

Jacob Zikan '23

Research in Ecology in NE forests Summer 2020

Over the summer I worked with the Dartmouth Ecology department on a long-term project studying the ecological effects of the predicted decline of ash trees in northeast forests due to invasive species. Specifically, my work focused on the flower, which occurs more abundantly under ash trees than other types of trees. The research aims to discover what are the ecological niches that ash trees fill which create this greater abundance, and then using this information to make predictions about what effects the loss of these niches could have.

My work was focused on the collection of life stage data for Trillium flowers under various tree canopies, and then using mathematical models and linear algebra methods to analyze the life cycles of these flowers and how these different dominant tree covers and various pressures could have effects on these life cycles. I also helped work on some projects doing long-term studies of population outbreak models with caterpillars, and some Carbon-Nitrogen analysis. All in all it was a really incredible experience, and I am really thankful for Byrne funding to enable me to partake in this opportunity through their generous funding. I learned a lot about research, and it allowed me to improve and explore in ways I may not have had without Byrne support.