
ENVIRONMENTAL Fact Sheet



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Water Sampling Protocol for Public Beach Inspections

Determining the location for taking samples

When collecting an *E. coli* bacterial sample from a natural swimming area located on a lake or pond, collect the sample where the water is approximately 1 meter deep, or more commonly, collect the sample at knee depth. Samples should be collected from the left perimeter, right perimeter, and center of the swimming area. This “bracketing” of the area better represents water quality of the entire swim area and not just one particular spot. In the case of a swim area located on a natural flow through watercourse, such as a brook or river, samples should be collected upstream and downstream at the beach perimeters. In streams or rivers where it is difficult to collect a sample at the desired one meter or knee depth, locate the deepest area with a moving current and follow the sample procedure.

Note: If the beach area is less than 100 feet in length, it is generally sufficient to take only two samples, each a third of the distance from either end of the beach. Many New Hampshire beaches already have established stations.



Procedure for collecting samples

1. Always obtain and utilize a sterilized sample bottle(s) when collecting *E. coli* samples.
2. Gently wade into the water to knee depth, making sure not to kick up sand. Wait for the water to be clear of debris that may have been disturbed while wading to the desired depth. Or, sample away from the disturbed area.
3. Remove the bottle cap carefully and avoid touching the inside of the cap with fingers or any other object.
4. Hold the cap in one hand and with the other hand turn the bottle upside down so the opening is facing the water surface. Make sure never to touch the opening of the bottle neck.
5. With a downward thrust, dip the bottle at least one foot below the surface. Fill the bottle with one sweeping motion, a U-shaped motion away from the body, and discard a few milliliters to allow some head (air) space.
6. Carefully place and tighten the bottle cap (tighten to avoid cross contamination and sample loss).

Note: Use sterile bacteria bottles to avoid cross contamination. Never touch the inside of the sample bottle cap or neck of the sample bottle, and always sample water that is flowing towards the body. Any bacteria that may be present on the body could contaminate the sample. Avoid improper sample collection. Improper sample collection can include rinsing of the sample bottle, disturbance of the substrate, sampling in a disturbed area (disturbed could include many swimmers, dogs or waterfowl in the immediate sampling area), improper sample depth, and improper sample technique.

7. Mark the name of the beach, town, date, sample location (left, center, right; facing the water), and time the sample was collected. Make sure to use a waterproof marking pen or cover the label with clear tape to safeguard the information.
8. Transfer the samples to a cooler with ice or an ice pack to initiate the preservation process. Acceptable preservation temperature for *E. coli* samples is $\leq 10^{\circ}$ C.
9. Transport the samples to an accredited laboratory within 6 hours after collection.

For more information regarding the Public Beach Inspection Program, please contact:

(603) 271-0698 or beaches@des.nh.gov.

<http://des.nh.gov/organization/divisions/water/wmb/beaches/index.htm>

http://www4.des.state.nh.us/WaterShed_BeachMaps/WaterShed_BeachMaps.aspx