The aquatic bug food chain…

Benthic macro-invertebrates are not only good indicators for biologists who are studying stream health, but they also actively play a very important role in the stream ecosystem. Many roles are carried out through a stream, creating a bug food chain. The bug food chain begins with aquatic plants that are able to produce their own food by using energy from the sun, a process known as *autotrophic*. Because they produce their own food they are called producers. All other living things that are unable to produce their own food are forced to consume the producers and are known as consumers, or being *heterotrophic.* Consumers rank higher among the bug food chain, and are classified as either herbivores, directly consuming the producers, or as carnivores that will eat other consumers. Macro invertebrates are heterotrophic and both herbivores and carnivores.

Herbivores, whose main diet consists of plants and algae, are also known as scrapers and shredders. Carnivores known as predators eat small fish, small amphibians and other stream bugs. There is also a group of macro invertebrates that is a combination of herbivores and carnivores, known as detritivores. Detritivores shred and eat leaves and other organic matter that contains nourishing fungi, algae, and other bacteria. They will absorb the nutrients as they break the material into smaller sizes that other bugs will utilize. Detritivores are also known as shredders and collectors. Because benthic macro-invertebrates both eat and are eaten, they are the center of the food chain, a position that is critical in a healthy ecosystem.