

## Inland Lake Risks

Over the past several years, Michigan has received a record-breaking amount of precipitation. This above-average precipitation has resulted in many areas of Michigan experiencing high water and flooding issues. A high groundwater table means that inland lakes and their residents could be susceptible to environmental contamination and public health risks. Inland flooding could result in flooded and failing septic systems and drainfields, contaminated drinking water wells, and could release chemicals or fuels from flooded basements and garages into our waters.

### How do I know if my septic field is failing?

Toilets or sinks backing up or draining slowly in spite of using plungers and drain cleaners may indicate that drainfield soils are becoming saturated. Wet areas, lush grass, or foul odors around the drainfield indicate that effluent is surfacing, and these are all warning signs that your septic system is not functioning properly. In shoreline areas, noticeable algae and plant growth or a distinctly colored patch of bottom sediment developing in the general vicinity of the drainfield can indicate excessive nutrient enrichment from a malfunctioning septic system. Always be sure to follow the requirements of your local sanitary code, and hire only reputable septic system installation firms.



# How do I maintain my septic system?

It's important for shoreline property owners to properly maintain their septic system. Septic systems that are failing or unmaintained can threaten both surface and ground waters. Studies have shown that some pollutants carried by groundwater beneath the septic system often reach surface waters from septic systems located within 300 feet of the shoreline. Nutrients, such as nitrogen and phosphorus, are the primary pollutants of concern. Nutrients can encourage excessive aquatic plant and algae growth, which can make swimming and boating undesirable. Septic system effluent can also contain disease-causing bacteria that can move to surface waters from septic systems, making it unsafe for swimming or other bodily contact. Contamination of groundwater from septic system effluent is a particular concern where the groundwater is used for drinking water. Because shoreline areas typically have high water tables and septic systems are often very close to the water, the potential to negatively impact groundwater and surface water from a failing septic system is significant.



- Have your septic tank inspected and pumped regularly by a licensed pumper. The general recommendation for how often to get your tank pumped is once every 3 to 5 years. Of course, the right pumping schedule for you is based on the size of the septic tank, the number of individuals in your household, and the amount of wastewater generated. Heavy or year-round use requires more frequent pumping than light or seasonal use.
- Consider improving or upgrading your system if the amount of wastewater you generate is more than your septic system can handle. Since it is not easy to make such extensive changes, carefully consider all of the activities that generate wastewater in your home - cooking, bathing, flushing toilets, doing laundry, dishwashing, etc. This will help you come up with measures you can take to conserve as much water as possible.
- DO NOT use commercial products that claim to be a substitute for maintenance pumping. Many of these products liquefy the sludge and cause it to enter the drainfield.
- Avoid using chemicals, such as drain cleaner and large amounts of bleach, because they kill the bacteria that break down solid wastes in the septic tank.
- Install a vegetative buffer strip of deep-rooted plants between the end of your drainfield and the shoreline area. These plants can help absorb nutrients before they reach water. Be mindful not to plant deep-rooted plants in the area directly over your drainfield, as roots might cause damage to your system, which may result in wastewater that is not adequately treated.
- Direct rainwater from gutters and other surface runoff away from the drainfield. Excessive moisture can saturate the soil and reduce the drain field's filtering capacity.
- Construct the septic system as far away from the shoreline as possible if you are building a new home. Never build or pave over a drain field. Keep vehicles away from the drainfield and septic tank.
- DO NOT apply fertilizer around a drainfield because the nutrients saturate the soil and cause it to stop removing nutrients from the wastewater.
- Limit your use of kitchen garbage disposal units. Heavy use adds large quantities of solids to your septic system and will shorten the time between septic tank maintenance.

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## What do I do if my septic system is not functioning properly?

While not pleasant for anyone, septic system failure does occur and requires prompt action to protect public health and local waters. **IMMEDIATELY CALL THE LOCAL HEALTH DEPARTMENT.**

They will be able to provide expert advice and refer you to septic system professionals who can help you solve your problem.

To alleviate the problem, have the septic tank completely pumped out and ask the septic system professional to inspect the tank for cracks or other problems. Reduced water use will also help. Also, fence off the wet area around the drainfield to minimize contact with wastewater. Keep in mind that these are only temporary fixes and further action is required to assess and correct the issue. Pumping may not help if the household piping is clogged or if high water levels are the culprit.

REMEMBER that a permit from the local health department is required for repair, replacement, or new construction of a septic system. Always be sure to follow the requirements of your local sanitary code, and hire only reputable septic system installation firms.

## What are the best water conservation practices?

Practice water conservation in all areas of the home. Some water conservation practices will pay off big time for septic systems.

- Install low-flow faucet aerators and showerheads. Using these low-flow devices is the best water conservation action to take and usually the cheapest.
- Do laundry one load daily instead of all loads in one day. This reduces the amount of water going into the system at one time.
- Fix leaky faucets and toilets to reduce the amount of water going into the system. Studies show that leaks account for more than 10% of the household water used.
- Only run the dishwasher when there's a full load.
- Use the garbage disposal sparingly. Disposers require a lot of water to run properly.
- Don't run the washer, the dishwasher and take a shower at the same time to reduce overloading the system.
- Do not connect sump pumps to the septic system. This will prevent water that does not need treating from going into the system.
- Do not water the grass over or around the drainfield. The field gets enough water from household use and does not need any additional water from lawn watering.



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## What are other concerns from high water?

Electric shock drowning is an increased risk due to high water levels. Water-overtopped docks may have electrical hook-ups that have the potential to shock someone who comes in contact with the water. People should avoid swimming off of docks and piers that are wired with electricity. The water around a dock could be carrying lethal amounts of electricity even if the electrical source is hundreds of yards away.

Walking through a wet or flooded basement can also be extremely dangerous. Never walk through a flooded basement until the electricity is disconnected. Even a small amount of water on a basement floor can put you at risk for electrocution.

Shoreline property owners in areas that are likely to flood should move hazardous household materials to a safe area that is likely to remain dry. Items should be moved to higher ground because they pose a danger if their contents are released into the environment. Examples of items that should be moved to safer and drier areas include: vehicle batteries, propane tanks, drain cleaners, motor-vehicle oil, antifreeze, pesticides, and fertilizers.

Always use extreme vigilance while boating. Many piers, docks, and portions of breakwaters are currently underwater and not visible. In addition to these hazards and obstructions, debris is a common issue. Use particular caution boating at night when visibility is lessened.

## How can I ensure my drinking water well isn't contaminated as a result of high waters?



Ensure your septic system is functioning properly so it doesn't contaminate your drinking water well. If the casing on your well becomes submerged, your drinking water can become contaminated. The casing should extend at least 12 inches above the ground for sanitary protection. If you do not have at least 12 inches of casing above ground, you do not have the same degree of protection from surface contamination. Well casing can easily be extended to ensure this minimum depth. You can also consider having a well contractor install a watertight cap on your wellhead.

If a well becomes submerged in surface water, do not drink the water or use it for brushing your teeth. If water has reached your well or is covering the top of your well casing, assume your well is contaminated.

Health risks can occur from a contaminated well. Bacteria such as E.coli and rotavirus can be found in contaminated water, along with deadly substances like lead and nitrates.

If contaminated, have your well disinfected as soon as possible and tested to ensure it is safe. The Health Department of Northwest Michigan has test kits available for many types of water sampling, including the two most common: Bacteriological and Partial Chemical, which tests for hardness, fluoride, chloride, iron, sodium, sulfates, nitrites and nitrates. You can stop by any of the health department offices to pick up one or both of the test kits. Simply collect your water sample and drop it off the same day to any of the four Environmental Health offices in Bellaire, Charlevoix, Harbor Springs, or Gaylord. They will ship it to the laboratory in Gaylord at no extra charge. **Samples MUST be collected on the day they are dropped off. Drop offs will only be accepted on Monday, Tuesday, and Wednesday mornings between 8 am and 11 am at all four locations.**

For more information, visit  
<http://nwhealth.org/homeowners.html>

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