Contaminants in Wisconsin’s Groundwater Supplies

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Legacy Community Alliance for Health
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Where does well water come from?
Well depth and water quality

Relative well depths

- Tallest buildings: ~600 ft high
- Domestic wells: 100-300 ft deep
- Recently recharged “young water”
- Most municipal wells: ~200-800 ft deep
- Deepest wells: ~2200 ft deep (municipal wells in SE WI)

Courtesy of K. Bradbury
Wisconsin’s common well-water contaminants

- Naturally occurring
  - Arsenic, radium

- Anthropogenic
  - Nitrate, herbicides, pathogens
  - Nitrate, pharmaceuticals
  - Volatile organic compounds
  - Lead
Arsenic

Increased risk of bladder or lung cancer from As in drinking water:

- 3 ppb: about 1 in 1,000 increased risk
- 5 ppb: about 1.5 in 1,000
- 10 ppb: about 3 in 1,000 *
- 20 ppb: about 7 in 1,000

Between 1990 and 2000, of about 10,000 new residential water wells drilled in Outagamie and Winnebago Counties. Over 20% exceeded 5 ppb
Radium ($^{226}\text{Ra} + ^{228}\text{Ra}$)

Carcinogen

- Public water supplies must meet < 5 picoCuries/L
- Sources are deeper geologic formations commonly encountered by municipal wells
Pathogens: bacteria and viruses

- Cause acute illness
- Can remain infectious about 2 years in groundwater
- Public groundwater systems are not required to disinfect!
Log Den Goes High-Tech to End Water Trouble

June 18, 2007 06:31 PM

By Elizabeth Ries

The Log Den restaurant in Egg Harbor will reopen Saturday at 11 A.M., provided that last week's food poisoning incident does not recur.

More than 200 people became ill after eating at the new restaurant late last month. Water tests confirmed the presence of norovirus in the restaurant's water supply, and the restaurant took steps to address the problem.

The restaurant's new water treatment system was installed in May, and it was tested last week. The restaurant's water supply is now clear, and the restaurant is hopeful that it will be able to reopen.

The restaurant's owners have also made changes to their food preparation procedures to prevent future incidents.

The restaurant's reopening is important to the local economy, as it is a popular destination for tourists and locals alike. The restaurant's reopening will also be a boost for the local economy, as it will provide jobs for the restaurant's employees.

The restaurant's reopening is also significant because it shows that the restaurant is committed to providing a safe and healthy dining experience for its customers.

The restaurant's owners have been praised for their efforts to address the food poisoning incident, and they are hopeful that the restaurant will be able to attract more customers in the future.

The restaurant's reopening is also a welcome sight for the local community, which has been waiting for the restaurant to reopen for weeks. The restaurant's reopening is a sign of hope for the future, and it is a step in the right direction for the restaurant and the local economy.
The Washington Post

One city’s solution to drinking water contamination? Get rid of every lead pipe.

Madison residents and businesses dug out and replaced their lead pipes — 8,000 of them. All because lead in their water had been measured at 16 parts per billion — one part per billion over the Environmental Protection Agency’s standard.

That’s a microliter, one-millionth of a liter of water. The utility’s water quality manager, Joe Grande, explains the reasoning in seven words: “The safe level of lead is zero.”

By Darryl Fears and Brady Dennis  May 10, 2016
Lead

• Public water supplies are required to test at customers’ taps
• BUT testing at schools and daycares is not necessarily required

Nearly 8 percent of water fixtures in Madison schools have elevated lead levels