
ENVIRONMENTAL Fact Sheet



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New Hampshire's Public Beach Inspection Program

Introduction

NHDES's Public Beach Inspection Program monitors public beaches in response to potential health threats associated with water-borne pathogens. These pathogens are responsible for water-borne diseases such as gastroenteritis, giardiasis, cryptosporidiosis, and cholera. NHDES also recognizes the threat of toxic cyanobacteria (formerly known as blue-green algae) at public beaches. Cyanobacteria are capable of producing toxins known to target the liver and central nervous system and can cause irritations to the skin and mucous membranes. As the use of New Hampshire's inland and coastal waters grows, the continued goal of the program is to protect public health and inform the public of potential health risks associated with bacteria at public beaches.

Program Overview

The Public Beach Inspection Program monitors and samples beaches throughout the state from Memorial Day through Labor Day. Over 200 public bathing beaches on lakes, rivers, and impoundments have been inspected on a monthly basis since 2003, while 16 coastal and estuarine beaches are inspected on a weekly or bi-weekly basis during the swim season. NHDES Beach Inspectors collect two to five bacteria samples from each beach depending upon the length and use of the bathing area. Also, NHDES inspects on-site facilities, the bathing area, and surrounding areas for the presence of potential health threats, and confers with lifeguards and the public to address concerns.

The Beach Program is responsible for issuing advisories when state water quality standards are exceeded. Advisories are currently issued for high bacteria levels and/or the presence of a toxic cyanobacterial scums at public bathing areas. For more information on toxic cyanobacteria, refer to NHDES fact sheet WD-WMB-10 "Cyanobacteria in New Hampshire Waters"

Public Beaches and Bacteria

Freshwater beaches are sampled for the presence of the indicator bacteria *E. coli*, while all saltwater beaches are sampled for the presence of the indicator bacteria Enterococci. These bacteria are found in the intestines of warm-blooded animals, including humans. Since both are present in fecal material, and are easily cultured within 24 hours, they are two of the best

indicators of fecal contamination in surface waters. Their presence can therefore indicate the presence of other pathogenic organisms in surface waters.

Since NHDES is aware of the health risk to the public when recreating at public bathing beaches, it has adopted criteria recommended by the U.S. Environmental Protection Agency for bacteria in surface waters. The state standard for freshwater beaches is 88 counts/100 mL for *E. coli*, while the standard for coastal waters is 104 counts/100 mL for Enterococci. Statistically, as the level of indicator bacteria increase, the potential for the public to contract a water-borne disease increases. Beaches where bacteria levels exceed state standards are notified within 24 hours and advisories are issued to the public. The beaches are immediately re-sampled until bacteria levels fall below the standards, upon which, advisories are removed.

The Beach Inspectors also conducts visual surveillance at freshwater beaches for the presence of cyanobacteria. If a toxic cyanobacterial scum is identified and concentrations exceed 70,000 cells/ml, an advisory is issued within 24 hours. The waterbody is re-sampled until the toxin producing cyanobacteria falls below 70,000 cells/ml and advisories are then removed. If cyanobacteria blooms are confirmed at a beach or other location on the waterbody, a lake-wide cyanobacteria warning will be issued to inform the public of its elevated presence in the system.

Sources of Bacteria at Public Beaches

Common sources of bacterial loads to public beaches include waterfowl, domestic animals, agricultural practices, lack of or improperly functioning toilet facilities, faulty septic systems, non-point sources, and humans. It is also common for bacterial levels to be elevated after rain events, where runoff from surrounding areas can quickly contaminate the beaches.

When swimming at a beach look for signs that may reflect poor water quality. Check water clarity and color, use your nose to determine foul or unusual odors, check any available records or history on the beach, look for signs of waterfowl such as geese and excrement, and check for floating substances in the water. Refer to fact sheet WD-BB-14, "Bacteria in Surface Waters".

For more information regarding the Public Beach Inspection Program, please contact:
beaches@des.nh.gov or (603) 271-0698.