



BEACH CLOSURES AND HUMAN HEALTH

Why is the Beach Closed?

During natural and human-made events, pollutants enter into the Great Lakes that pose a health risk to swimmers, boaters, and other recreationists. Microscopic pollutants, such as bacteria and viruses can be pathogenic (cause illness in humans). The symptoms and illnesses that these pathogens can cause vary based on multiple factors. Some people might get a sore throat or cold-like symptoms, others can get gastroenteritis (diarrhea). Usually the elderly, people with compromised immune systems, and young children are more at risk of illness from disease causing bacteria in the water.

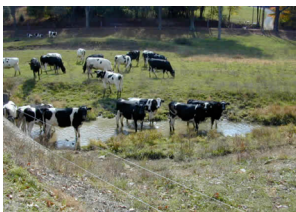
In order to protect people from getting sick your county, tribal, or state health department monitors the quality of Great Lakes beaches. There are two main bacteria, *E.coli* and Enterococci, that are monitored in recreational water. If the level of either bacteria is too high, they will close the beach until the bacteria level decreases.

What Makes a Beach Polluted?

Illegal sewer connections to storm sewers or roadside ditches, as well as direct discharges to the lake can release partially treated or raw sewage into lakes. Sanitary sewer overflows (SSOs) release raw sewage directly into lakes, rivers, and streams. Combined sewer overflows following wet-weather events can discharge sewage into surface water because storm water and sanitary sewage can exceed holding capacity of treatment plants. In addition, non-point pollution sources such as wild and domestic animal waste and agricultural runoff can degrade water quality. Even bather defecation can pollute water!

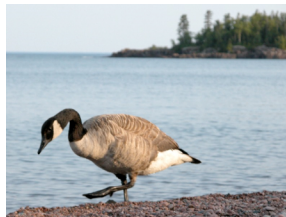
What is *E. coli*?

E.coli bacteria live in the digestive systems of humans and other warm-blooded animals, as well as in soils and water. Most strains of the *E. coli* bacteria are not dangerous, but certain strains can cause illness in humans. The presence of *E. coli* in water is a strong indication of recent sewage or animal waste contamination. Water is monitored for *E.coli* because it can indicate the presence of other disease-causing bacteria.



What is Enterococcus?

Enterococci are the most efficient bacterial indicator of water quality. Enterococcus is a bacteria found in the human intestine, as well as in other warm-blooded animals, and is a good indicator of human waste. According to studies conducted by the EPA, Enterococci have a greater correlation with swimming-associated gastrointestinal illness than other bacterial indicator organisms.



How do I find out if a beach is closed?

Your local or tribal health department will be able to tell you about beach conditions. **Finding out the status of beaches is just a phone call away!**

Each Great Lakes state has a monitoring and reporting program available on-line to check the status of beaches throughout the Great Lakes Basin.

In addition, EPA's BEACON (Beach Advisory and Closing On-Line Notification) lists status of Great Lakes beaches at: http://oaspub.epa.gov/beacon/beacon_national_page.main

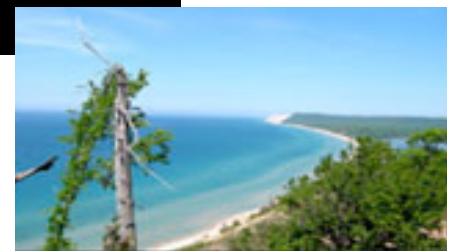
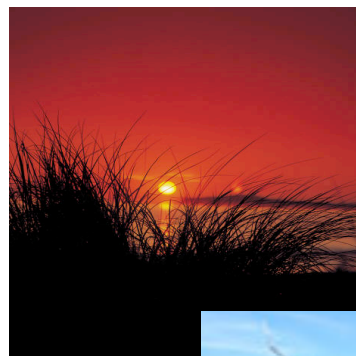
How do I know when the beach is safe?

- **EYES:** Pay attention and look for any signage on beaches indicating closure or warning.
- **MOUTH:** Contact your local health department and ask about beach conditions and monitoring programs in your community.
- **EARS:** Stay tuned— many cities post beach health information in newspapers and radios.
- **FINGERS:** Wash hands or use hand sanitizer before eating or drinking after swimming or playing in the sand at the beach.

Get on-line to stay informed– Check out <http://www.great-lakes.net/glba/index.html>

play It Safe at the Beach

- ~ Wash your hands or rinse off your body before and after going to the beach.
- ~ Do not swallow beach water.
- ~ Wade or avoid submerging your head in water while swimming.
- ~ Avoid swimming after a heavy rainfall.
- ~ If you are feeling sick after swimming, contact your health department.
- ~ If you are feeling ill before swimming, do not go swimming.
- ~ Be careful and cautious with children in diapers swimming in the Great Lakes (Reprinted courtesy of Centers for Disease Control & Prevention).



CENTER OF EXCELLENCE FOR GREAT LAKES AND HUMAN HEALTH

The NOAA Center of Excellence for Great Lakes and Human Health (CEGLHH) is a multidisciplinary research center focusing on understanding the inter-relationships between the Great Lakes ecosystem, water quality, and human health. CEGLHH is developing predictive models to identify the movement of bacteria and other pollutants to aid beach managers and public health officials in determining when beach water quality poses risks to human health while facilitating sound environmental decision-making. Our Center focuses on using ecosystem forecasting to identify threats to water quality in order to reduce risks to human health in coastal environments.

PARTNERS

