

WATERSHED FACT SHEET & HEALTH SCORES

GET MORE INFO



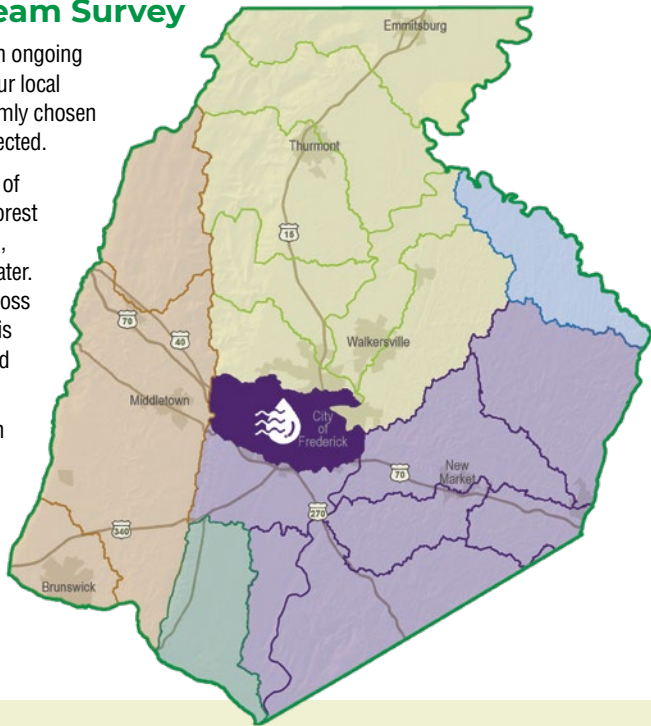
CARROLL CREEK WATERSHED

Frederick County Stream Survey

The Frederick County Stream Survey is an ongoing program that monitors the condition of our local waterways. Each year, streams are randomly chosen to have site visits and water samples collected.

These assessments include observations of aquatic bug populations, the amount of forest along stream banks, stream bank erosion, and levels of litter and pollutants in the water. Information is gathered from streams across a watershed for four years, then the data is averaged to produce the overall watershed health scores reported here.

Streams in Frederick County flow through five primary watersheds, which are divided into twenty smaller watershed areas. While the work of the Stream Survey stays within these boundaries, we know local actions have a broader impact. All of our waterways ultimately flow to the Chesapeake Bay and Atlantic Ocean.



Carroll Creek Watershed

This fact sheet explains the results of information collected from **Carroll Creek** and its surrounding land and waters, which is part of the larger Lower Monocacy River Watershed. To learn more about Frederick County's other watershed areas, scan the QR code at the top of this page.

THE ROLE OF WATERSHEDS



Watersheds are areas of land that collect precipitation and channel it into streams, rivers, and eventually, into larger bodies of water like lakes and oceans.

These natural drainage systems are defined by the topography of the land, with high points, like mountains or hills, acting as the boundaries that separate one watershed from another. When there is precipitation, water is either absorbed into the ground or runs off into nearby tributaries, like creeks and streams. Along the way, water may be filtered by soils and vegetation, which help to remove pollutants and other harmful substances. Eventually, water drains to the lowest point in the watershed, collecting in lakes, bays, or oceans.

Watersheds play a pivotal role in the health and well-being of ecosystems and communities. By monitoring these areas in Frederick County, we gather information needed to be good stewards of our local environment. Well-informed watershed management helps us protect aquatic habitats, maintain the quality of drinking and irrigation water, and ensure that fishing and recreational areas remain safe and accessible. A well-maintained watershed also helps handle stormwater flow, reducing the risk of floods and decreasing soil erosion and pollutant runoff.

Understanding your watershed can help you appreciate its function – and your role in protecting it. See the next page for simple actions you can take to be water wise.

HOW HEALTHY IS YOUR WATERSHED?

Benthic Index of Biotic Integrity (BIBI)

SCORE: 2.60 **POOR**

Bugs found in streams are good indicators of pollution because they live in the water and cannot travel far or quickly to escape pollutants. Streams are scored from 1.00 (very poor) to 5.00 (good) based on the types and amount of pollution-sensitive or pollution-tolerant bugs that are found. A higher BIBI score demonstrates the likelihood of a cleaner stream whereas a lower BIBI score indicates a much more polluted stream.

Trash

SCORE: 8.10 **POOR**

Excess amounts of trash in a stream habitat can contribute to increased chemical levels, less available food sources, and can degrade the production of a stream. Streams are scored from 0 (poor) to 20 (optimal). A higher trash rating, in this context, indicates a lesser abundance of trash within the stream corridor and overall watershed.

Riparian Buffers

SCORE: 43.10 **POOR**

Stream health and wildlife populations can be protected by the presence of a forest, or riparian buffer, along the stream banks. In general, a combined forest width of 60 meters (about 200 feet) on both sides of a stream is wide enough to provide the stream with good protection from polluted stormwater runoff, and provide enough habitat for wildlife to survive. Riparian buffers are scored based on the amount of combined buffer, in meters, that is present along the stream. A higher riparian buffer score indicates a more protected stream habitat.

Physical Habitat Indicator (PHI)

SCORE: 50.19 **VERY POOR**

The Physical Habitat Indicator helps us to understand the amount of food and shelter available for bugs and animals in the stream. Streams are scored from 0.00 (severely degraded) to 100 (minimally degraded) based on the amount of trees, woody debris, stream bed sediments, and leafy matter that is available. A higher PHI score defines a more minimally impacted stream, and a better overall habitat for wildlife.

Erosion

SCORE: 1.45 **AVERAGE**

Erosion is caused along stream banks by fast-moving stormwater runoff, and the soil washing away into the stream itself. This excess dirt can kill the stream bugs and clog fish gills. Erosion scores are severity based and range from 0 (none) to 3 or greater (severe). A higher erosion score indicates an increased severity of erosion occurring within the streams and overall watershed.

TAKE ACTION

Here are five things you can do to help protect your watershed:



Pick up litter. Trash reduces water quality, clogs stormwater drains, and endangers wildlife.



Scoop the poop. Dog waste pollutes the environment and harms aquatic habitats.



Plant native trees. Trees help reduce flooding, prevent erosion and filter pollutants.



Pump your tank. Regular septic tank maintenance protects our groundwater.



Be less salty. Use the correct amount of de-icer in winter and sweep up any that remains after a storm.

www.frederickcountymd.gov/8586/Resources-Publications

The Maryland Department of Natural Resources also samples streams throughout the state to analyze similar metrics. To learn more about their program, visit the Maryland Biological Stream Survey website at:

<https://dnr.maryland.gov/streams>

This is a publication of the Frederick County Division of Energy and Environment. Join our community conversation about sustainability issues and environmental health!

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For additional Watershed Fact Sheets or other publications:
www.FrederickCountyMD.gov/DEEdocs



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