Phenological Study and Floral Inventory at Flat Iron Lake Preserve

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INTRODUCTION

Flat Iron Lake Preserve boasts many native species of plants and offers a diverse set of habitats including a kettle lake, prairie, hardwood forest, two swamps, and a vernal pool. The goal of the project is to explore the effects of climate change on the flowering patterns of summer wildflowers within the preserve. This is a multi-year effort beginning in 2008 with students spending a ten-week period repeatedly covering the various environments. The yearly results are compared to climate data to find initial suggestions for behavior; however, the end goal is to compile many years of data to observe trends and species' behavior.

RESEARCH METHODS

Students cover the preserve thoroughly each week by covering routes through the different environments. All species in bloom were recorded as each route was covered, drawings, notes, and images were taken of newly encountered species, and general observations were noted. *Newcomb's Wildflower Guide* and www.michiganflora.net were the main two sources used to identify wildflowers. Several plants were also pressed to be identified and placed in Calvin's herbarium. Seeds were collected to be used for various Calvin-led restoration projects. The phenology study, the pressed plants, and seed collections were all documented in an excel sheet.

Climate data will be acquired from www.ncdc.noaa.gov. Weekly averages of maximum temperature, minimum temperature, and precipitation will be recorded. This data will be used to analyze the compiled years of flowering data to gain insights on how plant species are potentially affected by climate change.

RESULTS

The data collection is still in process and therefore no results or conclusions have been made yet.

PERSONAL BENEFIT

Throughout my weeks at Flat Iron Lake Preserve I have been immersed in over 200 plant species. This has greatly increased my understanding of traits and characteristics of individual species and trends within families. This has been great for me since I am fascinated by growing plants, as well as, the properties and benefits of different types of plants. Constantly encountering various species has allowed me to get a better understanding of the many plants found here in Michigan and how they interact with their surroundings. I am spoiled because the majority of my research requires me to be outdoors actively searching natural habitats.