

## *You Can Help Protect Your Rivers and Your Family's Health*

- ◆ Support the work of HRWA to restore and improve water quality within the Harpeth River Watershed.
- ◆ Keep septic systems maintained to avoid leaks and costly repairs.
- ◆ Report malfunctioning septic systems and other water quality problems to the Environmental Assistance Center at 1-888-891-8332.
- ◆ Reduce stormwater runoff by installing mechanisms that allow rain to soak into the ground.
- ◆ Pick up and properly dispose of pet waste at home and in community parks.
- ◆ Keep livestock fenced off from creeks and streams and provide alternative watering sources.
- ◆ Do not allow children to swim or play in contaminated creeks or streams.
- ◆ Wash hands after contact with water or animals.
- ◆ Contact your local county extension agent to learn how to best manage animal waste if you keep horses, cows or other livestock on your property.
- ◆ Visit our website at [www.harpethriver.org](http://www.harpethriver.org) to learn about water quality in your area, how you can become involved in volunteer monitoring and other measures you can take to help reduce bacteria levels in the Harpeth River Watershed.



## **HARPETH RIVER WATERSHED ASSOCIATION**

*Working to protect and restore the  
ecological health of the Harpeth River  
Watershed and provide expertise in  
statewide conservation policy.*

*We rely on the support of members and donors  
to accomplish our goals to improve water  
quality for you and your family to enjoy.*

*To become a member, please  
contact us at 615-790-9767.*

**Harpeth River Watershed  
Association  
P.O. Box 1127  
Franklin, TN 37065  
615-790-9767  
[www.harpethriver.org](http://www.harpethriver.org)**

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## **HARPETH RIVER WATERSHED ASSOCIATION**

## What is Fecal Coliform Bacteria?

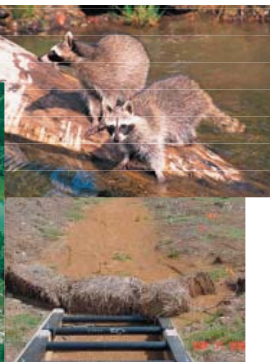
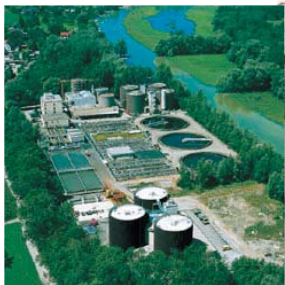
Bacteria are found naturally in our environment and help facilitate many natural processes. The most common types of fecal bacteria are *Escherichia coli* (E. coli) and fecal streptococci. These two common types of bacteria aid in the digestion of food and live in the intestines of human, cows, horses, other livestock and wildlife. While fecal coliforms alone are not generally pathogenic (disease causing), they are indicator organisms that indicate the presence of other harmful bacteria.

When these types of bacteria are present in the water there is a high probability that other disease producing bacteria, such as those that cause typhoid fever, gastroenteritis and hepatitis A, may be there as well. The EPA recommends *E. coli* as the best indicator of health risk from contact with recreational waters.

## How Does Bacteria Enter Our Waterways?

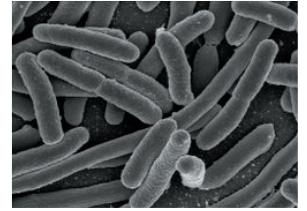
There are several primary sources of bacteria entering our creeks and streams.

- ◆ Wastewater treatment plant discharges
- ◆ Failing septic systems
- ◆ Animal waste
- ◆ Stormwater runoff



## Why Should You Be Concerned about Bacteria in the Water?

Keeping our water clean keeps us healthy, provides safe recreation and business opportunities, protects biodiversity, and contributes to Middle Tennessee's quality of life, tourism appeal and long-term economic stability. Of the 700,000 river and stream miles assessed in the U.S. in 2000, 13% were found impaired due to pathogens (US EPA 2002). According to the Tennessee Department of Environment and Conservation's 2006 303(d) List, segments of streams in Rutherford, Williamson, Davidson and Cheatham counties have been determined to be suffering from *E. coli* contamination. Similarly, 2007 bacterial source tracking studies conducted by HRWA in the Harpeth River Headwaters indicated the presence of high levels of *E. coli* from a mixture of sources, including humans (septic system inputs), cows and wildlife. These levels exceeded the state's recreational limit and were high enough to cause concern for the health of people who come into contact with the water.



*E.coli* bacteria

Contact with infected water sources can cause illnesses such as sore throats, vomiting, fever, headache, sinus infections and stomach-aches. Children, the elderly and people with weakened immune systems have a greater chance of getting sick when they come in contact with contaminated water. Livestock are also at risk when using contaminated creeks for drinking water sources.



Fecal coliform is introduced into rivers when cattle have unlimited access to streams, near cattle feedlots, hog operations and dairies that have poor animal keeping practices and waste is not properly contained. In urban areas, fecal coliform can be introduced by dog, cat, raccoon and human waste when it is carried into creeks and streams as stormwater runoff. The U.S. Environmental Protection Agency (EPA) requires all drinking water systems to monitor for total coliforms in distribution systems and that no more than 5.0% of samples can test positive for

total coliform in a month.

## What is the Harpeth River Watershed Doing to Help?

HRWA works with landowners in the watershed to help prevent further contamination of creeks and streams. Through partnerships with the TN Department of Agriculture and the Natural Resources Conservation Service, HRWA provides financial and technical assistance to landowners for streambank stabilization, revegetation projects and a variety of agricultural best management practices (BMPs) focused on reducing erosion and minimizing the introduction of bacteria-carrying nutrients. Contact HRWA to learn how you can participate and improve the health of streams on your property.

