

## Ephemeroptera, Plecoptera, Tricoptera, Oh My!

They may sound like dinosaurs but they're actually quite the opposite. They're tiny, but visible to the naked eye, and they live for up to three years at the bottom of streams until they enjoy a few days of glory as - often beautiful - flying insects. Scientists call them benthic macroinvertebrates. To fishermen they're mayflies, caddisflies and stoneflies.

Ephemeroptera, Plecoptera and Tricoptera are just three of the many orders of macroinvertebrates that inhabit our waters. They give us an important indication of our water quality because they can't tolerate pollution. When they're found in quantity, as they are under streambed rocks in our watershed, they tell us that our water is free of certain pollutants. Their sudden disappearance from a site suggests that there's been a toxic spill or chlorine discharge (possibly from a sewage treatment plant) upstream.

Other macroinvertebrates (the crayfish, dragonfly nymph and damselfly nymph) can survive in a wide range of conditions. Some, like aquatic worms, pouch snails or midge and black fly larvae actually tolerate pollution, even managing to live in raw sewage. All of them are found in our waters but it's the ratio of **pollution intolerant** to **pollution resistant** critters that counts.

Determining that ratio is a painstaking process. The bugs are collected in a fine mesh screen, then counted by hand or preserved for counting later. Several TC/TCWA members are learning to identify the many types of macroinvertebrates that live in our streams. Once each year, they spend a weekend with scientists from the County Conservation District collecting and counting samples from some of our regular StreamWatch sites. If you're scientifically inclined and enjoy spending a day outdoors, let us know. We're always looking for volunteers to help share the work.