

This summer I decided to continue conducting research that I had started with Dr. Haskell in the spring semester of 2013. I explored how exurbanization is impacting the plant and bird species of Sewanee. I decided to continue this research because it is crucial to preserving biodiversity in Sewanee and worldwide. As I have been searching for sources to help me with my research, I have found that there has been very little research conducted on the effects of exurbanization on plants and I hope that this research will provide more insight to these effects. I started off by looking at the effects on plants and I then expanded it to see how the changes in plant types affects the birds that feed on the berries and fruits. Over the course of the summer I became better acquainted with the native and exotic shrubs and vines of Sewanee as well as many of the birds.

I began the summer by conducting plant surveys as I had done in the spring semester to see how the abundance and diversity of plants had changed, especially with respect to the abundance of fruit and berries. The plant surveys were conducted at thirty randomly generated points- fifteen exurban and fifteen forest. I would set up a 30mx2m transect in each cardinal direction and then I would walk down it and count all the shrubs and vines and their fruit or berries and flowers if present. Once all the data was collected, I entered it into Excel to run various tests such as linear regression and t-tests, which would tell me if there was a significant correlation between the type of location and the types of plants found there. This summer I learned about new statistical tests and graphs that are very useful when conducting research on biodiversity. I collected the first set of this data when I first

arrived because I would have to do another round of collecting at the beginning of July, when the blueberries and some other berries would ripen. In order to become better acquainted with the plants of Sewanee, I went out with the state botanist to look for an endangered plant that can be found at a few locations on the Domain. While looking for this plant, he pointed out many others that I have encountered while collecting data at my sites.

At the end of June, I began conducting bird surveys. I went out to each of the thirty locations between 6:30 AM and 9 AM and using a field guide I identified the birds found within the transect at each location. In-between collecting data, I spent a significant amount of time researching sources that pertain to my research. It was a very difficult task because while there are a lot on birds, there are not many on plants, which is the main focus of my research. However, finding so few sources and each stating that there are only few studies that have been conducted on plants, it has helped me realize the great importance and potential impact that my research could have in the Ecological community. While reading the sources I created an annotated bibliography, which was very helpful while I was writing the bibliography because I had all the key facts of each article already picked out.

This summer research experience has been very valuable because I have been able to expand the research skills that I began gaining senior year of high school. I learned how to conduct various tests to find a significant value as well as how to do a proper write up. I also learned how to work on my own on this project, which has helped me greatly, because previously my partner would point out plants

I didn't know, but because I was on my own I had to learn them on my own. I did so by creating a guide for myself and just spending some time looking at all these plants to ensure I could easily identify them. On the guide, I made sure to put pictures of the leaves, berries or fruit, and flowers so I could easily identify them. As I have been hiking around Sewanee and places near Sewanee I have been able to identify many plants and I attribute it to this research so I am happy I was able to take on this summer research on my own so I could acquire more knowledge and skills.

This research has also definitely helped me realize that I am on the right path in terms of my college major and career, as I greatly enjoy this research. It has always been my dream to work in conservation and I have already started down this path as this research is meant for conservation purposes. I believe that the skills I learned like setting up a transect and conducting field work will greatly help me with future internships and will help me as I continue conducting this research during the upcoming school year.