

## Alberta Stewardship – Andrea Jackson’s experience as a Shell Summer Conservation Intern

When I first read the job description for the position of Shell Summer Conservation Intern with the Nature Conservancy of Canada (NCC), I knew it was an opportunity I couldn’t pass up. Now, less than 4 months after starting the job, I’m caught in the contradiction of feeling as though the summer has flown by, when at the same time I’ve learned and experienced more than ever before in such a short time frame. Needless to say, the job far exceeded any expectations I had.

After growing up in Calgary, I relocated to Vancouver Island to study Biology and Environmental Studies at the University of Victoria. My studies broadened my understanding of the environmental issues we face, and I remain passionate about learning more about the species and phenomena that surround me. However, my classes were primarily classroom-based, and I knew that my next step was to take my learning out into the field.

Working with NCC has provided an essential base for a career in conservation. As a Shell Conservation intern, my role was to participate in the stewardship of the several properties that NCC owns or has conservation easements on within the Rocky Mountain Front Subregion of Alberta. The position was a combination of field and office work; we monitored the properties by foot then compiled the information into reports.

Although I have always spent extensive time outside, this was my first opportunity at fieldwork. This position offered me a chance to really develop my skills as an outdoorsman. For reasons of safety and efficiency, monitoring was always done with at least two interns. Our team all came from different backgrounds, and the diversity of strengths helped us all. The importance of preparation became immediately obvious, as it allows us to react to whatever we faced in the field. In addition, the extensive travel around the parts of Alberta we were responsible for, and accompanying long exhausting days on foot, opened my eyes to the reality of a job in the field. However, I realized that as much hard work as it can be, it is even more rewarding.



Monitoring at Horseshoe Canyon

Monitoring properties includes a variety of tasks. Baseline reports are compiled when NCC initially secures a property, and we use the information as a guide for future visits. With the help of labelled air photos and a GPS, we navigate to various locations on the properties. We take photo reference points (PRPs): photos of areas that are deemed significant because they are representative of the property or show anomalies that should be monitored. Photos are retaken each year at the same location, as close as possible to the previous pictures to allow potential changes to be tracked. In the office, we mastered the use of navigation programs for air photo calibration and PRP plotting, which are very important when new properties are monitored.



Blue clematis

In addition, we inventory the plants and animals throughout the property. Vegetation communities are delineated during the baseline studies, and we identify the plants present in each community on

the property. At the beginning of the summer, we primarily did this with the aid of books, but throughout the summer this has become increasingly less necessary. For wildlife observations, we make visual observations of animals, their scat, and tracks. For birds (and a few noisy squirrels), calls and songs are also key identification tools. Included in this task was the recognition of rare species. My studies had given me a solid introduction to visual identification, but it was incredible how much exponentially higher my level of retention was when I saw or heard species in the field.



Wood frog

Another key component of the work we conducted was noxious weed inventories. Invasive species threatening native species is a common occurrence, as they are often more aggressive and disturbance-hardy. Noxious weeds are of particular concern, as they usually lack natural predators, are very competitive, and can often quickly progress towards community domination. Areas of disturbance promote weed growth within them. When we came across significant weed patches, we would record information about the patch, including GPS coordinates. When creating the monitoring report afterwards, we mapped the weed patches onto an air photo, showing patterns of distribution and allowing future monitoring.

Many of these activities are performed throughout Canada. However, in Alberta, there are several localized characteristics that require attention. Although I grew up in Calgary, living within the city I was never exposed to many of these important issues, and I'm taking away from the internship a new concern for the areas just outside my door. One of Alberta's most well known features is its beef. Indeed, many of our properties were rangelands – areas that are grazed, and managed as a natural ecosystem. Since these properties also provide important wildlife habitat, there is potential for a mutually beneficial situation of both economic and environmental gain.

However, proper range management is very important to keep the properties healthy. Moderate grazing can be beneficial and help maintain different canopy levels within the vegetation. Persistent overgrazing is a disturbance that can lead to species composition shifts, often irreversible changes from native to non-native grasslands. Water sources are areas where cows aggregate, and the moist ground is susceptible to easy destruction. Both riparian areas and man made watering holes should be managed to minimize disturbance around them, maintaining healthy vegetation and avoiding weed invasion.

Related to the issue of livestock is that of fences. Livestock managers need effective fences to secure their cattle. However, they must also permit wildlife movement. A new procedure introduced this year is fence monitoring, where we recorded data at frequent intervals along the fences in each property. With this information, NCC staff will be able to ensure that the fences on all NCC properties are up to standard and wildlife friendly.



PRP showing quarter-section boundary with fenceline

Also unique to Alberta is the issue of oil and gas. Many of our properties had either current or past oil wells on them. Many of these were documented in PRPs; since they are a potential source of disturbance,

it was important to ensure that weeds did not colonize, or that roadways were becoming increasingly degraded.

As many of our properties are conservation easements, we work with landowners to ensure property management principles are being adhered to. Since this is a voluntary agreement, we observed very high compliance. However, communication of issues such as overgrazing, off-road vehicle use, or other detrimental recreational activities helps to maximize property health.

Another thing I learned from this internship is how important interaction is, with landowners and other involved parties. Lack of knowledge and awareness is to blame for many undesirable outcomes. Landowners truly appreciate the work done on their properties and when given the knowledge and opportunity, will often do what they can to help out.

It's a great feeling to know that I've done something significant. These internships are very important to NCC and conservation in Alberta. On average, 2 interns were out on properties 8 hours a day, five days a week, for about 3 months, covering a large part of the more than 31,000 acres that make up NCC's properties in the Rocky Mountain Front. Without this monitoring work, each property would get much less attention. Landowners will be more likely to consider donation or conservation easements if they feel the long term care of their properties is being looked after. It is much easier to prevent problems now than to have to react to them later, so our monitoring helps to maintain high standard within our ecosystems. The contribution Shell Canada Limited makes is the reason that this is possible. In addition, this job provides training for future potential employees; several NCC and Shell employees were once interns.



Shell Summer Conservation Interns from across Canada

The wrap-up event put-on by Shell Canada was a fantastic end to an amazing summer. The other Shell Conservation interns gathered in Calgary from all over Canada, and put on different presentations about their summers. It was really interesting how they unintentionally tied together. Specifically, the intern working at the national office was creating conservation blueprints, showing areas at risk and areas that should be targeted for conservation. Many of the areas monitored this summer throughout Canada fell within the conservation hot spots. It illustrates how several smaller scale conservation initiatives can build on each other and become significant on a large scale.

I feel that I am much more prepared now for future jobs where I will be able to contribute to conservation. My exact path is still unknown, but I am considering both science/field-based careers, and those more directly involved in education and policy. The skills I practiced this summer will all be transferred to and built on in my future jobs. I also feel reenergized from working with such a passionate group of people at the NCC office in Calgary, each of whom contributed something unique. The opportunity I've had this summer is truly irreplaceable, and I am very grateful to all those involved.