

# GOVERNOR'S YOUTH COUNCIL for Hunting, Fishing, and Conservation

by Elizabeth Bruner

Like most of you, I have a passion and love for nature. As a member of the Pennsylvania Governor's Youth Council for Hunting, Fishing, and Conservation, I am able to enrich my passion for nature, as well as develop skills, ideas, and projects to help protect, conserve, enhance, and experience Pennsylvania's natural resources. As a council member, one of my goals is to engage younger generations in conservation and preservation of the Commonwealth. I am working to achieve this goal by teaching others about macroinvertebrates, stream ecology, and stream health.

I have always loved the water. Eager to learn more about Pennsylvania's 86,000 miles of waterways and the wildlife that inhabits these waterways, I enrolled in the Wildlife Leadership Academy (WLA). Due to COVID-19, I virtually attended four WLA field schools. Two of these schools focused on fish. The "Bass School" focused on the black bass species, and the "Brookies School" focused on our state fish, the Brook Trout.

My favorite activity at the WLA was learning about macroinvertebrates and how these aquatic creatures are an indicator species to determine stream health. Prior to the WLA, I learned about macroinvertebrates through my 4-H outdoor club and the Three Rivers of Steel Educational Floating Center.

The WLA increased my interest in and knowledge about these marvelous creatures. Macroinvertebrates live the first few years of life in water. During the larval or nymph stage,



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macroinvertebrates are normally found in riffles or under submerged rocks.

Macroinvertebrates are important for many reasons. First, macroinvertebrates are a major part of the food web. Many fish species use these critters as a food source. Secondly, macroinvertebrates are a biomonitoring species, meaning you can monitor change in stream ecosystems by looking at the types of macroinvertebrates that currently live or previously lived in that stream.

Macroinvertebrates are also important, because these aquatic animals provide a fun, hands-on way to educate the public about water conservation. Macroinvertebrates are classified into three categories: pollution tolerant, intermediate, and pollution intolerant. Pollution tolerant macroinvertebrates, such as a midge pupa, can withstand highly polluted waters. A common misconception is that pollution tolerant macroinvertebrates are only found in polluted waters. This is not the case. Midges can survive in any type of water, but midges may be the only macroinvertebrates found in polluted waters. Intermediate macroinvertebrates, like damselfly larva, can live in moderate amounts of pollution. Pollution intolerant species, like a mayfly, are only found in clean, healthy waters.

Learning more about macroinvertebrates as indicators of healthy water quality, I became interested in teaching others about macroinvertebrates and pollution, as well as getting more youth involved in the wonderful world of conservation.

It is important to share what we know, whether it is about macroinvertebrates, birds, mammals, or reptiles. By teaching and motivating others to take action, we are doing our part in helping to conserve and protect the natural places and animals we all love. If we all give a little and work together, a huge difference can and will be made. ☐