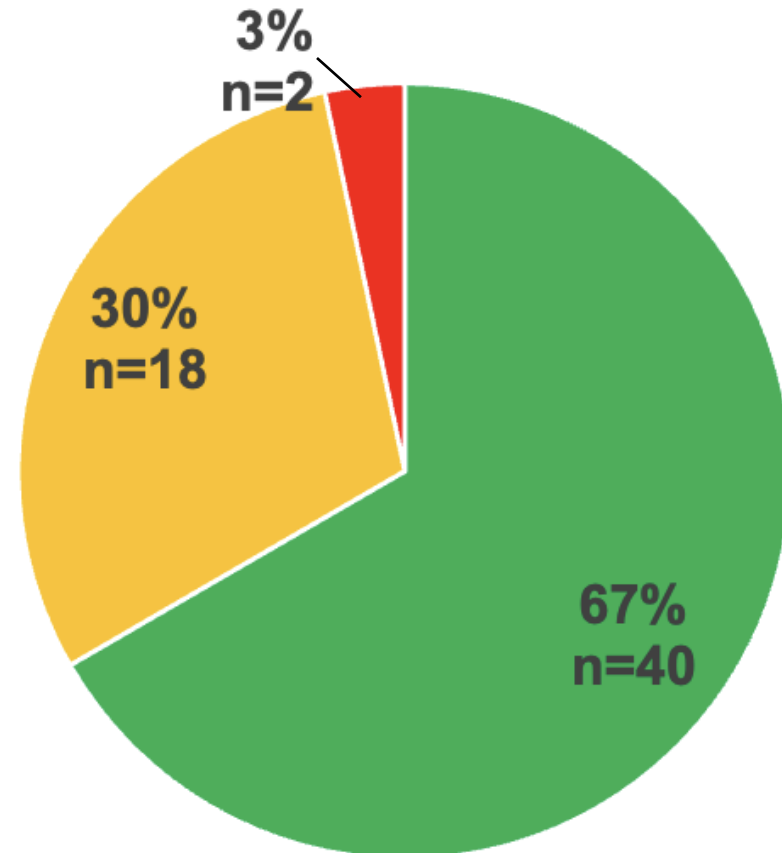


# Gross Alpha Results

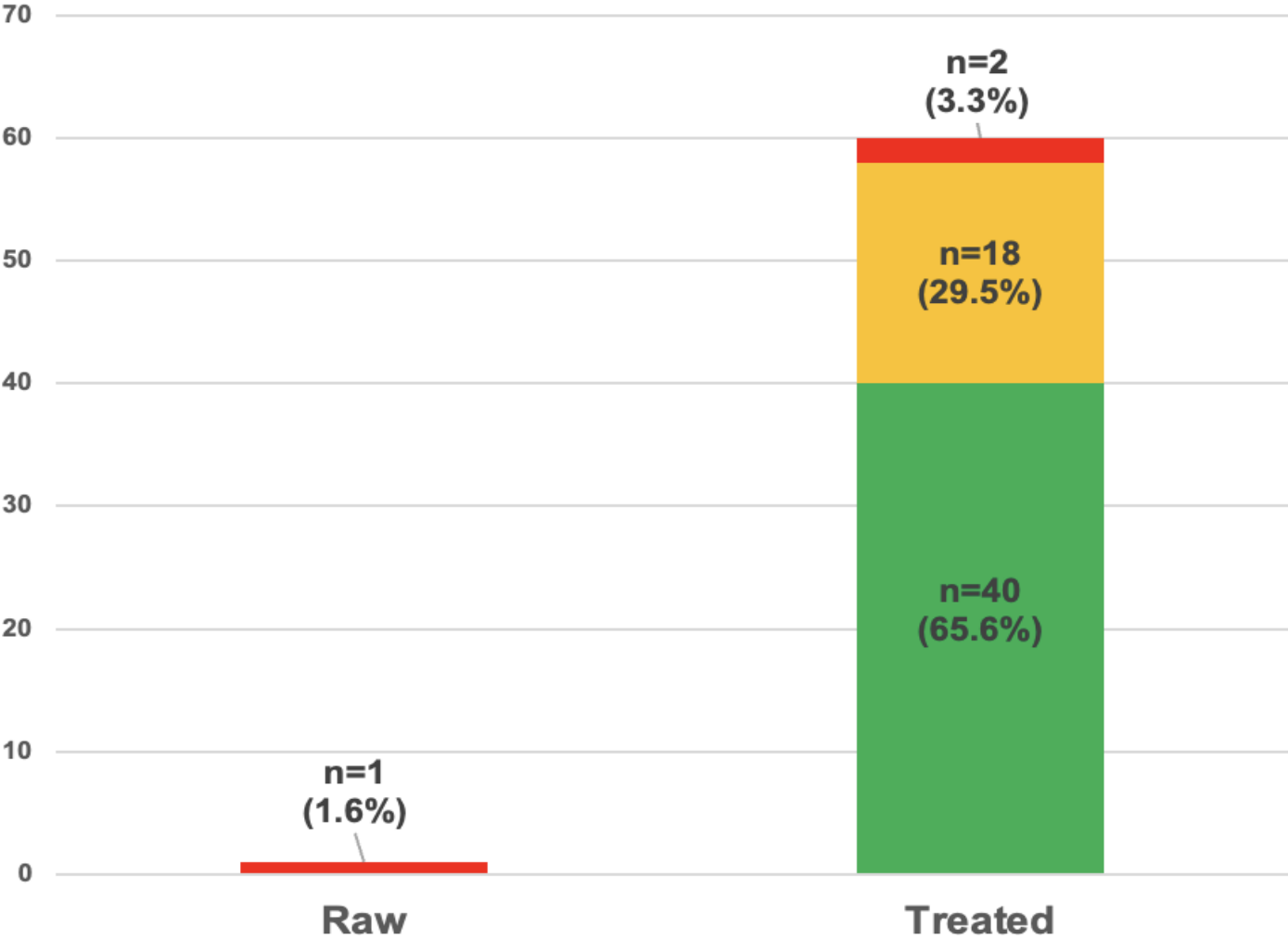
Raw Water (n=61)



Treated Water (n=60)



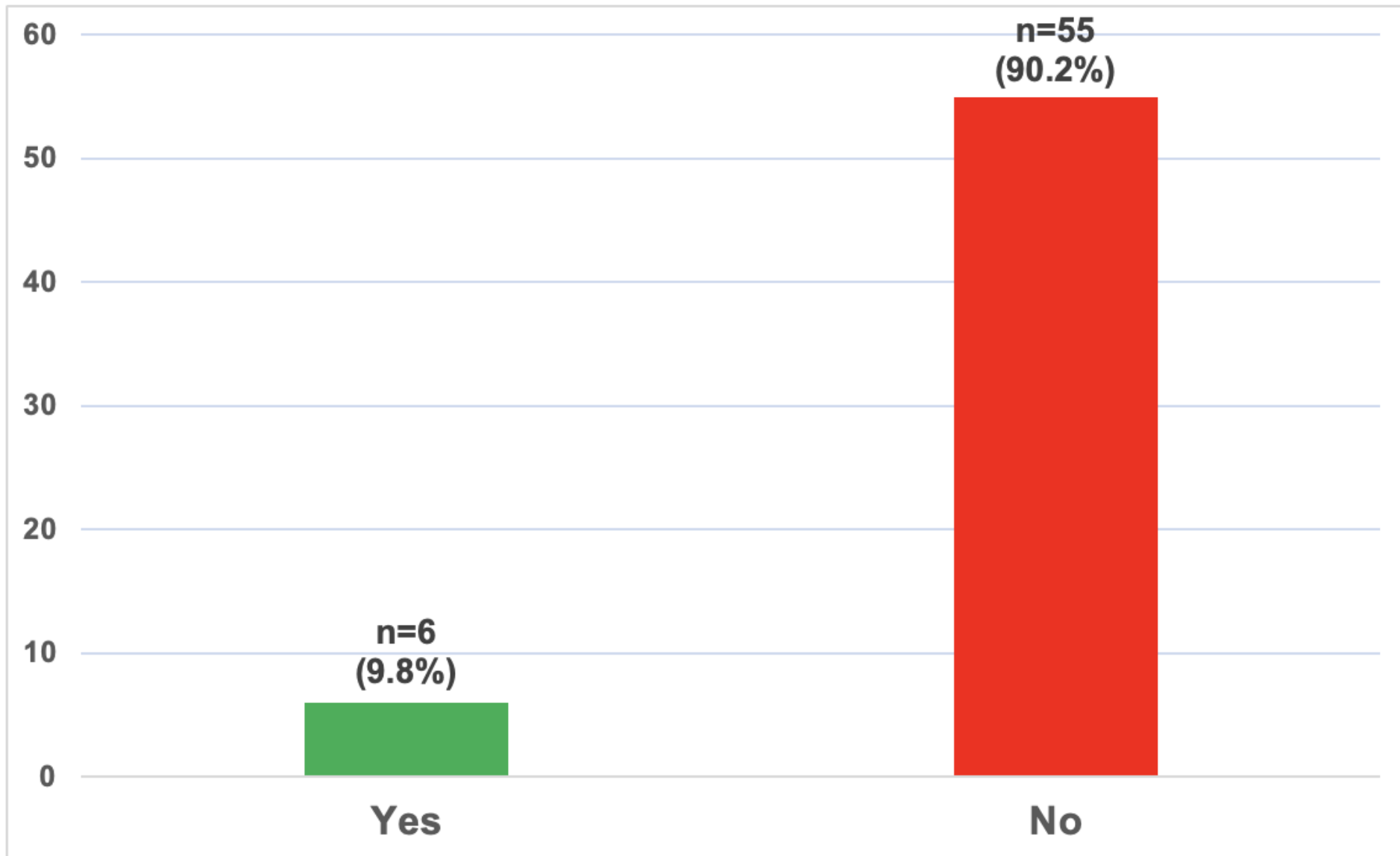
# Summary of Gross Alpha Exposure from Drinking Water



■ Passing (< 5 pCi/L)    ■ Possible Radium Exposure (5-15 pCi/L)    ■ Failing (> 15 pCi/L)



# Previous Gross Alpha Testing



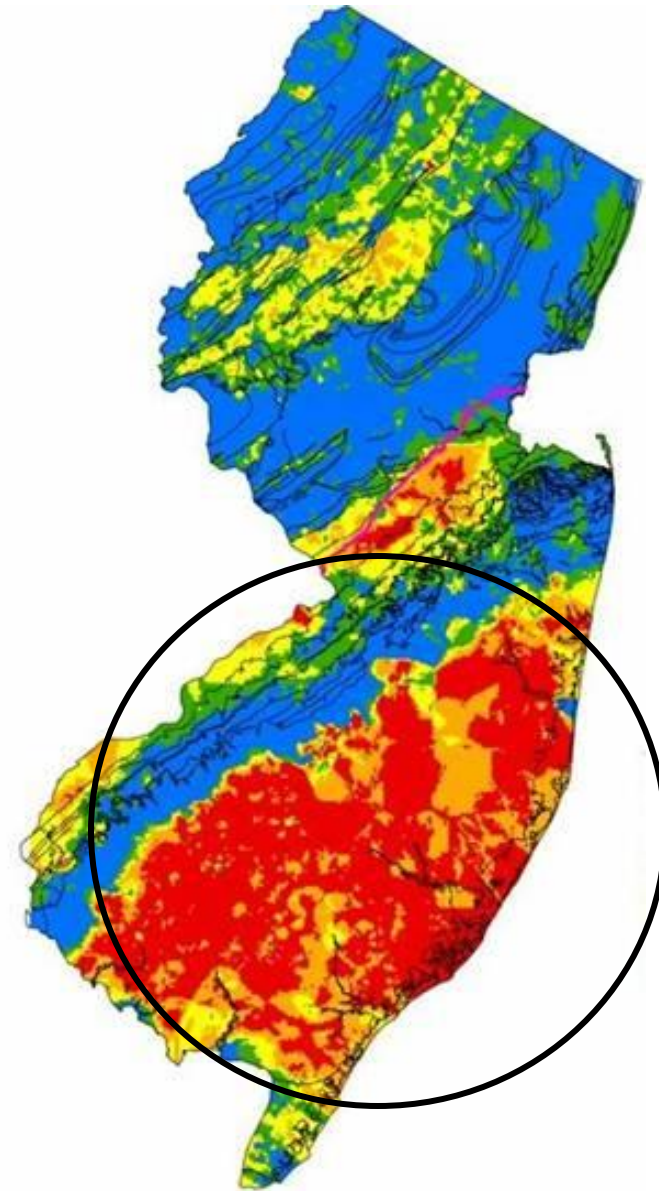
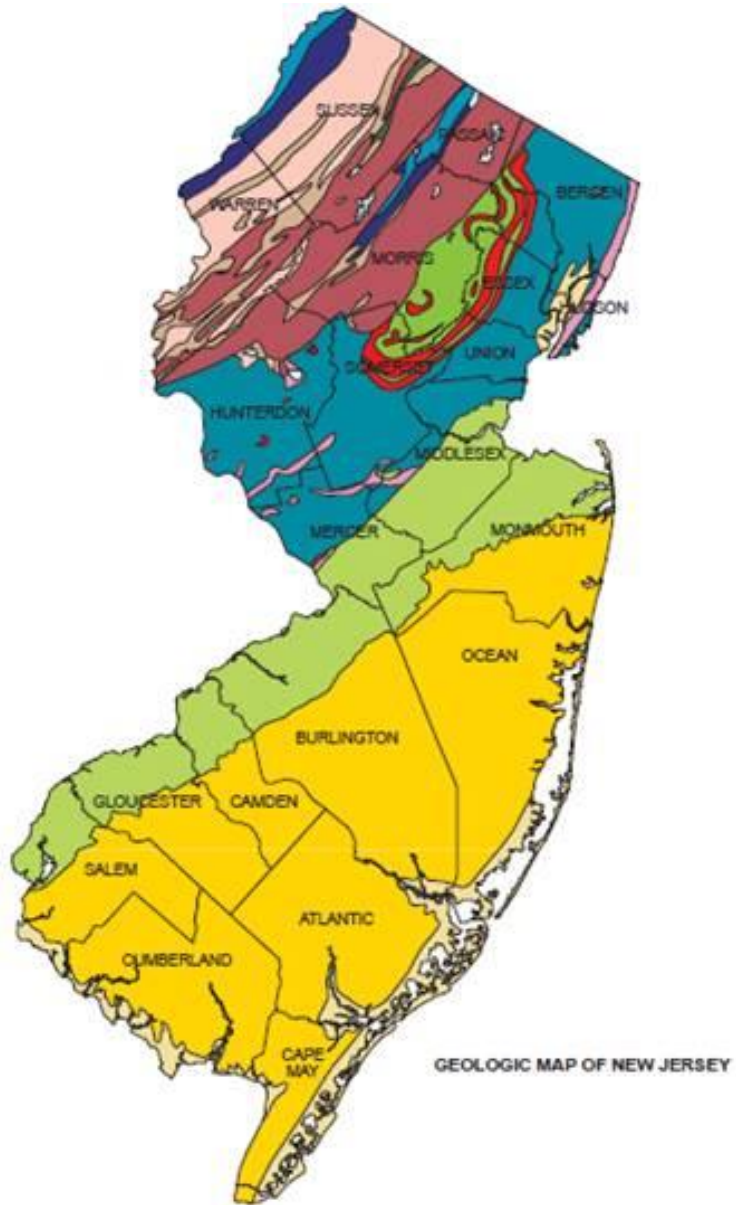
# Water Treatment Financing

- NJ Housing and Mortgage Finance Agency: Potable Water Program
- A no-interest mortgage loan is available – up to \$10,000
- For violations of primary drinking water standards (**gross alpha** included)



[https://www.nj.gov/dca/hmfa/consumers/docs/ho\\_potablewater\\_fs.pdf](https://www.nj.gov/dca/hmfa/consumers/docs/ho_potablewater_fs.pdf)

# Bedrock Geology vs pH




# pH and Lead Correlation

- Acidic pH levels ( $< 6.5$ ) can increase corrosivity
- Increases risk of lead to leach from piping and fixtures
- Affordable treatment systems available for tap/pitchers to treat water for drinking and cooking
- Recommend a pH neutralizer – can raise pH to a recommended standard (  $6.5 - 8.5$  ) for whole house treatment.
  - Protects plumbing and all taps are treatment.
  - Would have to test effectiveness
- Specific levels of pH required in order to effectively remove manganese and iron




# Frequently Asked Questions

- Is it safe to shower?
  - Yes – skin absorption from radium not a concern
- Will boiling water remove the contaminants?
  - No – boiling will not remove radium, instead it could concentrate them
- Is it safe for my pets to drink the water?
  - If your drinking water exceeds the standard you and/or your pets should not drink it
- Additional resources:
  - Link for South Jersey homeowner's guide:
  - <https://www.nrc.gov/docs/ML0721/ML072150380.pdf>
    - How much does treatment cost?
    - How much does water testing cost?



## A South Jersey Homeowner's Guide to Radioactivity in Drinking Water: Radium

Radioactive substances in ground water, such as radium, uranium and thorium, occur naturally. They are present at least to some extent in almost all rocks and radium, in particular, dissolves more readily into ground water in contact with sands or soils. The acidity of the water, which may be increased by the presence of elevated levels of nitrates associated with agricultural land use, is believed to increase the amount of radium that dissolves into ground water from contact with sands and soils.



Sampling of public and private wells that draw water from southern New Jersey's Cohansey aquifer has shown elevated levels of naturally occurring radioactivity. The aquifer, sometimes referred to as the Kirkwood-Cohansey aquifer, is present in all, or parts of Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Monmouth, Ocean and Salem counties (see map at right). Elevated levels of radioactivity most recently were found in the area of Dover township, Ocean County, where an investigation is under way into specific childhood cancers in that area. It is important to note, however, that radioactivity in drinking water, especially at these low concentrations, is not known to cause these types of cancers.

Results from investigations in Dover Township, Ocean County, which used a new testing procedure that detects radiation from short-lived radioactive substances, indicated that elevated levels of radioactivity existed in some area drinking water supplies. Consequently, the N. J. Department of Environmental Protection and the U. S. Geological Survey conducted studies to better understand the presence of radioactivity in this aquifer. The results of these studies confirmed that Radium 226, 228 and 224 may be found in elevated concentrations in parts of the Cohansey aquifer.

Radioactivity in drinking water is not a new phenomenon, having been present to some extent for thousands of years. Nevertheless, exposure to radium over a long period of time is believed to increase one's lifetime risk of developing certain types of cancer. Therefore, homeowners should be aware of the steps they might wish to take to test their private drinking water wells for radioactivity and to reduce their exposure.

# What's Next -

- Encourage your neighbors to test their well water
- Learn about water treatment
- Test annually, make sure your treatment system 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](https://www.state.nj.us/dep/watersupply/pwta/pwta_faq.htm)

## Contact Information:

Email: [jessie.gleason@doh.nj.gov](mailto:jessie.gleason@doh.nj.gov)

Phone: 609-826-4984

