A Watershed Fact Sheet & Health Scores for the

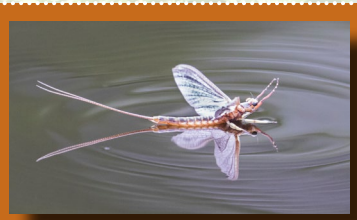
Toms Creek Watershed

The Frederick County Stream Survey (FCSS) was developed to help determine the health of our streams and watersheds. Streams are chosen at random, sampled, and scored based on the amount of forest along the banks, aquatic bug populations, stream bank erosion, and levels of pollutants in the water. The stream scores within a watershed are averaged across four years to give an overall watershed health score. Each metric is explained in further detail on the back of this fact sheet.

The map above shows the points on a stream in the watershed that were sampled, with the BIBI (right) and the PHI (left) scores illustrated according to the color scale.

GOOD | FAIR | POOR | VERY POOR

GOOD	FAIR	POOR	VERY POOR



Benthic Index of Biotic Integrity (BIBI)

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.

AVERAGE SCORE
2.6

Physical Habitat Indicator (PHI)

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.

AVERAGE SCORE
64.9

Riparian Buffers

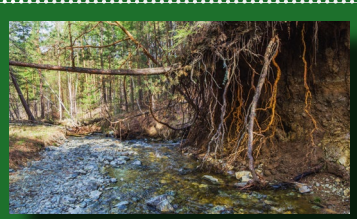
Stream health and wildlife populations can be protected by the presence of a forest, or riparian buffer, along the stream banks. In general, a combined forest width of 60 meters (about 200 feet) on both sides of a stream is wide enough to provide the stream with good protection from polluted stormwater 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.

AVERAGE SCORE
77.5

Trash

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.

AVERAGE SCORE
16.2



Erosion

Erosion is caused along stream banks by fast-moving stormwater runoff, and the dirt 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.

AVERAGE SCORE
0.7

The Maryland Department of Natural Resources (MD-DNR) also samples streams throughout Maryland to analyze similar metrics. To find out more about what MD-DNR is doing, visit https://dnr.maryland.gov/streams/Pages/mbss.aspx.

Watershed Fact Sheets are a publication of the Frederick County Office of Sustainability and Environmental Resources, Office of the County Executive

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Sustainable Frederick County is on