

The fecal coliform test



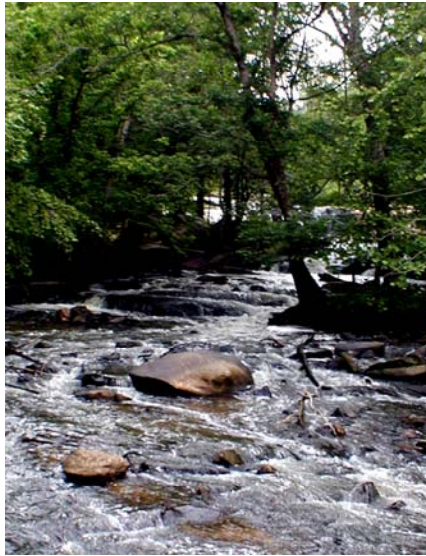
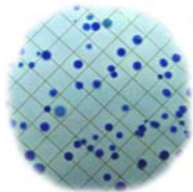
A water sample is collected in a sterile container.

The water sample is filtered and the filter is placed in a sterile petri dish with a special nutrient solution. The dish is incubated for 24 hours at a constant temperature.



After the incubation, the number of fecal coliform colonies are counted. The results are calculated and reported as the number of fecal coliform colonies per 100 ml of water. (100 ml is about 1/2 cup)

Filter containing fecal coliform colonies.



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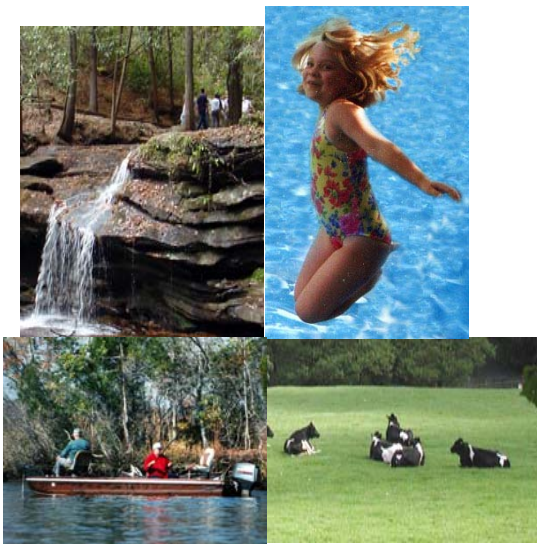
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What is fecal coliform?

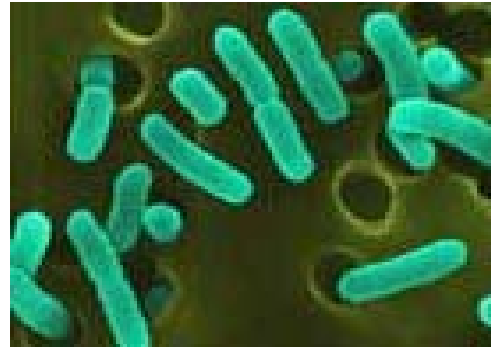


Why is it important?



Water is a valuable natural resource that satisfied a diversity of needs ranging from drinking water for humans and animals to recreation and agricultural irrigation. Bacterial contamination of natural waters can impact all of these needs and has the potential for causing serious human health problems.

Fecal coliform bacteria are the most common microbiological contaminants of natural waters. Fecal coliform live in the digestive tracks of warm-blooded animals, including humans, and are excreted in the feces. Although most of these bacteria are not harmful and are part of the normal digestive system, some are pathogenic to humans. Those that are pathogenic can cause disease such as gastroenteritis, ear infections, typhoid, dysentery, hepatitis A, and cholera.



A fecal coliform test is used to determine whether water has been contaminated with fecal matter. The presence of fecal coliform indicates the possible presence of organisms that can cause illness. The test can be performed relatively quickly and easily. The EPA has set acceptable limits for fecal coliform in water based upon the use of the water. For example, drinking water cannot contain any fecal coliform but water for swimming may contain up to 400 fecal coliform colonies/ 100 ml.



How do fecal coliforms get into streams and lakes? Large amounts of fecal coliform are released in the



waste of farm animals and can be washed into streams by runoff from rain or irrigation. Urban areas contribute to fecal coliform contamination

when wastes from dogs, cats, raccoons, and humans are carried into storm drains, creeks, and lakes during storms.



Fecal coliform can also enter streams from illegal or leaky sanitary sewer connections, poorly functioning septic tanks, and wastewater treatment plants that are not functioning properly.

