

**Intern Articles as Published in the Friends of the Prairie Learning Center's
Prairie Winds Newsletter**

**Blood, Sweat, and Bug Spray
Jessica Babcock, Biology - 2004**

A bead of sweat slips slowly down the side of my face and comes to rest in the corner of my eye. Ahh, the sweet sting of sunscreen and bug spray. My muscles ache, my blisters ooze, and my chigger bites itch like mad, but I dibble yet another hole.

"Can you remind me again why I applied for this internship?" I ask Ray, the other Biology Intern. He's in the same shape as me, so he simply shrugs and smacks another mosquito from his arm.

It's times like these, when it's muggier outside than in the greenhouse and the task ahead of us seems further from completion than the blazing sun is from setting, that I call into question my self-proclaimed love of outdoor work. My eyes become blind to the prairie landscape all around me, and I see only the weeds at my feet. My heart becomes as calloused as my hands to the bigger picture, the meaning behind all of the work that goes on here at the Refuge, and I wonder what on earth is possibly being accomplished.

But these times are fleeting; they are overshadowed by the moments when the light bulb shines again atop my head, and I truly grasp the importance of ecological restoration. When I see a young mink capture a rabbit in the Sedge Meadow or flush a fawn out of an area that used to be a lifeless road. When I catch two Pearly Wood-Nymph moths in the act of mating or spy a goldfinch perching like a sentinel high upon a Compass Plant. When I stand outside the Prairie Learning Center and watch a storm move in with the lightning striking on a prairie horizon as far as my eyes can see. When I joke with volunteer, Warren Burman, in the seed lab and feel his love for this place radiating so intensely from him. These are the moments that cause me to remember why I applied for this internship, when I know without a doubt that the work being done here at the Neal Smith National Wildlife Refuge is of utmost importance. So to all of you who helped make this experience possible for me, thank you.

Now it's time for me to get back to work. Could someone hand me the bug spray?

[Top](#)

**Take Time to Reconnect with Nature
Erin Trost, Public Use - 2004**

My journey to Neal Smith began about 5 years ago. As I went off to college at the University of Northern Iowa that first fall, I had no idea what I wanted to major in, although in the back of my mind I knew I wanted to work outdoors.

My interest in nature began at a young age. You could always find me outside roaming around on the family acreage or down at a nearby pond. My parents also fueled a great desire for nature by taking the family on camping adventures to places such as Colorado, Wyoming and Oregon.

These childhood memories often entered my mind as I was thinking about what my “dream job” might be.

Taking these memories and my desire to work outdoors, I decided to pursue a degree in Natural Resource Recreation and Tourism at Colorado State University. Now, almost four years later, I have returned to Iowa to finish up my degree at Neal Smith NWR.

I was excited about the chance to work for a great organization and a little nervous because I knew this was the beginning of what will hopefully be a rewarding career.

During the first couple of weeks at the refuge, I learned a lot! I watched many educational programs and helped out where I could. I learned plant names and even got in on some invasive species removal and the planting of some native species.

The first time I did a program I was so nervous. Once I got going and the kids started interacting with me, the nervousness went away. The more programs I did, the easier it got. The thing I enjoyed the most while working with the groups was being able to see them experience nature and knowing they would appreciate it a little more when they left. I was also very excited to see all the inner city children that came out to the refuge. They now know there is a whole other world out there beyond the busy streets of the city.

I enjoyed many other aspects of the internship as well. Collecting seed and putting together my frog display were just a few, and now that I look back on the past 10 weeks, I can't believe all the great experiences that I've had.

My hopes for the future are to work for the National Park Service somewhere out west, but I will always remember my time at Neal Smith and all the people who helped make the internship a great experience.

Ray Schmitz, Biology - 2004

I began my internship on the 24th of May and I had little knowledge of what I would be doing. At that time I would not have believed that I could learn as much as I did in nine short weeks. I became quite good at identifying plants. I still don't know the scientific names of them

all, but I am getting closer. I have also learned many skills that I will take away and apply in my future endeavors.

The other intern, Jessica Babcock, and I spent many hours out in the field battling sweet clover and other things. We also planted thousands of plants on the refuge. One of the main areas we worked on was a place called the Sedge Meadow. We mowed and sprayed the giant ragweed and reed canary grass. In its place, we planted thousands of purple prairie clover, prairie cord grass, cardinal flower, prairie blazing star, and countless other species of plants.

During my time at the refuge, I met many wonderful people, including staff and volunteers. The knowledge that I received from the staff was invaluable. I also got to know many wonderful volunteers. One of these volunteers was Warren. I had many great talks with Warren and enjoyed listening to his jokes while cleaning seed. People like Warren made the refuge a great place to work. In my short nine week internship, I had many great experiences that I will long remember. I would like to thank Pauline Drobney, Jeff Krueger, Jessica Babcock, Nick Berg, staff, and volunteers for making my internship a fun and interesting experience.

[Top](#)

Molly Caldwell, Public Use - 2004

Although I was originally born in Billings, Montana and have lived in such places as Colorado and Cedar Rapids, I have lived in Coralville, Iowa the longest and consider it my home.

I attended Iowa City West High School and graduated in 1999. Afterwards I attended Kirkwood Community College for a short time and eventually graduated in May of 2004 from Cornell College located in Mt. Vernon, Iowa. I received a Bachelor's of Special Studies degree in Sociology with a minor in Studio Art. So what brought me to Neal Smith NWR?

At 15 years old, my very first job was working at the Coralville Reservoir maintaining miles and miles of trail with a crew of eight other kids. We cut new trails, built foot bridges and learned how to use maintenance equipment. After that first summer, I was hooked and returned to "The Rez" for three more summers and eventually became a crew leader.

My first year of college required that I complete an internship and I applied to the Coralville Parks Department. I ended up working there for another four summers. I was in charge of planning the annual flower plantings in all the city parks and facilities, performing various landscaping duties, maintaining park aesthetics, and teaching the new seasonals "the ropes".

After I graduated from college I made a serious effort to incorporate myself into the working world...oh how tragic! With my only experience being in manual labor, many employers aren't willing to give me a chance. Luckily our family friend and Neal Smith employee, Rick Hagar, mentioned that some extra help was needed at the refuge. Well lo and behold here I am for my short, but busy, two week internship.

I was a little hesitant to start, seeing as I have no experience with teaching. But after my first few lectures I'm beginning to think I'm a natural!

This is a great experience for me, not only will it look good on a resume, but it has been a huge confidence builder as well. In addition, since I have a great appreciation for nature, it is so wonderful to know that a place like Neal Smith Wildlife Refuge is committed to preserving the remnants of Iowa's history so that everyone, young and old, can enjoy it.

[Top](#)

My Internship at Neal Smith NWR Chad Reed, Biology - 2003

On a warm August morning, I parked my truck in the parking lot of the Ankeny Campus of DMACC. At 8:30 a.m. I would start the first of many classes on my way to a degree in Commercial Horticulture.

Now, almost a year later, I look back at the nervousness of that first morning and I have to laugh. Not only am I president of the Horticulture Club, but also as a first year student I was offered a once in a lifetime chance to intern at a magical place. No, it's not Disneyland. It's the Neal Smith National Wildlife Refuge and so much of the time, it is beyond words.

I would have to say that I was blessed with the opportunity to intern for the biology department at the Refuge. Propagation intern to be exact. This position has entailed many duties, and also many wonderful experiences that I will keep with me always. I've been in charge of a small greenhouse within the Learning Center as well as the propagation greenhouse, which is a large hoop house and contains seedlings and containerized plants ready to be moved to the prairie. The Refuge has allowed me to put into practical use many of the skills that I have acquired as a horticulture student. I have used an automatic scarifier on some *Baptisia lactea* and *Baptisia bracteata*, which is false-white indigo and creamy indigo, in layman terms. I was involved in a rather extensive project involving the division and transplanting of several specimens taken right from prairie and marsh areas. Along with these projects, I have been maintaining the day to day operations in the greenhouses, daily checking to make sure everything is properly watered, but also fertilized and disease free. It has been an absolutely

fabulous experience. I'm not sure the word rewarding can begin to cover how much I've received from my time here on the Refuge. It truly is a magical place.

[Top](#)

Brittney Huey, Public Use - 2003

When I first walked into the Prairie Learning Center, I knew this would be the best internship I could have. I knew the days would never be the same, and I would always look forward to learning from the staff and passing it on to the children. I have never had a job that I would actually like working seven days a week, and by being here I think I found one. Early on I was encouraged to take walks and learn to identify the prairie forbs and grasses.

I grew up on a farm in Audubon in southwest Iowa. From the start I loved being outside and had a passion for saving the environment. I heard about this internship through my professor at Iowa State, and I knew this would be a great opportunity. When I arrived at the refuge for my first day, I was ready to take on the world. My very first duty was to pick up buffalo chips for Buffalo Days. Watch out for the soft ones!

I have had the chance to lead children's groups in programs, crafts, hikes, and much more. I planned their activities while at the refuge and always had a rain plan ready. I love the children's eagerness to learn, and they want to know everything. The experience has given me more chances to speak to the public. My favorite activity with the children is making plaster of paris footprints. While we let them dry, they are always reminding me about them so I won't forget. I have learned new programs on the computer to generate educational displays that will be put up in the display window of the Environmental Education lab.

Along with teaching children, I have had the opportunity to learn many new plants by taking care of the greenhouse and planting them out on the trails. By taking care of the greenhouse, I have met many great volunteers that bring more knowledge and excitement to the prairie.

The Public Use team has allowed me to experience many different areas by helping me identify plants in the production plots, catching butterflies with research groups, collecting seed that will be planted later, and learning how everyone helps at the refuge. I have worked up front at the front desk greeting people and answering people's questions about the refuge. I also participated in the Prairie City Old Settler's Day parade walking with the float. I attended the Iowa Prairie Network Conference and visited some small established prairies that contain diverse species.

I want to say thank you to the Friends of the Prairie Learning Center for the experience I have had over the summer. It has been a wonderful time being part of something so great and knowing I made a difference. I have gained much knowledge during my time here.

I'll be able to teach others what I have learned about the prairie and the abundant wildlife it contains. I will be volunteering here when I have a chance.

[Top](#)

Kate Burnett, Public Use - 2003

I remember the first time I visited Neal Smith NWR as an elementary school student. The Learning Center was not built yet and it hardly seemed that what I saw around me would someday be one of the largest tallgrass prairie restoration projects in the nation. Even though the project was just beginning,

I will never forget some of the valuable lessons I learned about what Iowa's landscape was once like. This summer, I have had the opportunity to pass some of those lessons on to other interested individuals. By leading programs and hikes with groups of kids, I was not only given the opportunity to pass along my enthusiasm about conservation but also to learn something new almost everyday. I have become familiar with Project Bluestem and the curriculum that the Public Use staff has established for visiting students.

I have also helped out on many other projects around the Refuge. During my first week, I helped create a craft for kids to do during Buffalo Day and worked in the EE Lab that Saturday at the craft table. I helped design and prepare a float for the Prairie City Prairie Days Parade and have participated in preparation for the State Fair booth. Along with various projects with the Public Use staff, I was encouraged to be creative and contribute what I felt would be useful to the Refuge while I was here. I was inspired by a few volunteers, and their questions concerning the plots around the Overlook Trail, to create an educational guide to commonly encountered invasive species. Several guides can be found in a folder taped to the inside wall of the trailer. The guide includes thumbnail photos of several species and a few identifying qualities about each plant, hopefully this will provide further education to our volunteers about "weeds" that can be pulled from their plots.

There have been many opportunities to learn through this internship. I am a Biological/Pre-Medical Illustration major at Iowa State and therefore was thrilled to be able to learn more about the biology of the prairie. I was allowed to tag along on several species identification endeavors and have learned the names of many prairie plants. I also attended a prairie conference in Ames. Participants were taken to a few other prairie restoration sites in Story County. It was interesting to see what else is being done around the state to restore native tallgrass prairie. My final project will be to create an illustration for Project Bluestem that accurately portrays a bat and how bats use echolocation to find their prey.

I grew up loving the outdoors and was taught to always respect and appreciate nature. Iowa's opportunities for outdoor recreation are sometimes few and far between but the efforts here to provide a beautiful place for people to enjoy is helping to make Iowa's unique beauty more accessible.

Thank you to the Friends of the Prairie Learning Center for the support that made this internship possible. I have had a great summer here and feel lucky to have been part of this project.

[Top](#)

The Heart and Soul of Work: Comments on my internship at the Neal Smith National Wildlife Refuge
Heather Cline, Biology Intern – 2003

In the mornings, leaving for Neal Smith NWR, I would feel a little guilt. I had told my kids that I was going to *work*. There is a stigma that surrounds that word that makes it an unpleasant thought. To many, I think that *work* implies that you go to a building where you feel alienated all day, doing something that has no connection to your heart or soul. My work this summer at Neal Smith didn't feel like that.

The foundation of my career goals is that I make things (what ever those *things* may be) a little bit better. I have accomplished that in my work here. I have learned how the landscape of Iowa is in distress; the Tallgrass biome, which at one time spread itself across the land, is now made up of suffering remnants and struggling restorations. There is no longer any semblance of balance. Creatures and plants that should be here are not. Plants and animals that have adapted elsewhere have taken this adaptive advantage to dominate in areas here where they never would have been found. Chemical inputs have flooded the land and other human driven impacts have all but disappeared the Prairie.

This touches my heart, because like other life on this planet, I have a connection to this land. I choose to feel this connection. It tugs at my soul because, as a conscious being, I feel a responsibility to the land. I have come to believe that these are some of the same reasons why Neal Smith National Wildlife Refuge is here.

I have watched life germinate from tiny seeds. I have nurtured so many small native prairie plants. I assisted in helping along the successional stages of landscape restoration. Where there were crops or backyard weeds, there are now compass plants, wild indigo, and native grasses and forbs, giving the land a more natural state, providing food sources and habitat for wildlife. I have played a part in re-instituting the natural disturbance regime of fire, then to bear witness to the invigorated re-growth of life from under the ash. I have helped to battle the assiduous invasive species that threaten. Through this internship I have increased my appreciation of the varied forms that life can take. There are a

multitude of roles that life plays in the dynamic process of the Prairie. I was given the opportunity to contribute in the reconstruction of this system. There was, of course, a lot of hard work involved, but this is definitely the work I feel good about and I hope that my children can grow to appreciate.

[Top](#)

The Best Summer Ever Traci Cella, Biology Intern - 2003

The cool breezes of a crisp, June morning led to a trip up the road to the production plots. I had seen some of the blooming plants from my car, but had not yet spent time in the plots. Today was the day that would change, and a new project would emerge. Phlox was blooming and the Blazing Stars were getting big, but I didn't yet understand the importance of the production plots in regards to the future of the prairie. Having now spent numerous hours in the production plots, I now comprehend their importance. The seed collected from the plots can be used for future plantings. Also, by separating the plants by gene pool, you can notice which bloom earlier, longer, are taller, or which recover best from hail damage.

Since the first time I came to Neal Smith on a Prairie Biology field trip, I have wanted to get more involved and longed to work here. A Prairie Builder Biology Internship over the summer provided just that opportunity. As a recent Drake graduate, I had studied many theories on restoration and preservation, though I had not put them to use. Utilizing my education was how I wanted to spend my summer and there is no better place to try that than here at Neal Smith. Deciding to take on a small project on my own, I wanted to make the production plots more user friendly. If you decide to come and help weed the plots, see Pauline for a sheet to fill out, just to let us know what you work on. Fellow intern, Heather, and I transplanted many ready plants up to the plots to increase diversity. The areas are now labeled with nice signs so that we can make sure everything gets to the right area. Help is always needed in the plots, whether weeding, planting, or just checking on recently transplanted plants.

Hopefully I have made things easier for you so that we can all reap the benefits from our plots. This has been a wonderful experience and I am very thankful for the chance to work here. This is a great place to spend free time and I hope to continue working with you on a volunteer basis for a long time!! Thank you again for a great summer!

[Top](#)

Intern Report Laura Elliott, Public Used - 2002

My name is Laura Elliott, and I have been working this summer as an Environmental Education Intern at the Refuge. I will be a senior at Drake University and will graduate in May with a Bachelors of Science in Environmental Science and Policy and Biology, a minor in Chemistry, and an Honors concentration. After graduation, I plan to do interpretive work in an urban nature center (though I am still unsure of which city I want to live in).

My interest in the environment began very early in my life. My parents always took me camping, hiking, and exploring. I was also actively involved in Girl Scouting from the time that I was old enough to be a "tag-along." I always enjoyed any contact with nature that I could get; however, when I got old enough to consider career choices, I never imagined myself making the environment part of my work life.

By chance, I took a summer volunteer position at the Dorothy Pecaut Nature Center in Sioux City, Iowa during the summer following my junior year of high school. I helped run summer camps and perform animal care. I also learned about the job of a Naturalist and fell in love with the idea. I spent one more summer volunteering at the nature center and, after spending a year in college, graduated from a volunteer to a summer naturalist. Thus began my experience with environmental education.

Since then, I have also worked at a summer camp in Lesterville, Missouri (south of St. Louis) where I had a chance to do environmental education, leadership training, and outdoor living skills working with disadvantaged children from the St. Louis area. With that experience in mind, I have decided to include in my career plans a focus on disadvantaged children in an urban setting. My belief is that these children are the ones that most need involvement with their world and each other. These varied experiences led up to my involvement at Neal Smith. I first heard about and visited the Refuge with a class focused on getting involved in prairie restoration. I spent the semester cleaning seed and learning about seed prescriptions.

Since then, I have visited many times with my service fraternity to do stewardship, and I have begun a research project on the bison herd. When I was looking for employment this summer, the Refuge immediately came to mind. I needed to stay in the Des Moines area and continue my research on the bison, so the location seemed perfect. Also, I thought that the educational experience outside of a camp setting would be very useful to me. I chose well, because I have learned more this summer than I ever have in a classroom. For example, I have greatly improved my plant, bird, and insect identification skills, increased my knowledge about prairie restoration and biology, and picked up more education tips. I feel like I have been able to make a valuable contribution to the public use program at the Refuge, and I know that I will take with me more confidence, knowledge, and experience. I have also had the opportunity to work with a phenomenal staff that has taught me a great deal. I know that I will

continue my involvement with the Refuge throughout the year that I remain in Des Moines, and what I have learned here will be with me forever.

[Top](#)

Intern Report Abby Hade, Public Use - 2002

My name is Abby Hade and I am going into my senior year at Northland College in Ashland, Wisconsin with a major in Outdoor Education: Natural History and a minor in Environmental Education. I grew up in Ames, Iowa but missed the now-standard fifth grade field trip to Neal Smith by several years. I didn't hear about the Prairie Learning Center and Refuge until my little brother came out with his elementary school. As soon as I did I was enthralled. I have loved the prairie ever since I read Laura Ingles Wilder and that love has only increased as the years have gone by. With annual grandparent-chaperoned visits to Living History Farms and school field trips to McFarland Park in Story County I saw more and more pieces of Iowa's natural heritage. I began exploring Doolittle Prairie and did an extensive research project on prairies my sophomore year of high school. For two summers I worked for the Story County Youth Conservation Corps and got down-and-dirty with prairie plants. I worked for Story County Conservation for the past two summers and during breaks from college I traveled out to Neal Smith with my boyfriend to go birding and botanizing and bison-ing. Last fall, as we were walking the Tallgrass Trail, he proposed to me. That sealed my fate; I am now forever connected to the Refuge.

During a routine checkup on the Friends' website last winter I noticed a banner for summer internships. This aroused my curiosity and, on a whim, I decided that perhaps I should apply. It seemed reasonable; a place that I knew, not too far from or too close to home, and an environment that I love being in. So I did, and – lucky me — I got the job.

This summer I spent a considerable amount of time working with groups of children who came to the Refuge through day camps or church camps or YMCAs. There was a smattering of adult groups and the occasional nursing home with which I spent my time, as well as mornings or afternoons behind the information desk at the Prairie Learning Center. The fun didn't stop there. I put together a display for the Iowa State Fair, designed and decorated a float for Prairie City's "Old Settler's Day" parade, rewrote the exhibit hall scavenger hunts, conceived and contrived July 4th's "Flying Free" activities, created a series of identification sheets on birds and flowers for visitors to take on hikes, and gave a presentation at a brown-bag lunch (all with the help of fellow public use intern Laura Elliott). There were other smaller tasks like opening and closing the PLC and general stewardship that filled up any extra time and kept me happily busy.

This summer has been fantastically amazing and I have thoroughly enjoyed working with the Public Use department staff, the Refuge staff, and the incredible

volunteers who put so much of their time toward the success of this place. I'd like to thank the Friends of the Prairie Learning Center for making this opportunity available and I'd like to thank Don Jorgensen, Gary Shea, John Below, Al Murray, and Laura Elliott for making work FUN each and every day. I admire the dedication of the people who are the life-force of this prairie restoration. I am proud to now be counted among your numbers and promise to help keep up the good work!

[Top](#)

Hidden Treasures Shannon Tuttle, Biology - 2002

On June 10th, 2002, I wasn't prepared for what my journey of the summer would entail, and I soon realized that this summer internship was going to be much more than spraying herbicide. My first clue of this being a fulfilling journey, was on my first day driving in on the entrance road. Every turn of the road was an invitation for morning fog to creep across the prairie in a mysterious, yet calming way. The sun's rays began to peak over the hills as if to say "hello", while shining the way to the Prairie Learning Center. It wasn't long into my internship that I felt welcomed by the staff of the refuge and the world around it. Whether I was planting at the green house, or clipping sweet clover behind the savanna, I was always taken aback by the true essence of nature that surrounded me. One afternoon while working in one of the prairie remnants on the refuge, I had to take a moment to open my eyes and ears to everything around me. I wanted to soak up every sound, every smell, and every sight so that I could remember that moment in years to come. So as I stood in the middle of this remnant, the needle grass tickling my legs, I watched a deer and her fawn paralyzed for a moment in my presence but soon leaping and prancing together over the nearby creek before disappearing into the trees. My eyes soon wandered over to the hundreds of pale purple coneflowers that occupied this hidden enclosure. They acted as a playground to the many dancing butterflies and other little creatures that called this place "home". While I watched the butterflies dancing from flower to flower, I listened to the various sounds around me. There was the soothing sound of the wind blowing through the trees, the running water from the creek nearby, and birds singing to each other from near and far. All of which were therapeutic to my heart and soul.

Throughout this entire journey, I felt like every day was a therapy session with nature. How many times do we go through life with out really "stopping to smell the roses", or looking at the various shapes and colors the clouds are making in the sky? When's the last time you really *saw* how green grass can get, how detailed a spider web can be, how wonderful a flower can smell, and how beautiful every insect, animal, and plant of nature are together, creating a whole other world that is often ignored, neglected, or misunderstood. That's why it was so amazing to work at Neal Smith National Wildlife Refuge, experiencing

everything like a little girl's first time outside. Everything was so new and exciting, so full of color and beauty that I couldn't take my eyes away from it all.

By the end of my internship I had experienced many different things and learned more than I could have imagined. Every week had brought something new, and everything was challenging and rewarding at the same time. Challenging, because everything was completely new to me. Rewarding, because I have learned so many different things and have been a part of this journey for the summer. Pauline acted as the "mother hen" to us biology interns. We were her baby chicks at the beginning of the summer, following her every move, and listening to her every word. By the end of the summer, we were more confident, strong, and knowledgeable. I learned more from Pauline than I would have in any textbook or tour. Starting out the summer working in the greenhouse, and only knowing the plants by the acronyms on their tags, to eventually recognizing each plant and knowing their scientific name was a big accomplishment for me. I had mastered sowing seeds, transplanting seedlings, and identifying various prairie plants, such as; Butterfly milkweed to Wild indigo. I was lucky to work with such amazing people this summer; people who have helped me along the way, and who I have gotten to know a lot better while planting, spraying herbicide, or weeding "conetainers." Without them, some work would have been a little harder and a little lonelier.

Since this internship has taught me many different things, big and small, I thought some words of advice would be good for next year's biology interns.

- 1) If you take the main entry road to work, leave 10 minutes earlier to avoid the millions of pheasants on the road.
- 2) Weeds are smart, sneaky, and never-ending. When you think you've pulled all the weeds your eyes can see, wait five minutes and there will be a thousand more.
- 3) Don't wear what feels like a snowsuit in 95-degree heat just to spray some Round Up!!
- 4) Two words: BUG SPRAY!!
- 5) If you have a lousy sense of direction, don't be embarrassed to carry a compass and use it.
- 6) There are elk on the refuge. . . I saw one.
- 7) If you hear a mysterious noise that sounds like a cat's "meow", see if Shannon Wohl is around. . . it's his boot!!
- 8) Carry a camera with you where ever you go. There is a perfect picture hiding everywhere.
- 9) Pauline Drobney really does know everything.

At the end of my summer journey, I was in a little bit of denial and a little sad. This has been an amazing experience for professional and personal growth. I was given the opportunity to work outside all day, in the middle of beautiful scenery. I feel truly lucky to have been given this great opportunity, and if I had the chance to experience it all over again, I would in a heart beat.

My summer journey that began on June 10th, 2002, was one that I will never forget. Living near the refuge for so many years, I never knew how many hidden treasures lie just beyond my house. This journey was gratifying in more ways than one. So now that I have left the refuge, my thoughts and memories still live inside my heart and mind. I share these memories with my family and friends every day, and every experience I have had this summer has shaped me in a way that will affect the rest of my life. So in a way my journey hasn't ended. . . it has just begun.

[Top](#)

Musings of an Intern **Megan Korte Biology - 2002**

My first realization that Mother Nature does not adhere to logic occurred while reading my Evolution textbook. This particular reading challenged my thinking as to why giraffes have long necks. My understanding was based upon the Theory of Natural Selection. Millions of years ago different species were competing for a limited food supply on the ground. Animals that happened to have long necks were able to forage in the trees above giving them an advantage over other foraging animals on the ground. Over time, the successful individuals reproduced forming populations of what we now associate as giraffes. This seems logical right? Simmons et al have an alternative hypothesis. These researchers found evidence, while studying giraffes in Kenya that giraffes do not forage in the trees high above. Instead they found that giraffes spend most of their time in woodlands and prefer to feed at shoulder height. In fact these researchers found that males typically fight each other viciously and use their necks and heads as clubs. Those giraffes with the most armored skulls and thickest necks were dominant. This new hypothesis irritated me greatly. Evolution has always been a discipline that has intrigued me. To me, the answers to this chaotic world were usually answered by referring to Darwin's Theory of Natural Selection. If these researchers could find another plausible hypothesis, where would it end? How do we know that long necks did not evolve as a defense against predation? Or that long necks happened to help the digestion of certain compounds better? Who knows? The possibilities are endless. The prior hypothesis was something that I had believed in for many years. Apparently, the questions are as endless as well as the answers.

My second disenchantment with research occurred in my Plant Systematic class. For a question on one of our exams, we had to look at a graph from a research paper with numerous dots corresponding to the location of various plants. The researchers had conveniently circled where they thought these populations should be. However, if you take away these circles, no relationships could be seen between these plant populations. This is the perfect example of researcher bias. Without clearly showing the reader where these separate populations occurred, their data would appear to be inconclusive. Bias was a variable that I

had really not been exposed to before. Naively, I assumed that researchers with extensive education and experience would not get published unless their research was conclusive without doubt. With this new information I felt my faith in science begin to waver. How many articles had I read where the researcher led the reader to a false conclusion without even realizing it? Are there really any clear cut answers to any questions one might have? If not, then what is the use of doing research?

While working at Neal Smith this summer I have found my faith in science again. I have come to terms with the fact that not all answers are completely right or wrong. Like most people, I have a desire to learn more about the environment around me. Whether it is simply the correct ID of a plant or attempting to understand the complex relationship between flora and fauna, it helps us understand a little bit more about the world around us. Ideally, the goal of research is to find an answer to the question at hand. However, sometimes the conclusion results in more questions to be answered. Either way, a certain degree of order has been found in the chaos surrounding us. Even with researcher bias, the presence of unseen factors and the lack of control of all variables, research is definitely worth it. Mother Nature may be tricky but attempting to figure Her out is the fun part.

[Top](#)

Ben McConville, Public Use - Summer 2001

My name is Ben McConville. I was an intern with the Public Use Department at Neal Smith NWR this summer. I am from Pella and am currently a senior at Northwest Missouri State University in Maryville. I have a BS in Geography and a minor in Geographic Information Systems and will be finishing a Computer Science minor during the fall semester, graduating in December.

I had only been to Neal Smith NWR one other time before my first day on the job. Last winter, a friend and I saw the sign as usual while traveling to Des Moines. We got into a conversation about what the heck was back there and a couple of miles later we were doing a U-turn onto the east bound lane headed back to the Prairie City exit. Turning onto the entry road and winding our way towards the Learning Center, we began to see pieces of prairie. "I heard that there were buffalo at this place," my friend commented. Not knowing that they were in a fenced area, I started stretching my neck searching the landscape at random for any sign of buffalo. Finally, the Learning Center came into view as we reached the second stop sign. "That must be it. Wow! Quite a place they have back here." I said. I must say I was very impressed with the facility. I had been expecting a little ranger station and maybe a small building to house equipment. I was further amazed after going inside. When we finished wandering through the exhibits, we drove the auto tour and were stopped twice. Once by the buffalo herd and once by the elk herd. "You know I should really check about an internship out here." I thought aloud.

Before I knew it, I was on the phone with Don Jorgenson talking about coming to work with the Public Use staff for the summer. I arrived on June 11 and met Don, Heidi, John, and Amy that morning. All was well, the staff members were friendly and very helpful showing me the ins and outs of the Prairie Learning Center while explaining to me what everyone was doing here at Neal Smith NWR.

The entire duration was a learning experience for me. One of my first tasks was to redo the trail maps that are handed out at the front desk. I also produced a map of the 10k-trail route. Perhaps my biggest task was to develop a map of the area around the Tallgrass Trail and Prairie Learning Center that divided it into workable stewardship areas. This will hopefully provide a better organized plan to accommodate volunteer groups and staff that wish to perform stewardship activities. I learned how to use the PGLR GPS unit in correlation with ArcView; something I had never had a chance to do. I also participated in a couple of different stewardship activities around the Tallgrass Trail. Day camps, boy scouts, girl scouts, and other groups came all summer long and I was able to present several programs and even lead a few hikes around the Tallgrass Trail. I believe I benefited a great deal from all of these tasks. In addition, I helped John Below with the Iowa State Fair booth which was a very enjoyable time. And of course I performed the usual Prairie Learning Center tasks like watching the front desk, cleaning, opening and closing.

All in all it was a great summer at Neal Smith NWR. I met many great people and developed a definite appreciation for tallgrass prairie and the mission at Neal Smith. I would like to thank everyone for the excellent opportunity I was given and especially the Friends of the Prairie Learning Center organization for making it possible. Thanks again and good luck with the tallgrass prairie!

[Top](#)

Back on Track: An Intern's *Return to Wildness* Ron E. VanNimwegen, Biology - Summer 2001

Only a handful of people actually realize their childhood dreams; otherwise, the world would be overrun with firemen and ballerinas¹. For as long as I can remember, I've always wanted to work at a wildlife refuge, but at some point in my early adulthood that dream became derailed and I "ended up" becoming a restaurant owner. Even though I was considered successful, I still felt I had some unfinished business in the spiritual fulfillment department. So at age thirty-seven, I returned to Iowa State University, nearly twenty years after attending my first class there in 1980. It's hard to describe how I felt walking to that first class on my first day back, but I survived it and soon my dream had gotten "back on track".

As an Animal Ecology major, I was required to fulfill a practical work experience requirement for graduation and for many students this entailed landing a summer

job in some biology-related field. For me, who had forgotten how to land a job, it meant volunteering for a summer at the Neal Smith National Wildlife Refuge. I began as a biology intern's helper but later found I could contribute in other ways as well. I must have proven myself useful, because I continued to work through the winter and was officially hired by the Friends of the Prairie Learning Center as a paid intern.

I expected my internship to be somewhat similar to my experiences last summer, and in many ways it was: hard work, hot weather, sore muscles, all the things people love to whine about, including me. It was quite different, however, in the knowledge and understanding I acquired – knowledge of the people, organizations, and administrations surrounding environmental work, as well as an understanding of the science, restoration, and ecology of native prairie ecosystems.

Most of our physical chores centered on the control of exotic species and the maintenance and care of our beloved native species. We became licensed pesticide applicators and mercilessly unleashed this newfound power on Reed Canary Grass, Crown Vetch, Rubis, non-native Switch grass, and a variety of thistles. When necessary, we donned gloves, armed ourselves with shovels, and dispatched the likes of sweet clover and Queen Anne's Lace. We attended the *Invasives Bus Tour*, where we shared pertinent information with fellow soldiers from around Iowa, in an attempt to prepare for the imminent advance of Leafy Spurge, Spotted Knapweed, Purple Loosestrife – the list goes disturbingly on. When hail and age threatened our greenhouse, we re-skinned it, and when moss caps deprived our containers of water, we decapitated them.

When our sweat was dripping more than could be imagined, KCCI-TV was there to film it. On a more proactive note, we harvested seed from Blue-eyed Grass and Starry Champion. We cared for our greenhouse seedlings as they awaited transplanting. We potted some native Switchgrass donated by the Fennimores. We also took a leap of faith by planting the endangered Western Prairie Fringed Orchid in hopes of paving the way for more. Finally, on a practical and fun note as well, we learned to operate a handful of the less commonly used Refuge vehicles, such as the ATV, six-wheeler, and TrakTruck.

I felt especially fortunate to be included in some administrative aspects of the Refuge as it operates within its governmental framework. In order for a refuge to operate cohesively, each department must be specialized, yet be able to coordinate and overlap to some extent. All interns were invited to weekly staff meetings, we helped write and assemble an annual refuge narrative, and we took part in preparing a prescribed burn plan.

We also developed a simple graphical message center consisting of laminated maps with dry erase legends and used these to share areas of concern and interest with the rest of the Refuge staff. Such areas included invasive outbreaks, erosion areas, and significant wildlife sightings. In addition, we took part in a

number of outreach activities: our annual Buffalo Day, our Volunteer Showcase Day, our state fair booth, and a visit from our Lieutenant Governor and Neal Smith himself.

A few of my personal hobbies turned out to be of value to the Refuge as well. I tried to keep my camera with me at all times in order to graphically document our activities for future narratives. In addition, my hours of computer tinkering had made me somewhat proficient at working with Geographic Information System (GIS) software, and I was able to use those skills to make maps for a variety of departments and purposes.

Field trips and morning meetings became the core of our educational experience. We discussed the ecological roles of the plants we had learned to identify throughout the summer. We discussed *floristic quality assessment* and its applications in restoration. We learned what to consider when formulating a good seed mix. When Refuge Biologist Pauline Drobney leads an ecological discussion, one cannot help but develop an understanding of, as well as a connection with, the prairie as a whole – as an entity so to speak.

We also attended the Iowa Prairie Conference and listened to experts speak on a variety of prairie restoration topics. We took part in a brainstorming session to help Marcus Mueller develop a management plan for the fen he discovered in his employer's hog lot in Blackhawk County. Our best field trip was spent at the Union Slough NWR to help with a goose banding operation. This, of course, was the highlight of the summer for *this* aspiring wildlife ecologist, to be literally hands on and eye-to-eye with such magnificent creatures.

Altogether, it seemed the diversity of my activities was only surpassed by the diversity of life in the fields beyond our parking lot. While this is the end of an internship for me, it certainly is not the end of my time and effort here. I'll continue to contribute whenever and however I can. Obviously, my internship at Neal Smith offered me a wide variety of experiences and benefits. I can drop names that will weigh quite favorably on my grad-school applications and resumes.

Beyond the many practical benefits, however, I learned that there is still hope for the natural world. I learned what can be accomplished when a group of dedicated and talented people take a step outside of themselves and speak for those without a voice. The staff and volunteers here are the best people I know – every single one of them, and I look forward to the time I'll spend with them now and in the future. And finally, as a restaurateur-turned-scientist, having actually worked on a wildlife refuge, I can say that I am living proof that it's never too late to start over.

[Top](#)

**The Buffalo Ranch on the Way to Des Moines
Lacey Naaktgeboren, Public Use - 2001**

So, where are you working this summer Lacey?

I am working in Prairie City at the wildlife refuge there.

There is a wildlife refuge in Prairie City?

Yes, it's the largest prairie restoration in the U.S.; they have elk, buffalo, and many other native species.

Oh, you mean the buffalo ranch on the way to Des Moines!

Yes, believe it or not this is the conversation that I had with many of my friends about my summer internship. Living in Pella, I really thought that people knew about such a great place like Neal Smith NWR, but I learned that most people see the sign and do not even know what goes on here.

By being able to know exactly what goes on at Neal Smith NWR, I got to share everything that I knew about this wonderful place with my friends. Many of them came to visit, and by the time they left they thought that I had the coolest summer internship ever! Not only did I get to share Neal Smith NWR with my friends, but also as a Public Use intern, I got to communicate with people of all ages. I answered kids' questions about the buffalo and elk. They all loved to see the stuffed ones and could hardly believe how big they were. We talked about the other animals that lived in the prairie, and how important they are to the ecosystem. I took them on prairie hikes and we talked about the native prairie plants that were living in the area, and how all of the land that is now planted used to be farmed. So many things were learned by both the visitors as well as me. I learned new things every day.

One day I was asked to do a program about careers. I was going to explain the different kinds of majors and types of careers that were possible in this field. As I was talking, a kid raised his hand and asked me what I wanted to do when I was out of school. This truly made me think a lot. So, this is kind of what I told him. I will be a junior at Iowa State University with a major in Animal Ecology. As an Animal Ecology major, you must choose to specialize in a field. The options are Wildlife, Pre-Vet and Wildlife Care, Interpretation of Natural Resources, Fisheries and Aquatic Sciences, Ecology or Aquaculture. Finishing up my sophomore year I was bound and determined to be a pre-vet and wildlife care major. I thought that it would be great to be a wildlife biologist or a wildlife rehabilitator and help injured wildlife. So, this summer I took this internship and was assigned as a public use intern. I was given the task of teaching thousands of people from the ages of 4 to 95 about the Refuge, and answer any questions that they might have. At first, I must admit I was pretty nervous. I had no idea how I was supposed to learn all of this information. What if I didn't know? What if I said the wrong thing? Luckily, I had great, very patient teachers. Heidi Reick, John Below, and Amy Kelpé were very understanding; they helped me in every way that they could. It wasn't long before I was leading groups with no trouble by myself. And as the summer went on, I realized that I kind of liked what I was doing, in fact I

really liked it. It was fun to see that people came to a place where they were learning something and they were excited to see the buffalo, just like I was. So, I thought now what am I going to do, change my major? As the summer went on, I decided that I would do whatever made me happy. Sometime in my future I hope to do some kind of environmental education. I am going to discuss my options with my advisor and hopefully he can guide me in the right direction.

I truly believe that an internship is a wonderful tool. It puts you out into the real world into a job, and it is for you to decide if it is something that you could do for the rest of your life. I hope to find another internship before I graduate so that I can be sure that I am making the right decision.

As for the buffalo ranch on the way to Des Moines, I hope that I spread the word out enough to all of the people that I talked to, many of them have come to visit and have come back to tell me and everyone that they know what a wonderful place this is.

My experience here has been amazing. I have learned more in these nine weeks than I have ever learned in a lecture, not just about buffalo but about life and responsibility and what the U.S. Fish and Wildlife Service is all about. I am very proud of what has been started here and the progress that is being made. I can honestly say that I worked with a great organization and a great group of people this summer. The Refuge is so lucky to have the wonderful support from volunteers, they truly do some of the best work around. I became great friends with many of them and I will miss them dearly. The staff was wonderful. They never gave up on me and were always there to help me whenever I had a question, and I truly appreciate all of their help.

To the Friends group, thank you so much for this amazing opportunity. It is because of you that I was given this experience.

[Top](#)

What i did on my summer vacation Joe Heffron – Biology - 2001

When i saw the desert in arizona for the first time, my immediate thought was that all the museum dioramas of the southwest I had ever seen were completely accurate. Regardless of what those dioramas depicted in the foreground—a cowboy on horseback, rearing high above the sagebrush before a coiled rattler, a dusty mercado, a jackrabbit burrow—everything beyond was invariably painted on the wall mere feet from the viewer. That lack of realism had always disappointed me. However, in the actual desert, while everything within five yards of me shone with the high contrast of the sun and clear atmosphere above, everything beyond five yards rapidly slipped from reality and positioned itself on the fresco of mesas and sky painted just beyond reach.

Driving down the entry road on the first morning i worked at the refuge was reminiscent of that phenomenon as creamy, dark droplets circled me in the cockpit of my minivan and the prairie-in-progress whirred by, an amorphous blur on the flat pane of my windshield. It had been the first time in many months that i had woken before 8 o'clock, and even the five yards around me seemed a bit hazy at first. I was forgetting sequences, trying to remember which way time flowed. (Did 6:45 mean fifteen minutes until work began or that i'm fifteen minutes late?) I opened a small bottle of iced coffee from casey's and looked at the lid. "Shake well before opening." About three seconds after i started shaking/agitating the coffee, a bit of time and order returned, and the space around me became crystal.

The shock of cold coffee mist at 6:45 notwithstanding, it is common to feel distant from the outside world while driving (which is a bit unnerving for pedestrians). The space you interact with is tiny compared to the space you affect, and the other cars, that thin yellow line, are mere taboos, symbols that the very back of the brain associates with death, pain, and other bad things. Even from outside, looking in, you can sense that isolation. At the sound of an approaching car, you straighten your back and raise your head—a programmed action from a long line of ungulates and browsers—and leaning into the bank of the ditch, you strain your eyes to pick out the cool, dark interior of the passing vehicle, elusive as your own blind spot between the broad rays of noon on sweat-covered eyes. The momentary distraction past, you bow your head and return to the twin stalks of sweet clover clenched in your gloves. Cross-eyed, you feel the entire day lose focus to the drop of perspiration that has been licking the tip of your nose for the past two minutes. It finally loses its grip and tumbles through stale greenhouse air to the cone-tainer in your hands (thin, cone-shaped seedling pots—cone + (con)tainer = cone-tainer!). Paul stands next to you and sings a little song about baptisia, and hours pass while your fingers stir the rim of cone-tainers and pry out every strand of moss from the weepy seedlings that fawn and swoon like olive oyl. Spoiled step-children of human effort, the seedlings are privileged and limited in their cozy house; when they trade their two-inch plastic girdle for the borderless expanse of the 'real world', they will clash in the ground that nourishes them like that already-initiated baby orchid. After you cross over the sunken rives, their ditches hidden by reeds and sedges, on the way to the orchid's den, you peel back the layers of wet paper that protect it from heat and drought with quick fingers—half out of anticipation, half anxious to avoid any contact with the variety of spiders whose temporary home you're disturbing. Beneath it all, the orchid emerges like a paper horn. Though every plant begins the same, this orchid and the babies in the greenhouse are anomalies; for all their fragility, they exert tremendous force against the tacky earth in which they stand, like pushing a car back onto the road on an icy morning, or the last few steps sisyphus takes at the top of the hill (angela fumbles and laughs), or like forcing an atv with no differential to turn, straddling it and throwing your weight against it into crunching gravel—feeling it grunt with torque and getting the distinct impression that you're

doing something very wrong—something nectary with sex and power that violates the fundamental laws of the physical universe, yet complies with the natural world. Nothing like gliding through a goose round-up at union slough, where the water and wood ducklings all slide in even lines parallel to your canoe. No, the seedling struggle is closer to the cloacal wrestling that comes after all the geese are penned. You kneel with a bundled goose between your legs, twist its tail violently downward and fumble with the small pink volcano to see directly underneath—to see the part of the bird that sphincter is determined to keep you from seeing. You justify the invasion with a half-baked notion of greater good and try not to think about what you're doing or remember how close those powerful, clawed feet passed down from the dinosaurs are to your own genitals.

But all the geese are processed, and none die, and after eating a doughnut with surgical precision to avoid touching it with lava-stained hands, you amble back to the van, where the day's flapping and honking settles into a cool layer of down, where Ron waxes black bears, improbability drives, greek army food, and Paul about living on the boat and earth, where Angela sleeps in her wedge between seat and window. There, everything softens below your head, the window a taut bedsheet, the seatback a pillow, and you think about sleeping, but then you open your eyes and you've slept. No sooner do you realize this than you open your eyes to find you've slept again, like on the jet over the pacific, where you opened your eyes to see a tray of food in front of you, and as if there were another pair of eyelids below the first, opened them again to find the curried tofu completely gone, a few bites missing from the kim chi as well, opened them again onto venice beach where the only trace of where you've been is the woman next to you and the loose pants she's wearing, opened them to the van's spinning wheels over undulations of cracked land with spry vetch springing up like nematodes squirming from a host body, opened them onto vibrant fen where Pauline high-steps through tussocks and names plants as she walks, shaking each to separate it from the others. flat-topped aster. self-heal. mountain mint. Boneset (probably named for its ability to cure 'break-bone fevers' instead of any ability to set bones, which is unfortunate considering the terrain). Ron's boots reverberating through the peat underfoot, your steps wobble over the gummy hummocks and skid into the network of snaking rivulets between. The contour of this small patch of land rolls like your ankles, like the convolutions of a giant brain that remembers unblemished landscapes, when the concept of time did not exist, and the cold mist of necessity kept humans aware of sequence and change, just as with elk and bears and salamanders, when humans were first coming onto the continent, floating on log rafts, shoring down the pacific coast, never pressing into the mainland for fear of the giant predators, and realizing only the five yards around them, along the coast, and around the immediate. I guess that's how our memory is, too. Only conscious of five yards around the present, our minds paint the rest in flashbulb illuminations whose limited spheres overlap to create something that much more resembles a landscape on canvas than personal experience, a background in which to frame generalizations. Years are ground to nothing between the points of clarity, so hoping for more than a few from any

experience is probably futile; i guess i would say (to answer the question i'm supposed to address) that, besides practical knowledge and various certifications and all that boring stuff, working at the refuge has given me a handful of flashbulbs.

[Top](#)