

The composition of the macroinvertebrate community is commonly used as an assessment tool for water quality in streams and can be quite telling about the overall health of a spring system. A diverse, healthy population of macroinvertebrates means a greater food source supply for larger animal species.

The Biological Health of your Spring

Springs are the "canaries in the coal mine." Changes in spring flora and fauna can indicate compromised groundwater quality. While spring flow volumes can fluctuate naturally, viewed over time, alterations in springflow patterns are reflective of general aquifer health and local and regional water table changes.

Aquatic organisms can act as natural monitors of water quality, responding to a combination of stressors to which they are subjected. By responding to their total environment, organisms often provide a better-integrated assessment of environmental conditions than do chemical or physical measurements. In degraded aquatic ecosystems, the diversity of organisms is decreased and there are typically fewer kinds of organisms, with more sensitive species disappearing altogether. The aquatic organisms present at a particular spring can offer insight into the health and quality of that spring.

As stated earlier, the diversity and abundance of organisms present at a spring is greatly affected by the flow, temperature, and the amount and type of habitat available. The constant flow and temperature of many springs allows colonization by certain species that are unable to maintain populations in streams with highly variable discharge.

For a description of biological indicators of watershed health, the importance of aquatic diversity, and photographs, visit www.epa.gov/bioiweb1.



Adult Damselfly
(Photo courtesy of TPWD)