

Buffalo County Natural Resources Internship Program

2014 Final Report



(holding a smallmouth bass from a fish survey)

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Background

The Buffalo County Natural Resources Internship Program is an internship for a college student pursuing a degree in a natural resources field. For three months of the summer, the intern works 35-40 hours a week, accumulating approximately 500 hours of work. The program provides the intern hands on experience in a variety of conservation projects, while also providing the opportunity to work with county, state, and federal conservation agencies. The agencies the intern works with are: Buffalo County Land Conservation Department, Natural Resource Conservation Service, University of Wisconsin – Extension, and Wisconsin Department of Natural Resources. The intern receives a \$5,000 scholarship, due to the generous contributions from conservation clubs, businesses and private individuals. A contributor list is found at the end of the report.

About the 2014 Intern



(conducting a bird survey in Cambodia)

I grew up in Fall Creek, Wisconsin and have always had a passion for exploring the natural world. Some of my favorite outdoor activities are hiking, ice fishing, and canoeing. I currently attend the University of Wisconsin – Eau Claire and am studying Ecology and Environmental Biology. On campus I am active in multiple groups that promote the sustainable use of our natural resources. My last two summers have been spent conducting three research projects with the university. The first was a frog and bat survey on the islands of the Chippewa River that are owned by the Bureau of Land Management. The second was a project conducted in the Great Basin studying yellow-bellied marmot habitat and ranges. The final project was a survey of birds and mammals in

community forests of Cambodia. I hope to continue conducting research in the future to guide management decisions that will sustain our natural resources for future generations.

This summer I was very fortunate to be chosen as the Buffalo County Natural Resources Intern. I was eager to begin working in a field that I had been studying for the past four years and could not have predicted how incredible the internship would become. Over the past three months I have worked with some remarkable people who are passionate about what they do. In addition, they were more than willing to pass on their expertise to newbies in the conservation field, such as myself. There is no better way to figure out if you like a profession than simply diving in and trying it out. Because of this internship, I got to do exactly that.

About the 2014 Internship

Prior to helping with internship projects, I completed pesticide application training, CPR training, and chainsaw safety training to gain the certifications necessary to help with projects throughout the summer. As stated in the background, I had the opportunity to work on many projects with multiple agencies. Below is a summary of what was accomplished with each agency and the skills I learned by working with them.

Buffalo County Land Conservation Department (LCD)

Most of my time spent with the Buffalo County LCD was used to help collect data for the Water Action Volunteers (WAV) program. This is a program that citizens can be involved in to help monitor Wisconsin streams and rivers. Brooke Muhlack, Conservation Technician/Planner, trained me on how to use the monitoring equipment and enter our measurements into the WAV database. Once each month we collected data from four streams throughout Buffalo County measuring transparency, temperature, dissolved oxygen content, and stream flow. We also assessed streamside habitat and the macroinvertebrate communities. Data collection from these sites is unique in that conservation practices have been recently implemented to improve water quality and create habitat for fish. This data will not only help guide management decisions in the future, but also let agencies involved know how well their conservation practices are working. Along with this, temperature loggers were placed in six streams that will be monitoring stream temperature every hour for six months.



(measuring transparency of a stream for the WAV program)

Another project I assisted with was the Cropland Transect Survey. During this project, Brook and I drove around the county and stopped at 300 predetermined random points to collect data. We noted the amount of residue on the field, what kind of tillage occurred (if any), what crop was planted (if any), and if there were any conservation practices being implemented. This information will help the Buffalo County LCD predict the amount of soil erosion that will occur in the county this year.

Wisconsin Department of Natural Resources (DNR) – Fisheries



(netting a common carp during an electrofishing survey)

A good portion of my summer was spent helping DNR fisheries personnel conduct different types of fish surveys. Early in the summer I went electrofishing in Spring Lake with Brian Brecka, the fisheries biologist. We were conducting a general survey during which every fish caught in a ten minute time span was recorded. Species type and length were the two variables noted. This survey is done every year, and allows the DNR to monitor fish populations and trends over time. I also helped Michelle Marron, the fisheries technician, electrofish Pool 3 of the Mississippi River. We conducted a contaminate fish collection where we collected specific fish species at certain sizes. Once caught, the fish were wrapped and frozen so they could be sent to Madison to determine contaminant levels. This type of fish collection occurs not just in Pool 3 but all across the state. The results allow the DNR to provide consumption advisories for areas throughout Wisconsin.

Another fish survey I was a part of was the Pierce County trout stream survey. We surveyed the Rush and Kinnickinnic Rivers for trout and kept a tally of the trout we caught and their measurements. These surveys are done to monitor trout populations in these rivers so sound management decisions can be made. The surveys also provide the local biologist information that can be relayed to anglers. Twice this summer I also helped collect water samples from the Chippewa River. The samples were collected by filtering 90 liters of river water through a fine filter and transferring what was collected in the filter into a bottle. The samples were then sent to a Madison lab to determine the presence or absence of zebra mussels in the Chippewa River.

I also had the opportunity to work with children this summer. I traveled to Perrot State Park to a LaCrosse school's conservation day. While at Perrot, I helped teach 1st and 2nd graders about aquatic invertebrates and food chains. Toward the end of summer I also helped with a four day youth fishing event where kids learned the basics of fishing. They used what they learned to catch fish on the Mississippi River.



(teaching children about food chains at Perrot State Park)

Wisconsin Department of Natural Resources – Forestry

Early in the summer I helped Brent Weaver, the Buffalo County forester, monitor tree regeneration on sites that had previously been clear cut. To monitor the sites, we went to a predetermined spot and documented trees that were in the specific study area. We documented species type, age class, and whether browsing had occurred. We also noted any other plant species we saw. This data allows the forester to estimate the population and growth of the clear cut area. The monitoring helps determine if the clear cutting had its desired effects.

Wisconsin Department of Natural Resources – Wildlife

Throughout the summer I worked on multiple projects with Gary Wolf, the wildlife technician, and Mark Rasmussen, the wildlife biologist. I helped spray herbicides on oak regeneration in an area that was being restored to a savannah. This was done to prevent succession of the recently restored savannah. I also sprayed garlic mustard in the Tiffany Wildlife Area. Garlic mustard is an aggressive invasive species that needs treatment every year to keep its spread at bay. Early in the summer I helped Gary conduct a black bear survey near Black River Falls. To do so, we baited the bears by tying fat and meat to a tree with wire. We did this every half mile along a predetermined survey route. We checked the baits at a later date to



see if there were any signs of bear. Based on how many baits had bear signs compared to previous years, the DNR is able to monitor bear population trends in the county. I also had the opportunity to band peregrine falcon chicks and geese as a part of monitoring projects. Finally, Gary and I attended an informational session on rattlesnakes mid-summer and learned a lot about rattlesnake ecology and management.

(helping band peregrine falcon chicks)

Natural Resource Conservation Service

While working with the Natural Resource Conservation Service, I had the opportunity to join Chad DeWyre, Soil Conservation Technician, on construction checks. Because Buffalo County is located in the driftless zone of Wisconsin, it has many hills, some being very steep. Because of this, the area requires careful land management due to the problems associated with erosion. The construction sites we visited were on farms that were implementing conservation practices to limit erosion, such as installing dams and waterways.

Throughout the summer, I also worked on various projects with Todd Mau, District Conservationist. Most of my work with Todd was done on Conservation Reserve Program (CRP) contracts. CRP is a program that farmers can enroll in and receive a yearly rental payment as long as they follow the conservation requirements in their contract. We did farm visits where Todd would explain the program and some of its requirements. We also conducted CRP checks where we would go to the tract of land enrolled in CRP and make sure the land owner was following the rules in their contract. Early in the summer, I helped with the Alma Area School's 6th Grade Field Day. It was this day when students learned many aspects of conservation, while getting the chance to observe nature. I was able to hike, band birds, electrofish, water monitor, and pull garlic mustard with or for the 6th graders to help teach them about their local natural resources. Mid-summer, I helped prepare for the second annual Trout Day Celebration, which fell on free fishing weekend. People came to fish at a stream that recently had conservation practices implemented to prevent bank erosion and create habitat for fish. Later in the summer, I also helped Todd spray herbicides on buckthorn, an invasive species, on a local Nature Conservancy property.



(children fishing at the Trout Day Celebration)

University of Wisconsin – Extension

The University of Wisconsin – Extension received my help during two of their projects, and each time I worked with Carl Duley, the agricultural agent. Early in the summer, UW – Extension put on a Clean Sweep program where area residents could bring hazardous wastes from their homes and farms. On the day of the Clean Sweep, I surveyed people bringing their waste products, and guided them to where they needed to go. The second project I helped with was later in the summer. The UW – Extension was doing a study on barley; they were assessing the quality of different varieties while using multiple nitrogen levels. After the barley was harvested, I helped weigh, label, and measure moisture content of the samples taken.

Final Thoughts

This summer's internship was more rewarding than I would have ever thought. I learned about so many different conservation projects it was hard to fit them all into this final report. I had the opportunity to take the theory I have learned in the classroom and actually watch it be implemented in the field. I learned about the challenges conservationists face every day and now have a better appreciation for the work they put forth to protect the natural resources everyone enjoys. There are not many internships that encompass such a wide variety of projects, and I am so grateful that the conservationists in Buffalo County had the patience to teach me skills that I will need in my future career. I want to thank all of the people who made this internship what it is today, who worked with me all summer, and who contributed money toward the scholarship. I feel better prepared for what I will face in the years to come.

2014 Scholarship Contributors

Alma Rod and Gun Club	JL Farms Group, LLC
Bee Forest Products, Inc.	John Balk
Brunkow Hardwood Corp.	Lower Chippewa River Alliance, Inc.
Buffalo County Farm Bureau	Madison Fishing Expo
Bushy's Meat Market and Buff's Bake Shop	Modena Farms
C.D. Besadny Conservation Grant Program	Mondovi Conservation Club
Clearwater Chapter – Trout Unlimited	Ron Hurlburt
Fountain City Lions Club	Stuart Hagen
Fountain City Rod and Gun Club	Swan Watch
Greshik Farms	Waumandee Rod and Gun Club