

Biodiversity is a critical component in keeping a habitat functional. A well-functioning habitat requires interdependency among species to keep relationships such as predator-prey interactions in balance. High biodiversity, especially at the lowest trophic levels, increases the number of possible interactions between plant and animal species. This allows nutrients to cycle to the highest levels of the food web most efficiently. It is widely accepted that the presence of exotic plant species reduces the biodiversity of insects because it creates deficiencies of palatable food sources for native leaf eating organisms. My research focused on determining the abundance and species richness of *Lepidoptera* larvae (caterpillars) on *R. cathartica* (common buckthorn), an invasive species, and various woody native species (i.e. oak, hickory, hackberry, maples, etc.) to test how the presence of invasive species compares to native species in promoting high biodiversity. Through my research at Tifft Nature Preserve in Buffalo, NY, I found that there was less diversity and less abundance of *Lepidoptera* on common buckthorn than on the native woody trees by a large margin. This further supports that invasive plants harbor less insects than native plant species, making it more clear that the effort to control invasive organisms could potentially provide great value to a habitat by promoting biodiversity through the removal of invasive species which would allow for native plant succession or replanting, giving native insects and other wildlife more suitable habitat in which to thrive.