

# Is my pond or lake safe for swimming?



Public swimming beaches are routinely sampled to check bacteria levels to make sure the water is “safe” for body contact. Sample results and beach advisories/closures are posted here: [www.deq.state.mi.us/beach](http://www.deq.state.mi.us/beach)

Residents often want to know whether their own “private” body of water is safe for swimming. This usually involves a property owner wanting to know about their private pond, or subdivision/condominium residents concerned about a lake or beach in their commons area. Although bodies of water on private property are not subject to water quality monitoring requirements, Environmental Health recommends following the State of Michigan Bathing Beach Guidelines for determining if water is safe for swimming.

The term “safe” in this document refers only to established bacteria levels. Any swimming area will have risks beyond the bacterial level, including depth, clarity, current and submerged hazards. Although not discussed here, these risks should also be considered when deciding on the “safeness” of a body of water for swimming.

The best way to determine if a body of water is safe and the risk of water borne illness is low is to sample the water and check for *Escherichia coli* (*E. coli*) bacteria. *E. coli* is commonly found in the intestines of humans and other mammals. Most strains of *E. coli* are not dangerous, but they can indicate the presence of other disease-causing bacteria. Since bacteria are living organisms, levels can change over time. Keep in mind that a single sample will only give a snapshot of water quality at the time the sample was collected.

## **Surface Water Sampling Procedures:**

All surface water samples must be collected in approved laboratory bottles available for purchase at the Environmental Health office (located at 705 N. Zeeb Rd., west of Ann Arbor in Scio Township), or directly from a state certified lab. Samples should be collected using the following methods:

- Samples must be taken at least 1 foot below the surface, in water that is 3-6 feet deep.
- The sample bottle should be inserted into the water upside down, and then righted when it is about 1 foot below the surface of the water.
- The form that comes with the bottle should be completed and attached to the bottle with a rubber band. If sampling multiple locations, be sure to note the different sample points (site 1, site 2, etc.).
- Provide an accurate phone number on the form so you can be contacted about an unsafe result.
- If the sample is collected from water that you believe is contaminated with raw sewage or other pollutant, make a note of this on the sample form.
- The samples need to be kept chilled, and they **MUST** be returned to our office by 3:00 p.m. the day they were collected. Samples should be brought to our office within 5 hours of collection.
- It is not recommended to sample a surface water body during or within 24 hours after significant rainfall. Water quality is usually poor after rainfall due to run-off, where rain flows over the surface of the ground into the body of water, carrying contaminants with it. Limiting full body contact after a significant rain event is recommended.
- If the water appears cloudy or murky, chances are high that the sample will be unsafe.
- Multiple sampling sites are recommended for larger ponds, lakes with multiple residences or a “commons” area and a broad beachfront (over 100 feet), or multiple swimming areas.
- We do not test surface water for “swimmers itch,” which occurs in some local lakes as the water warms in late June to early July.

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## Surface Water Sampling Results

The *E. coli* bacteria test takes 1-2 days to complete. Per the State of Michigan Bathing Beach Guidelines, a beach is considered “safe” for full body contact (i.e. swimming) as long as the result is:

- Less than 300 colonies of *E. coli* per 100ml for a single sample.
- A geometric mean of less than 130 colonies of *E. coli* per 100ml for a minimum of 5 sample events collected over a 30-day period.

Bear in mind that these standards are for public beaches that operate daily throughout the summer and often receive occasional periods of very heavy use. Typically, water bodies on private property receive occasional use by a small number of people. For such properties, 1-3 sample events over the course of each summer should be sufficient. Unless there are results exceeding the 300 colonies standard, further sampling should not be necessary that season. Subdivision/condo properties with a “commons” may see beach use closer to that of a public beach. In such instances, it may make sense to establish a routine sampling protocol like that of a public beach (5 sampling events over a 30-day period).

If your sample is unsafe, you will receive a phone call within 24-72 business hours after submitting your sample. In cases where the bacteria levels exceed the contact standard, Environmental Health advises that no swimming occur in the body of water until further sampling verifies that the bacteria counts have returned to a “safe” level. We try to determine why a sample was elevated, but the reason(s) are not always clear. Contributing factors can include: heavy bather use, presence of waterfowl, extended hot calm weather, or heavy rainfall. Not all of these factors are within our control, but try to be sure to collect the water samples in the manner described and keep the samples cold until delivered to our office. Also, if there is a high population of geese/waterfowl in the bathing beach area there is a higher likelihood that water samples will have unsafe levels of *E. coli*. Waterfowl droppings should be removed regularly along shorelines to improve bacterial quality of the water.

It is a popular misconception that if one area on a lake has elevated bacteria levels, then the whole lake is unsafe. Typically, bacterial contamination originates from conditions on or near the shore. Bacterial levels will vary at different locations in a body of water, and are usually lower further away from shore.

In some cases, Environmental Health has received requests to sample pond or lake water to help people decide if it is safe to consume fish from a particular body of water. Our office does not offer testing for this purpose. More information on this subject can be found in the Michigan Fish Consumption Advisory, which is available at: [www.michigan.gov/eatsafefish](http://www.michigan.gov/eatsafefish)

## For More Information:



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