

Shell Conservation Internship Program: An Educational Conservational Experience

Lyn Garrah
Central and Midwestern Ontario

This summer I sought the threatened Massasauga rattlesnake (*Sistrurus catenatus*) and the imperiled wood turtle (*Glyptemys insculpta*), hiked through globally rare alvar ecosystems, helped restore critically endangered tall grass prairie and savannah, heard the threatened Canada warbler (*Wilsonia Canadensis*) sing, stumbled upon the endangered butternut (*Juglans cinerea*), and organized a search party for the rare ram's-head ladyslipper orchid (*Cypripedium arietinum*). Why? Because I worked as a Shell Conservation Intern with the Nature Conservancy of Canada.

Working as a Shell Conservation Intern I had the opportunity to help the Nature Conservancy of Canada (NCC) pursue its goal of land conservation in Midwestern and Central Ontario. Being from Kingston, it was great to explore and learn about some natural areas of Ontario that I have never been to before. It was a wonderful learning experience for me and has helped me to develop a diverse skill set for my future career, building on the knowledge and experience I have obtained through my undergraduate degree in Environment and Resource Studies at the University of Waterloo and my Post-Graduate Certificate in Ecosystem Restoration from Niagara College.

My work as a Shell Conservation Intern

My job this summer involved both field work and report writing which was a great mix to experience a range of important conservation tasks. I was involved in landowner contact and meetings, partnership building with other conservation organizations, public education, property assessments, conservation easement monitoring, writing property management plans, monitoring NCC properties and implementing management actions. I improved my field skills, in particular vegetation identification and use of navigation tools such as compass, GPS and reading aerial maps. I grew a lot more familiar with the geography, landforms and vegetation of Central and Midwestern Ontario. I learned about other conservation organizations and how these groups and individuals can work together to achieve the protection of whole landscapes, instead of fragmented properties.



Nature Conservancy of Canada and Royal Botanical Garden staff identify grasses. Photo: Mhairi McFarlane.

One of the greatest benefits to the job was getting to understand how stewardship work on the ground, in the office and at home contribute to conservation. People are the key to conservation and this summer I met a variety of people involved in conservation work and I saw first-hand how a variety of different contributions can all make a difference. I attended the Menzel Centennial Nature Reserve grand opening ceremony and saw what the contribution of one person could do for a natural area, with the help and cooperation of the Nature Conservancy of Canada and the Ministry of Natural Resources. At the Oak Ridges



Fence built on the Barr Property in the Rice Lake Plains Natural Area to keep unauthorized ATV users from damaging the sensitive sand ecosystem. Photo: Todd Farrell

Moraine Staff Development Day I met a number of people from diverse organizations such as Ducks Unlimited and private land trusts who are working to protect and preserve the environment. It was fantastic to attend the Canadian Environmental Awards as a guest of Shell Canada and to learn more about the different organizations and individuals who are taking action toward sustainability. I helped build a fence with the Ministry of Natural Resource's Stewardship Rangers to prevent unauthorized motor vehicle users from trespassing onto a NCC property. I pulled garlic mustard with a group of Conservation Volunteers to remove the non-native allelopathic plant in Happy Valley Forest. I staffed a booth at the

Roseneath Fair to help inform local landowners about the work the NCC is doing in their area and to spread the word on behalf of hog-nosed snakes (*Heterodon platirhinos*), which are found in the Rice Lake Plains area. I attended a vegetation identification training workshop at Royal Botanical Gardens (RBG) where I improved my vegetation identification skills, learned about the important conservation work performed by RBG and got to know many of the great members of the NCC Ontario team. It was inspiring to see all the work that is going into conservation in Central and Midwestern Ontario.

Conserving Communities: Tall Grass Prairie and Alvar

This summer, I helped the Nature Conservancy of Canada protect two of the world's most rare ecosystem types: tall grass prairie and alvar. Both are globally-imperiled ecosystem types which are rare because of the worldwide decline of tall grass prairie and the in the case of alvar because of its naturally occurring global rarity. Both of these ecosystem types are priority areas for conservation identified by NCC.

Tall grass prairie and savannah communities in Ontario are all S1 rank, which means they are considered a critically imperiled ecosystem type in the province. This assessment is shocking - prairie and savannah communities once covered nearly 100,000 hectares across Ontario; less than 3% of that remains today. The loss of tall grass prairie in Ontario is

attributed mainly to changing land uses, in particular an increase in agriculture, and fire suppression over the last 200 years. Fire is a natural disturbance required by tall grass prairie for maintenance, and when fire is suppressed pioneer woodland species can establish and change the community type.

The Rice Lake Plains Properties cover 40,469 hectares on the Oak Ridges Moraine and is one of the few remaining places in Ontario where pockets of tall grass prairie can still be found. It provides important habitat for a variety of grassland birds and for the fascinating and threatened eastern hog-nosed snake (*Heterodon platirhinos*). About 500 hectares of tall grass prairie on NCC properties were burned this spring to help open the canopy, reverse the succession into woodland, and to stimulate the native seedbank.

I contributed to tall grass prairie protection and restoration this summer through my work in the Rice Lake Plains. I helped

set up photo-monitoring plots and a protocol for long-term monitoring of the changes in species composition, diversity and cover in the post-burn areas. I aided in a vegetation inventory of the Van Hove and Evens and Webber properties, which is important for management planning. Having found non-native, invasive species such as dog-strangling vine (*Cynachum spp.*) and Scots pine (*Pinus sylvestris*) on some of the tall grass prairie properties in Rice Lake Plains, management action



Piling Scots pine (*Pinus sylvestris*) for wood-chipping and mulching to help restore the tall grass prairie on the Rice Lake Plains. Photo: NCC

was taken. With the help of the Ministry of Natural Resource's Stewardship Rangers, I piled up and/or mulched the felled Scots pine trees. The mulching of Scots pine and the piles of trees left in the field will provide some shelter for the hog-nosed snake, which has been found in the area, in addition to opening up the canopy for the native prairie grasses such as big bluestem, little blue stem, and Indian grass to return.

The second globally imperiled community I helped protect this summer was alvar. Alvars are open, bedrock-dominated habitats, usually of limestone, with little to no soil cover. Alvars are only found in the Baltic area in Europe and in the Great Lakes Basin, and are thus ranked from very rare to critically imperiled worldwide and are priority areas for conservation. I had the opportunity to visit some of these amazing sites on the Northern Bruce Peninsula and on Manitoulin Island this summer, which was particularly exciting for me since I had never been to either place before. It was also my first experience with black flies, and a very itchy experience it was!

I also had the opportunity to help with a Conservation Volunteers (CV) event at an Ontario alvar. I searched for the threatened ram's-head orchid (*Cypripedium arietinum*) and for signs of unauthorized motor vehicle use on the Davis property alvar. Although we were not lucky enough to find any ram's-head we were happy to find no signs of ATV use since the construction of a fence barring access to the property last summer. As a consolation for the hard-working Conservation Volunteers that helped look for the elusive ram's-head ladyslipper, we visited the Catherine Wischart Tract, an Ontario Nature property nearby the NCC Davis property. I did not know before that visit about other organizations that are working with similar goals to the NCC to purchase and steward natural areas; it was comforting knowing that the NCC is not alone! At the Catherine Wischart tract I saw dwarf lake iris (*Iris lacustris*) and Manitoulin gold, also called rubberweed or lakeside daisy (*Hymenoxys herbacea*), which are important threatened species for conservation and are only found on the Bruce Peninsula and on Manitoulin Island.



Intern Lyn Garrah walking on cobble alvar at the Beaton Property, Northern Bruce

Another Northern Bruce Peninsula property I worked on was the Beaton property, which has pavement alvar, cobble alvar, and unique wetland alvars as well as stunning views of Lake Huron. We conducted an Ecological Land Classification survey of the property and a biological inventory, which are important for writing property management plans. It was on the Beaton property that I saw my favourite sighting of the summer: a young Massasauga rattlesnake was basking on a rock and it stayed still – and calm - long enough for all the members of our group to have a good look. My only regret is that no one had a camera, but that is another lesson learned from my summer experience!



Coastal pavement alvar on Manitoulin Island. Photo: Lyn Garrah

We ventured further north than the Bruce Peninsula and spent four days on the largest freshwater island in the world: Manitoulin Island. There we experienced life away from urbanization, saw more amazing alvars and coastal views of Lake Huron, and found some rare species not found in many other places in Ontario: Pitcher's thistle (*Cirsium pitcheri*), slender blazing-star (*Liatris cylindracea*), and sandhill cranes (*Grus canadensis*). We visited properties in search of rare species or communities to help determine whether they should be priority properties for purchase. It is important to get a good idea of what a

property contains in terms of biodiversity or rare species because of the limited operating budget of the non-profit NCC: with limited funds, it is critical to allocate funds toward the securement or stewardship of properties by priority areas. We also monitored two of our properties on Manitoulin Island, the Kip Fleming Tract, a shrubby alvar property, and the Donahue property, which is immediately adjacent to Queen Elizabeth The Queen Mother M'Nidoo M'Nissing Protected Area and which suffers from unauthorized motor vehicle use and damage. A challenge with managing that property will be to maintain road access for the landowners that require it and foot access for pedestrians wishing to visit the property while keeping motorized vehicles off of the sensitive alvar.

I would be remiss not to mention the highlight of the Shell Conservation Intern summer experience: the trip to Calgary. I very much enjoyed meeting the other Shell interns, members of NCC staff and Shell Canada executives. The scenery, camaraderie, and open discussions on environmental issues will leave wonderful, lasting memories. It was a fantastic experience, and easily one of my highlights of the summer.



Shell Conservation Interns, 2008 at the Kerfoot Property in Calgary, Alberta.
Photo: Andy Learmont

The overall experience working for the Nature Conservancy of Canada was a great one that I am not likely to forget! I contributed to conservation in very obvious, physical way. Other work I have done has been equally important in helping to protect the biodiversity in the NCC's priority areas or in the natural areas/plans. It is a great feeling to know that the work I have done will help maintain the ecological integrity of the amazing natural areas that the Nature Conservancy of Canada has dedicated itself to protecting.