Aquatic Macroinvertebrates for Assessing Water Quality Effects Associated with Bioenergy – Latha Baskaran

Abstract

Large-scale land-use changes over agricultural and pasture lands, such as those caused by bioenergy feedstocks, cause significant changes to water quality and stream habitat. These changes need to be monitored and measured for long-term sustainability of the bioenergy system. However, it can be expensive and time consuming to measure water quality and produce reliable data for the stream health indicators. We evaluated aquatic macroinvertebrate richness indicators, such as the EPT taxa richness (taxa in Ephemeroptera, Plecoptera and Tricoptera orders), to help assess stream health and evaluate landscapes toward sustainable bioenergy systems. Based on an analysis by ecoregions in Tennessee, we found that EPT taxa richness can be a useful indicator of different water-quality variables across the ecoregions in Tennessee.