Sarah Naughton
SEF Summer 2019

Summer 2019 SEF Final Narrative

My initial introduction to the project was through a meeting with Dr. Jones. I was looking for research experience to enhance my learning and help prepare me for future career success. I found her lab on the Biology Department website and was immediately interested in learning more. I have always been passionate about the environment and how humans can restore and preserve it for future generations. Dr. Jones's lab showed me there was a way I could incorporate my love of science into that passion. When we met for the first time, she explained her project at Nachusa, how the reintroduction of bison to the restored prairie could possibly be affecting the niche breadth of the mice, and that she was collecting and analyzing mouse hair samples to help determine the extent of those effects. I was extremely excited when she invited me to join her in her research this summer. I had no field experience, so it seemed like a great opportunity and a chance to learn valuable skills that could be utilized later in a career or when applying for a graduate program. I had no idea what I was getting into and could not wait to get started.

The most valuable thing I took away this summer are the skills I learned. Every part of this project was new to me, from field safety, to catching mice and setting traps, to working in the isotope lab, even to what I should wear in the field. Since field work itself was an entirely new experience, I feel I learned the most skills there.

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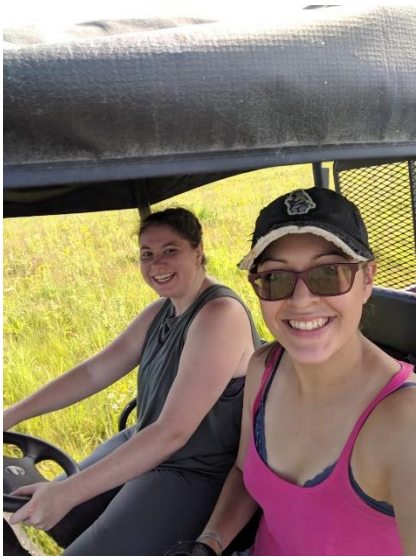
One of the first things I learned was how dangerous the bison are. They can run 35 miles per hour and jump 6 feet in the air. If there were bison at the site we were working at, we needed to move on and come back later when they are gone. The majority of our time in the field was spent trapping mice. I learned how to check the traps for mice by pushing in the end slightly to check for an animal. If there was an animal, I would set the trap on its end and record it on our data sheet. If not, I would close the trap so no animal would get stuck in there during the hottest part of the day. A very important skill I learned was how to analyze the mice that were caught. The weight was recorded, as well as hind right foot, tail, and body lengths. The ratios of those could sometimes help in identifying the species of mouse that was caught, which is important for accurate record keeping and data analysis. The procedure for microchipping mice was also new to me. The exact placement between the shoulders is necessary to avoid injuring or killing the mouse. Successful microchipping is important to be able to identify the mice if they are caught again so their measurements are not added to the data set twice, potentially altering the results. Another field skill I learned was how to drive the UTV.



This was not something I thought was important until I was looking at job boards and found many positions required being able to drive a UTV to apply. I did assist another member of Dr. Jones's lab on her project taking soil core samples from sites around Nachusa. I had never used the Giddings Soil Corer before, or even seen one. Being able to collect soil samples using the corer made me feel more confident in my field abilities and expanded my knowledge and experience.

The lab portion of the project is where I seemed to struggle the most. In order to run the hair samples we collected to determine their isotope compositions, they must be weighed and prepared. The weighing of the hair on the scale was not too difficult but using the tin cups to hold the hair and place it in the tray was not as easy. I had a hard time maneuvering the cups with the tweezers, and they often fell over and lost all the hair, meaning I had to start over. This got easier with time. Crushing the tin cups to fit in the tray was the hardest part for me. The first few sessions I spent in the lab I was unable to fold them into the desired shape and had to redo them the next time I came in. The way I was folding them made the samples unable to run successfully and produce inaccurate results. I am very grateful to Dr. Buczynska, the research associate who works in the isotope lab, for having lots of patience and teaching the appropriate way to fold the cups and the best types of tweezers to use. I am now much more confident in that lab technique and am planning on assisting a graduate student with her hair samples in the isotope lab in the Fall 2019 semester.

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There were many benefits to my research project this summer. The skills I learned are all applicable to post-college jobs. I feel my SEF project this summer helped me become more hirable with a more diverse skill set that helps me stand out from other applicants. I now have broader experiences and can apply for more jobs than before. NIU has a wonderful academic program that has taught me so much already, with many more classes to come, but it is the research and growth opportunities they provide that have most prepared me for the future. Having this opportunity to learn new skills, to diversify my resume, to have valuable one on one time with a knowledgeable, experienced, distinguished faculty member in the research setting has helped me focus my interests and feel more confident in my desired career path. I switched my major to environmental studies because of my time in Dr. Jones's lab. The work I got to be a part of showed me that field work and research are what I want to spend my life doing. I had switched my major multiple times, but this opportunity gave me what I needed to decide what is best for me. I look forward to continuing to work in the Jones lab this coming semester and hope to continue to learn and explore different areas of the field.