

# Nowcasting Beach Advisories

Fact Sheet for the general public



## How safe it is to swim at Lake Erie bathing beaches?

To find out, local agencies monitor (sample) the beaches to determine bacteria levels. The bacterium, *E. coli*, is found in sewage and other animal wastes. But because the results of *E. coli* levels take at least 24 hours by traditional methods, we are using other quickly-obtained measurements to predict when *E. coli* levels may be high. This is called a “Nowcast”.

## How does the Nowcast work?

The Nowcast system is similar to a weather forecast, but instead of forecasting future weather conditions, the Nowcast system estimates current conditions. A computer model, which takes into account current weather and environmental conditions, is used to estimate bacteria levels. The computer model will predict the likelihood that *E. coli* bacteria levels may be GOOD (low) or POOR (high), and whether or not a Water Quality Advisory should be issued.

## Where is the Nowcast system being used?

Researchers are working on establishing a Nowcast system at 5 Lake Erie beaches in Ohio over the next few years. As of 2006, a Nowcast system has been developed for Huntington Beach in Bay Village. The other beaches being studied include Lakeview Beach in Lorain, Edgewater Beach and Villa Angela Beach in Cleveland, and Lakeshore Beach in Ashtabula.

## What is the water quality standard for *E. coli*?

The Ohio bathing water standard for *E. coli* is 235 colony forming units (cfu) per 100 milliliters of beach water tested. If the computer model predicts that *E. coli* bacteria levels may be below 235, a **GOOD Water Quality Nowcast** will be made. If the computer model predicts that *E. coli* bacteria may be high, a **POOR Water Quality Nowcast** will be made and a Water Quality Advisory will be issued.

## What is a Water Quality Advisory?

A Water Quality Advisory is a public notification, typically in the form of a sign posted at the beach, to advise the public that current water quality conditions are not acceptable for swimming due to high bacteria levels. A Water Quality Advisory remains in effect until another measurement is made that indicates that bacteria levels are within acceptable limits.

## What illnesses may result from contact with the water?

There is a potential for illness to occur when bacteria levels are high. Gastrointestinal upset, including nausea, vomiting, abdominal cramps, and diarrhea may occur as a result of swallowing contaminated water. There is also a potential for developing upper respiratory infections, in addition to ear and eye infections. Skin infections may also occur if an open wound is not properly protected. Children, the elderly, and individuals with weakened immune systems are most at risk for becoming ill when bacteria levels are high.

## How often is the Nowcast system used and where can information be obtained?

The Nowcast system is being used 7 days a week, from Memorial Day through Labor Day. Health officials will make each day’s water quality Nowcast by 9:30am, based on conditions observed in the morning. Signs will be posted at the entrances to the beach area, reflecting each day’s Nowcast. The Nowcast system is Internet-based, providing real-time, same-day, water quality information to the public. Weather changes such as storms, are likely to result in a rapid change in water quality conditions.

### FOR MORE INFORMATION ON NOWCAST:

Visit the Nowcast website at [www.ohionowcast.info](http://www.ohionowcast.info)

Contact the Cuyahoga County Board of Health: (216) 201-2000, [www.ccbh.net](http://www.ccbh.net)

Contact the U.S. Geological Survey: (614) 430-7769, [www.usgs.gov](http://www.usgs.gov)

## Project Partners

