# Effectiveness Monitoring in the Missouri Coteau

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My name is Leanne Heisler. I was born and raised in Saskatchewan on my grandfather's farm ten minutes west of Marquis. I am currently attending the University of Saskatchewan, majoring in Biology and minoring in Physical Geography. My last semester of school will begin January 2008, and I plan to graduate the following April.

This summer I worked as a Shell Conservation Intern for the regional office in Saskatchewan. My coworker (Natalie James) and I conducted Effectiveness Monitoring throughout the Missouri Coteau. To do this we spent the whole month of May training and learning as much as we could before the field season began. During this time we expanded our knowledge of plant and animal species and worked on our identification skills, as well as learnt much about grassland ecosystems. We learned how to conduct health assessments on native grassland, tame foage, and riparian areas. We also learned about native grassland conservation and the role the Nature Conservancy plays in preserving these ecosystems.

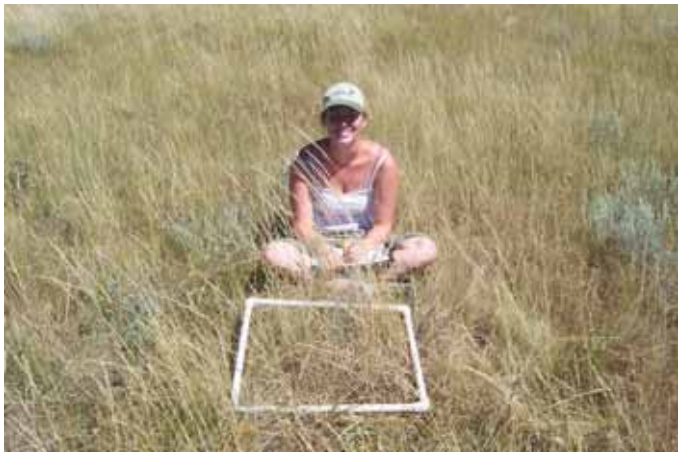
First, I would like to explain Conservation Easements and how Nature Conservancy implements these to conserve native grasslands. Conservation Easements are voluntary, legal agreements between landowners and the Nature Conservancy, whose main objective is to preserve the biological, physical, and cultural aspects of the land.

Once these agreements are properly negotiated, Baseline data is collected and a report is written to accurately document what was initially on the property when the Conservation Easement began. After the Baseline is finished, Effectiveness Monitoring is conducted on a regular basis to document the changes that have occurred since then. That was the role Natalie and I filled as Shell Conservation Interns; we documented the changes that occurred on 42 properties in the Missouri Coteau to make sure the Conservation Easement's objectives were being met.

Prior to actual fieldwork, Natalie and I had to create callibrated maps using GoogleEarth and OziExplorer for each property we visited. We used these maps to plan our field days, navigate around the property, and to efficiently collect accurate data. These maps were very important to keep our days running as smoothly as possible. We also used these maps to organize and program data into our GPS to use in the field.

Once the maps were made, fieldwork could begin! We used RM maps and the Baseline Reports to navigate our way to each property from Regina. Our morning commutes usually lasted 45 to 90 minutes. Once at the property we had to make general observations about current land use, as well as land use on adjacent properties. We also produced a Species Inventory List of audio and visual observations of all flora and fauna seen on the property. This was my favorite part of our fieldwork because our knowledge and identification skills of Saskatchewan flora and fauna expanded with each property we visited. Every day was a great opportunity to learn something new!

Health assessments were conducted for all native grassland and tame forage parcels on the property (unless otherwise stated). A number of health indicators were used to achieve accurate results, including plant species composition and community structure, the abundance of invasive or noxious weeds (such as Leafy Spurge, Sweet Chamomile, Canada Thistle, or Common Dandelion), the amount of human caused bare soil and accelerated soil erosion, and the amount of dead vegetative matter (otherwise known as litter). We also conducted health assessments on some significant riparian areas (including dugouts) and active streams.



Also, all Photo Reference Points established in the Baseline were visited while monitoring. These points are photographed every time a property is monitored to document the changes that occur there over time. This documentation gave us an excellent idea of how the landowner's management plans are impacting the property, as well as giving an indication as to whether the objectives of the Conservation Easement are being met. Once all the data had been collected and all the fieldwork was completed, we wrote reports for each property on what we saw in the field and made necessary recommendations to make changes in the management plans as need be.

This August I also had the privilege of attending the Shell Conservation Internship Wrap-Up in Calgary, Alberta. This was an amazing experience for me as I met many influential and passionate people, as well as my fellow interns who will no doubt turn into influential people in their respective fields. I was amazed at the contributions Shell Canada Limited has made towards sustainable development and a cleaner environment for a better future. During the wrap-up, I had the opportunity to visit a well

site and the Jumping Pound facility to explore some of Shell Canada's activities and have some of their environmental endeavors explained to us. We also participated in a hike on a Nature Conservancy of Canada Wildcat Property, where we enjoyed the companionship of Hamish Kerfoot. This was my favorite part of the two day event because not only did we see some extraodinary scenery, wildlife, and vegetation, but we also saw conservation through the eyes of a landowner.

I believe what we accomplished this summer benefits Canada because it is one step closer to making sure native grasslands are managed properly and conserved for future generations. Our work and the rest of the staff's work at the Regina regional office enlighten landowners about the impacts their activities have on their land, as well as help them manage their land in a way that benefits both the environment and themselves. The Nature Conservancy of Canada benefited from our work because we have helped them manage and maintain the Conservation Easements of 42 properties.

I benefited a lot from this internship. I gained valuable experience working in an office setting and working in one of the many fields of biology I wish to pursue after I finish my education. The monitoring skills and data management skills I have developed will no doubt help me find positions in any field I wish to pursue. I feel this experience is completely unique from anything else I will accomplish in my career, and because of that has made me a better biologist and a better person.