

Bugs in Our Water.....That's a Good Thing?

Well to be a bit more precise, finding certain types of benthic macroinvertebrates in our local streams is a good thing, a very good thing. Every fall volunteers and students working with the Watershed Group, head out to our streams, brooks and creeks to conduct riffle assessments. Developed by Connecticut Department of Energy and Environmental Protection and approved by the Environmental Protection Agency, this type of assessment uses riffle benthic macro-invertebrates (aka water bugs) to verify stream health.



Certain species of insects, especially those in the stonefly, caddisfly and mayfly families, are not tolerant of pollution. So when a number of different species from these families are found in the collection sample it tells us the water quality is good or even excellent. The water bugs are collected in well-oxygenated riffle habitats by using an aquatic sampling net and turning over and gently scrubbing the rocks immediately in front of the net. Six sites in the same or adjacent riffles are sampled as part of the collection protocol. The contents of the net are then emptied into a container and the bugs are then sorted by type into white ice cube trays using tweezers. Each type is then identified and several representatives are preserved in a voucher and sent to the State DEEP lab for verification.



This type of assessment is done in the fall throughout the state and the results are used as part of a biennial assessment to determine if a stream segment is meeting its aquatic life support goals. As with many watersheds, a primary threat to water quality is stormwater run-off also referred to as non-point source pollution. Non-point source pollution can include nutrients, pesticides, oils, salt, sand, sediment and other waste products that are discharged via stormwater or failing septic systems. Annual assessments allow us to monitor water quality to ensure our local streams are healthy.



Photos-top to bottom: A roach-like stonefly-only found in clean water; riffle collection using an aquatic sampling net; sorting bug types with local High School Environmental Club; and final data sheets and vouchers to be sent to state lab for verification and reporting.