

# THE FACTS: RECREATIONAL WATER QUALITY MONITORING IN NORTH CAROLINA



**ATTENTION**  
SWIMMING IN THIS AREA IS NOT RECOMMENDED.  
BACTERIA TESTING INDICATES LEVELS OF  
CONTAMINATION THAT MAY BE HAZARDOUS TO YOUR HEALTH.  
THIS ADVISORY AFFECTS WATERS WITHIN 200 FT. OF THIS SIGN.

OFFICE OF STATE HEALTH DIRECTOR

## **I saw this sign at the beach. Who put it there, and what does it mean?**

It means testing shows that state and federal bacteria levels for swimming water quality were exceeded. Therefore, state environmental health officials recommend that you do not swim within 200 feet on either side of the sign. The main goal of the Recreational Water Quality Program is to protect the public health by monitoring the quality of North Carolina's coastal recreational waters and notifying the public when bacteriological levels for safe bodily contact are exceeded.

The program started monitoring coastal recreational water quality in 1997. The coastal waters monitored include ocean beaches, sounds, bays and estuarine rivers. Unfortunately, North Carolina does not have a statewide monitoring program for inland recreational waters. The public should avoid freshwater swimming after heavy rain, especially near storm drains.

## **Are North Carolina's beaches safe for swimming?**

Yes. North Carolina has miles of beaches with excellent water quality, and the state has an extensive monitoring program to test the waters and identify any temporary problems that might arise. The data that has been collected since the program began show that our swimming beaches have been under advisory for an average of less than 1 percent of the swimming season for each year. While the waters of North Carolina are generally very clean, it is important to monitor them continually, so the public can be informed of any localized problems.

## **How many stations do you monitor and how often do you monitor them?**

The Recreational Water Quality staff test 221 sites throughout the coastal area at different frequencies, depending on the time of year and use patterns of the site. Ocean beaches and other high usage areas are sampled once per week between April 1 and Sept. 30; lower usage areas are sampled twice per month. All stations are sampled twice per month during October, and then once per month in the winter, November through March. Staff members collect approximately 6,000 samples per year. To view a map of our sampling locations please visit our Web site –

<https://ncdenr.maps.arcgis.com/apps/webappviewer/index.html?id=3a38378983874a88aeaf6c3027292587>

## **What are the recreational water quality levels?**

The section's staff tests for a type of bacteria called enterococci, which is found in the intestines of warm-blooded animals such as birds, dogs, raccoons and people. Enterococci will not make you sick; however, it is often associated with other bacteria and viruses that can cause water-borne illness. The U.S. Environmental Protection Agency found that enterococcus closely correlates with incidence of human illness.

To comply with the swimming water quality levels set by the EPA and the state, water test results must fall below the set average as well as a single-sample level. The average is the geometric mean of five weekly samples taken within a 30-day period. The geometric mean cannot exceed 35 enterococci per 100 milliliters of water. In addition, swimming advisories may be posted if a single sample exceeds the level set for it based on usage. Advisories based on single sample results are retested at the time of the posting.

## **What happens if the swimming water quality levels are exceeded?**

If the swimming water quality level is exceeded at a site, the staff sends out a press release to inform the public and an advisory sign is posted at the swimming site. Discharges of storm water and floodwater into the swimming area also trigger swimming advisories that last for 24 hours after the discharge has ended.

## **Where are the disease-causing organisms coming from?**

Disease-causing organisms, or pathogens, can come from both humans and animals. Storm water runoff from agricultural and urban areas delivers pathogens from humans, livestock, wildlife and pets into recreational waters. Poorly treated wastewater from treatment plants, malfunctioning septic systems and boat discharges are sources of human fecal contamination. Bacteria can also be introduced directly into the bathing area by swimmers.

## **Will I get sick if I swim in waters under a swimming advisory?**

Not necessarily, but you are at an increased risk.

## **What kind of illness can I contract from swimming in polluted waters?**

The most common are diarrheal diseases that can be caused by bacteria, viruses and parasitic protozoa. Ear, nose, throat, skin and respiratory infections are also commonly associated with swimming in contaminated water.

## **What should I do if I become ill after swimming?**

If you develop diarrhea or an infection after swimming in North Carolina's coastal waters, seek medical treatment and then please contact the Shellfish Sanitation and Recreational Water Quality Section of the Division of Marine Fisheries at (252) 515-5613. The Recreational Water Quality Program's staff would like to know about any possible water-borne illness outbreaks as soon as possible to prevent more people from becoming ill.

## **How long does a swimming advisory stay posted?**

If the advisory is issued due to the single sample maximum level, it will be re-sampled daily. The sign will remain posted as long as the standard is exceeded. This means the result of the immediate resample may lift the advisory as quickly as 24 hours after posting. Once the geometric mean exceeds the standard, the swimming advisory is not lifted until two consecutive weekly samples meet the EPA standard of 35 enterococci per 100 milliliters.

## **I have more questions- where can I go for answers?**

If you have further questions about the Recreational Water Quality Program, you can call Erin Bryan-Millush with the Program at (252) 515-5613 or view the Program's Web site at <https://deq.nc.gov/about/divisions/marine-fisheries/shellfish-sanitation-and-recreational-water-quality/recreational>



Printing of this document was funded entirely through a grant from the U.S. EPA.