



UNIVERSITY OF MINNESOTA  
Driven to Discover™

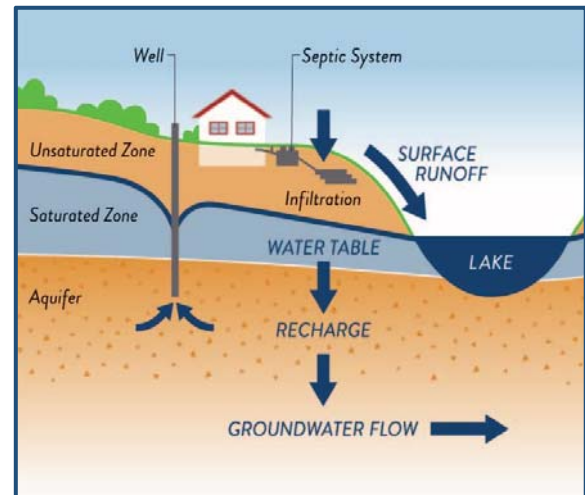
# Water Resources Center

Advancing science-based solutions for freshwater management

## Protecting our Water Takes Good Drinking Water and Septic Systems

Sara Heger and Craig Gilbertson

There is growing concern about new chemicals in our groundwater, drinking water, lakes, rivers and streams. These “chemicals of emerging concern” (CEC) include products we use every day around our homes—cleaning products, over-the-counter medicines, and pharmaceuticals. CECs can present a health risk and are more likely to get into our drinking water if we do not have good drinking water or septic systems. Properly constructed and maintained drinking water and septic systems can provide safe and reliable drinking water and wastewater treatment for decades.



### Good Septic System Includes

- A watertight septic tank.
- A soil treatment area – typically a drainfield or a mound with the appropriate soil conditions for treatment of wastewater.
- Proper operation being conservative with water use and cleaners.
- Maintained appropriately with an evaluation at least every three years.

### Failing Septic System

- Failing septic systems can cause sewage to back-up in the home or come to the surface. Failing systems are more likely to release CECs and harmful bacteria, viruses, and other microorganisms into the environment. Failing systems
- Do not have watertight tanks and may have cracked tanks, seepage pits and drywells.
- Do not have the required soil conditions beneath the soil treatment area.

### Good Drinking Water System Includes

- Proper well construction and maintenance.
- Proper installation, back siphon protection, and maintenance of distribution systems, including water treatment devices, water lines, and fixtures.
- Maintaining isolation distances from contamination sources.
- Leaking or dripping fixtures and pipes.

### Drinking Water System Posing Health Risks

- Wells in pits.
- Shallow uncased wells.
- Unused wells that are not sealed.
- Wells with damaged casing or openings.
- Cross connections between water lines and potential sources of contamination without protection-plumbing device or air gap
- Sources of contamination stored or unmanaged near your well

## What You Can Do to Protect Our Water

Private drinking water and septic systems are critical to public health and the environment. Make sure your drinking water and septic systems are operating properly by following the lists below. Just like other infrastructure around a home or business, drinking water and septic systems need regular maintenance and eventual replacement. Effective operation saves money and protects water resources. Consult a local licensed septic system professional or licensed well driller if you are having any problems or issues.

### Septic System Operation and Maintenance

**Evaluate and clean** septic tanks at least every 3 years (state code) by a licensed septic system maintainer/pumper.

**Walk the drainfield area** every year to ensure proper operation.

**Avoid compacting** the soil treatment area.

**Maintain healthy vegetation** (no irrigation or fertilizer needed).

**Be mindful about water use.** Your system should not be loaded at more than 70% of its peak design flow; spread water usage through the day and week.

**Repair (or replace)** leaking faucets and toilets.

**Only human waste and toilet paper** should go in the toilet. No wipes, feminine products, cotton balls, etc.

**Use cleaners wisely:** Use only as much cleaner as needed and avoid toxic chemicals with “poison or danger” on the label.

**Do NOT use antibacterial products.** They kill good bacteria too!

**Properly dispose of hazardous waste and unused medicines** through local take back programs.

### Drinking Water System Operation & Maintenance



Also, test for manganese at least once if a baby will drink (dry formula) the water.

#### Inspect your wellhead regularly

- **Damage:** Any cracks or holes in well casing, corrosion, loose wires, or soil settling?
- **Well cap:** Is it securely attached to the well casing? Is it broken or missing?
- **Connections:** Are the electrical conduit and other connections watertight?

#### Protect your well

- Keep top of well at least 1-foot above ground.
- Do not use, store, or dispose of potential pollutants (such as fertilizers, pesticides, or hazardous chemicals) near your well.

#### Seal unused wells

#### Maintain water treatment devices

#### Check for and address leaks and drips

## Helpful Resources

- **UMN Onsite Sewage Treatment Program** ([www.septic.umn.edu](http://www.septic.umn.edu)).
- **MPCA Subsurface Sewage Treatment Systems** ([www.pca.state.mn.us/water/subsurface-sewage-treatment-systems](http://www.pca.state.mn.us/water/subsurface-sewage-treatment-systems))
- **Water and Health** ([www.health.state.mn.us/topics/water/](http://www.health.state.mn.us/topics/water/)).
- **Wells and Borings** ([www.health.state.mn.us/divs/eh/wells/](http://www.health.state.mn.us/divs/eh/wells/))
- **Find natural products:** Select products with a grade of “A” by the Environmental Working Group (<https://www.ewg.org>).
- **Find your household hazardous waste collection site** (<https://www.pca.state.mn.us/living-green/find-your-household-hazardous-waste-collection-site>).

