

Aaron Nard, Department of Natural Sciences and Mathematics, West Liberty University, West Liberty, WV, 26074. The effects of *Justicia americana* removal on macroinvertebrate communities in two northern West Virginia Creeks.

Macroinvertebrate taxa have traditionally served as indicators of water quality because of their sensitivity to anthropogenic impacts. In order to measure the prevalence of these taxa, biomass calculations can be performed that elucidate the biotic life present in freshwater ecosystems. In the current study, the relationship between macroinvertebrate biomass and the presence or absence of the American water willow, *Justicia americana*, was investigated. This study was performed on three sites in both Wheeling and Buffalo Creek containing large beds of this aquatic angiosperm. Buffalo Creek's watershed is largely rural and undeveloped while Wheeling Creek's watershed consists of forest, agriculture and substantial urban development. Each site contained a treatment subplot where *Justicia* was removed by cutting the stems at the ground, while *Justicia* in the control plot was left uncut. Three sub-samples of macroinvertebrates were collected from treatment and control plots along with weekly water chemistry readings. Macroinvertebrate organisms greater than 1mm were identified and length-mass regression were used to calculate the biomass in each plot. Preliminary analysis indicates that total macroinvertebrate biomass between control and treatment sites of the same creek was not significantly different but there were notable differences in total Ephemeroptera, Plecoptera and Trichoptera (EPT) biomass between treatment and control. Additionally, Buffalo creek had higher total macroinvertebrate biomass compared with Wheeling Creek. Overall, this data indicates that macroinvertebrate response to the removal of *Justicia* can vary between macroinvertebrate taxa, and that response to *Justicia* removal may depend on land use within the watershed.