Our urban environment is riddled with potential sources of harmful bacteria that can contaminate streams. Aging sewer infrastructure, pet and livestock waste, manure application, and wildlife all can contribute varying quantities of fecal coliform bacteria, which ends up in our streams after storms. As concerned citizens who drink, swim in, and fish in our local streams, we are watchful for high levels of fecal coliform bacteria, which can cause illnesses after significant exposure. In 2015, StreamWatch and 63 volunteers collected stream-water samples the first Sunday of each month from February to October at 13 sites in our urban watershed. In addition, we partnered with the James River Association to take weekly river samples from Memorial Day to Labor Day at two sites on the Rivanna River. Results from our samples are made available on our website, so that the public can be informed when streams contain high fecal coliform bacteria levels. The streams we sampled, as well as the Rivanna River, were frequently found to be clean. However, large storms that cause high turbidity (low water clarity) in the Rivanna resulted in bacteria levels rising and made waters unsafe for swimming and fishing. Meadow Creek, a tributary of the Rivanna and an impaired stream listed by the Virginia Department of Environmental Quality, suffered intermittent and episodic fecal coliform bacteria problems. Thorough investigations by StreamWatch, the City of Charlottesville, and the University of Virginia were not able to locate any systemic problems in Meadow Creek. In 2016, StreamWatch will continue to monitor at three sites along Meadow Creek and throughout Charlottesville.
How much bacteria is too much?

Bacteria exists all around us, and most types are not harmful to you or your pet. But there are a few kinds of water-borne bacteria that when encountered by human beings in high volumes can cause severe sickness. Many of these pathogenic (disease causing) bacteria are transferred through waste of warm-bodied animals and make it into our waterways by being swept into creeks after a storm. Tests for these pathogens are expensive and time consuming, so most often water monitors look for indicator bacteria called Escherichia coli using a quick and affordable test called Coliscan. The presence of E. coli in quantities more than 235 CFU/100mL (colony forming units/100 milliliters) means there likely is contamination by fecal waste with a 1-in-28 risk of becoming ill. This standard, set by the Environmental Protection Agency, is based on how much water one might accidentally consume or come into contact with when swimming.

To learn more about water safety in Virginia vist: http://www.vdh.virginia.gov/epidemiology/DEE/Waterborne

What can you do to reduce bacteria in our streams?

Pick up after your pet  
Maintain your septic system  
Report illicit discharges  
Reduce animal time in streams

Thank You

Community Partners

Volunteers

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