

## Why this study was done

Everyone who lives or stays in the Pelican Group of Lakes Improvement District (PGOLID) relies on private wells for drinking water. Unlike city water, private wells are not regularly tested by the government, so it is up to each homeowner to know whether their water is safe.

Past testing and resident concerns suggested problems with arsenic and taste. To better understand the extent of these issues lake-wide and help guide future decisions, PGOLID conducted a randomized, voluntary well-water study during the summer of 2025.

## How the study worked

- 247 wells were tested across the 44 beaches, representing the entire PGOLID
- Wells were chosen using a random process and participation was voluntary
- A state-certified laboratory collected untreated (raw) water samples from outdoor spigots.
- Water was tested for: arsenic, nitrate, bacteria, hardness, iron, and manganese.

## Key Findings

### Arsenic: The Biggest Concern

- 45% of wells tested above the EPA safe drinking water limit for arsenic.
- Another 27% had arsenic detected at lower levels.
- In total, about 7 out of 10 wells (72%) had some arsenic present.

#### Why this matters:

Arsenic is a naturally occurring element in Minnesota groundwater. You cannot see, smell, or taste it, but long-term exposure increases the risk of cancer, heart disease, and other health problems.

#### Important notes:

- Arsenic levels did not follow a pattern by beach or lake.
- Well depth did not reliably predict arsenic levels.
- Water softeners do not remove arsenic.

To learn what to do about arsenic, nitrate, and bacteria, see the back of this page.



### Nitrate: Mostly Low, with a Few Hot Spots

- 94% of wells had very low nitrate levels.
- Only 2 wells exceeded the EPA limit.
- A few beaches showed clusters of detectable nitrate, likely related to septic systems, soils, well placement, or adjacent land use.

#### Why this matters:

High nitrate levels are especially dangerous for infants and pregnant women. While most PGOLID wells are low, localized issues mean individual testing is still important.

### Bacteria: Found in Some Wells

- 23 wells tested positive for coliform bacteria.

#### What this means:

Coliform bacteria usually indicate a well construction or maintenance issue, not necessarily sewage. It suggests that surface water or contaminants may be **1** entering the well.

## Hard Water Is Common

- PGOLID groundwater is very hard, which affects taste, scaling, and appliances.
- Hard water is not a health risk, but it explains why many residents use water softeners.
- Softeners do not remove arsenic or bacteria.

## What this Means for PGOLID Residents

- Testing is essential—you cannot rely on taste, smell, or location.
- Arsenic is a widespread, natural issue that requires treatment at individual homes.
- The study provides strong data to help PGOLID consider education, testing programs, and possible long-term solutions.

## What Homeowners Can Do

### If You Have High Arsenic

- Contact a local water conditioning company to install an arsenic treatment system at the kitchen sink or point of use.
- Continue regular testing to make sure the system is working.
- Water softeners and reverse osmosis systems do not fully remove arsenic.

🔗 For more details, visit the MDH [website](#)

### If You Have High Nitrate

- Do not use the water for infants or pregnant women if nitrate is elevated.
- Identify possible sources (septic systems, fertilizers, shallow wells).
- Install a treatment system such as reverse osmosis if needed.
- Consider re-testing annually, especially if you live in a hotspot area.

🔗 For more details, visit the MDH [website](#)

### If You Have Bacteria (Coliform)

- Re-test your well to confirm the result.
- If still positive, chlorinate (disinfect) the well.
- Inspect the well for cracks, poor seals, or surface water entry.
- Continue periodic bacteria testing, especially after flooding or repairs.

🔗 For more details, visit the MDH [website](#)

### Hardness, Manganese, and Iron

- These are common, naturally occurring minerals in groundwater.
- They are usually not health risks, but can affect taste, staining, and plumbing.
- Hardness causes scale and soap problems → treat with a water softener.
- Iron and manganese cause reddish or black staining and metallic taste → treat with iron/manganese filters, oxidation with filtration, or softeners (for low levels).
- Treatment improves water usability, but does not remove arsenic or nitrate.



### 💡 Important Reminder 💡

Private wells are not regulated like city water. Regular testing is the only way to know if your water is safe.