

Small Watershed Conservation Committee (SWCC): Save Our Streams

Back in March of 2022, three SWCC volunteers became certified in (take a deep breath) Aquatic Benthic Macroinvertebrate Identification (Macro ID) through the Izaak Walton League of America. To those who completely glossed over that title, think of it as searching and identifying bugs, or larvae, living under rocks in streams and rivers.

The SWCC has already been monitoring water quality at four sites for the past 2 years, so why add another monitoring protocol? Identifying river bugs may unlock the key to understanding a stream's long-term history. You see, years of water quality monitoring give a good picture of how the stream is affected by human-related impacts (i.e. runoff, road salt, land-use changes, etc.) over time. Many aquatic macroinvertebrates are sensitive to changes in water quality so their presence or absence in a particular stream can serve as an indicator of the stream's long-term environmental conditions. You're probably asking yourself, how can larva show long-term effects of anything, since their lifespan is so short?

Picture visiting a stream surrounded by a healthy and diverse forest. There may be a few roads and houses, but otherwise the stream's physical characteristics appear mostly healthy (e.g. there is a stream buffer, the water is clear as it flows along the rock riffles, and you can see aquatic wildlife such as fish). But the Macro ID data may change your perception of the river's true health status. Just as birds, deer, and other wildlife tend to migrate to specific nesting areas given the habitat and seasons remain steady, aquatic larvae tend to lay their eggs in the same areas of a stream year after year.

So far, SWCC has only performed Macro ID sampling in our four stream sites from March to May (testing once a month) and have found mostly pollution-tolerant bugs. This means our sites are on the Good-to-Poor health range.

Gilled Snail



Mayfly



- ◆ Feather or leaf-like gills on the abdomen
- ◆ Typically has 3 tails
- ◆ 3 pairs of segmented legs

Water Penny



- ◆ Flat saucer-shaped body
- ◆ 3 tiny pairs of legs on the underside
- ◆ Up to 1/2 inch

Dobsonfly (Hellgrammite)

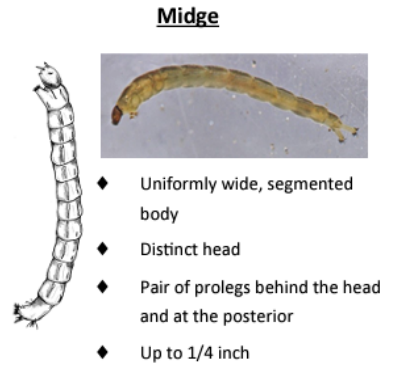


- ◆ 8 pairs of fleshy appendages on abdomen with cotton-like gill tufts
- ◆ Large pinching jaw

Sampling has paused for the summer, as the bugs fly away in the end of May and don't lay their larvae until late-August. Sampling will pick back up in September through to November.

SWCC is motivated to use this data to dig deeper into our community ecosystem's health. After monitoring this site for many years, we may find the stream quality diminishes, improves, or stays the same based on the number of bugs we find, and what kind of bugs are collected. This data will help determine where to focus local and state government's stream and watershed restoration and rehabilitation efforts.

If you're interested in learning more about Save Our Streams, our data, becoming certified, or other information, please visit: <https://www.iwla.org/water/stream-monitoring>



~ By Stephanie Rochowiak



Andy Grosko (Left) performing riffle sampling during the Save Our Stream Certification Course with Patapsco Heritage Greenway, March 2022



Laurie Donnelly (left) Identifying Macro-invertebrates with SOS Coordinator, Kira Carney (right), March 2022