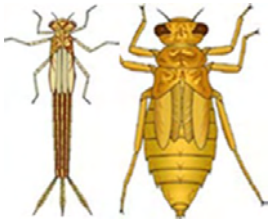
Somewhat tolerant of pollution. Can be found in good to fair quality water.



Odonata (Damselflies and Dragonflies)

Crustacea (Scud and Aquatic Sowbug)

Tolerant of pollution. Can be found in good to poor quality water.

Examples include, Aquatic Worms (Oligochaeta), Leeches (Hirudinea), and Simuliidae (Black flies). These indicate impaired conditions, especially when they are dominant.

Insect illustrations courtesy of the Cacapon Institute (http://www.cacaponinstitute.org/) and artist Jennifer Gillies; used with permission

Save Our Streams

A citizens volunteer stream monitoring program

If you are interested in conducting a workshop and/or becoming certified as a stream monitor contact the SOS Coordinator. Visit the DEP's S.O.S website at: www.dep.wv.gov/sos

There are numerous informative links on the website including procedures, ID keys, and a virtual sampler provided by the Cacapon Institute.

Glenn Nelson
Save Our Streams Coordinator
WV Dept. of Environmental Protection
601 57th Street SE

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E-mail: Glenn.R.Nelson@wv.gov

What is WV Save Our Streams?

a volunteer monitoring program that promotes statewide water quality awareness through workshops, demonstrations, presentations, outreach materials and a wide variety of additional projects and activities.

Who is WV Save Our Streams for?

target audiences include schools, elementary through college level, businesses and community leaders, volunteer organizations of many types, state and federal agencies, and all other citizens with an interest in learning about water quality.

Save Our Stream Objectives?

to encourage volunteer monitors to adopt sections of **their** local streams, thus taking responsibility for the protection and preservation of our state's water resources.

West Virginia has over 9,000 streams covering 32,000 stream miles. Human impacts have degraded many of these streams to the point that they are listed as impaired on the 303(d) list. Since streams are the birthplace of rivers this impairment can be carried on indefinitely. The WVDEP's mission is to promote a healthy environment. It is essential we realize that everyone lives downstream.

WV Save Our Streams uses a bio-survey approach to study streams. This method includes the collection and evaluation of the benthic macroinvertebrate community.

and assessments of the stream's basic chemical (dissolved oxygen, temperature, alkalinity, pH, specific conductivity, iron tests, etc.) and habitat (riparian buffer, bank stability, substrate, etc.) conditions.

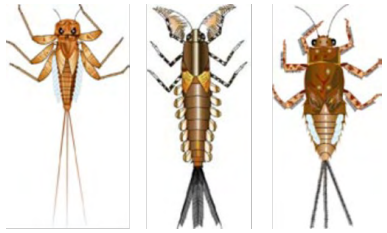
Using these parameters a stream score is determined and used to assign an integrity rating to the station surveyed. Multiple surveys at a station allow for condition assessment at that station.

With additional stations a general assessment of the entire watershed's health can be obtained. This data is useful within other WVDEP sections in the overall characterization of our state's waters.

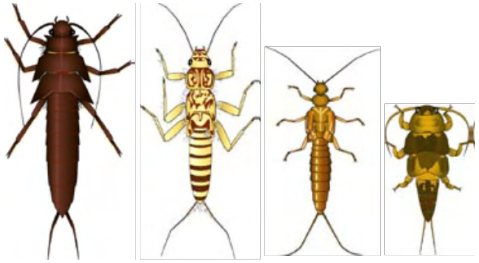
Benthic macroinvertebrates (BMI's) are used as indicators of watershed health because they:

- Live in the water for all or most of their life
- Stay in areas suitable for their survival
- Are easy to collect
- Differ in their tolerance to amount and types of pollution
- Are easy to identify in a laboratory and in the field with practice
- Often live for more than one year
- Have limited mobility
- Are integrators of environmental conditions
- Are important components of a stream's food-web system, especially headwater streams

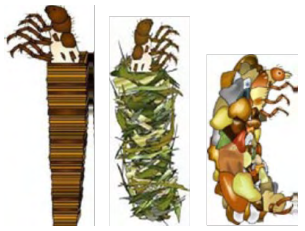
BMI's collected are separated according to their pollution tolerances. Ephemeroptera, Plecoptera, and Trichoptera (EPT) are most sensitive to pollution and suboptimal water quality. Subsequently, collecting members of this group is often indicative of good water conditions.



Ephemeroptera (Mayflies)



Plecoptera (Stoneflies)



Trichoptera (Caddisflies)