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What's News in The Land Between

Volume 2, Winter 2009/2010

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Figure 1. Granite Barrens and Limestone Plains of Ontario, Ministry of Natural Resources

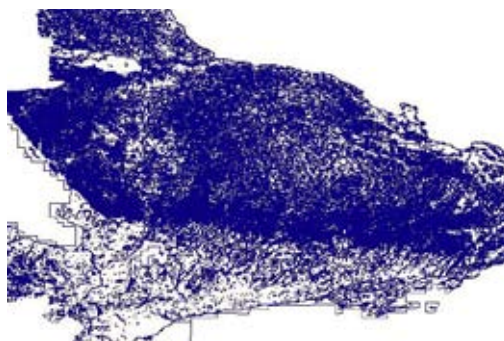


Figure 2. Shorelines of Ontario, Ministry of Natural Resources

The Land Between is a region, skirting the Algonquin Dome, and is what is termed an “ecotone”: A transition zone between two ecoregions. As such it contains elements of each of its bordering communities: The Limestone plains and Granite barrens shown in Fig. 1, are exposed parts of parent rock that underlies the Canadian Shield and St. Lawrence Lowlands and are a key feature of The Land Between. Also unique to The Land Between is the percentage of waterways and shorelines, higher than in the rest of Ontario (Fig. 2). These waters are often interconnected and found in the same areas as the exposed rock; areas with the least amount of soils. Therefore, absorption capacity is limited and the aquatic resources and habitats are extremely vulnerable to pollution or other alterations. To find out more about this unique landscape visit www.thelandbetween.ca

American Eel (*Anguilla rostrata*): Managing Majestic Manna

By: Rob MacGregor, MNR



Fig. 1. American Eel (OMNR)

The American eel is found in coastal fresh and marine waters stretching from Greenland along the east coast of North America to northern South America. Eels have a complex life cycle (Fig. 1). Originating from a single breeding population that spawns in the Sargasso Sea in the Atlantic Ocean, young eels drift from there with ocean currents eventually moving inland into fresh-water rivers, streams, and lakes. This journey may take many years, with some eels travelling as far as 6,000 kilometres to reach the extremities of its range in Ontario water bodies. After reaching fresh water, they feed and mature for 4 to 20 years before migrating back to the Sargasso Sea to spawn.

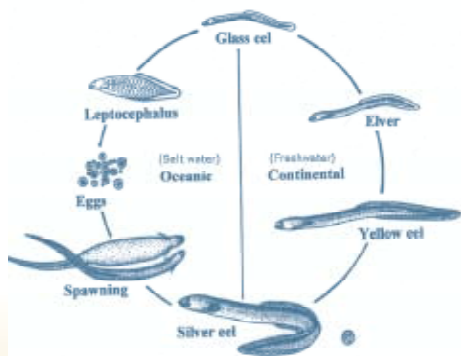


Figure 2. Life cycle of the American eel (OMNR, 2007)

Eels in Ontario are exclusively female, the largest and most fecund (egg-laden) in the entire range.

It has long been recognized that the St. Lawrence River eel fisheries were among the most productive in the world and that eels produced in Ontario waters contributed significantly

to these fisheries. For instance, in a Jesuit Relation of 1634, the following was written noting the important contribution of eels from what today would be termed Ontario waters, to the important Quebec eel fisheries of the St. Lawrence River:

“It is thought that this great abundance is supplied by some lakes in the country farther north, which, discharging their waters here, makes us a present of this manna that nourishes us ...”

Today it is recognized that eels produced in Ontario and the St. Lawrence River watersheds contribute substantially to the global population.

Unfortunately, this unique and historically important species has declined dramatically within Ontario. The declines began first in our inland watersheds, including the Ottawa River and Trent River/Kawartha Lakes. Because of their long, complicated life cycle the declines occurred slowly, almost imperceptibly over many decades and generations until their abundance was reduced to mere relict representations.

Over recent years the population has fallen precipitously in upper St. Lawrence River and Lake Ontario; the last vestige of abundance for the species in the province. Here the number of young American eels entering these waters has dropped by 99% in comparison with the early 1980s.

The American eel formerly was innumerable throughout the St. Lawrence River and Lake Ontario watershed, having a long history as an important food and commercial fish for Aboriginal peoples, early European settlers and current residents. The species once penetrated deep inland into Ontario tributaries as far north as Lake Timiskaming and its northern tributaries, west into the waters of Algonquin Park and Mazinaw Lake, and well into the Kawartha Lakes. Eels were a well-documented and highly valued resource for Aboriginal peoples in this area, a fact well supported by archaeological evidence extending back 4000 years.

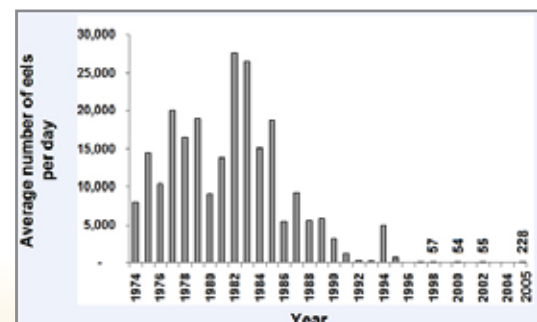


Figure 3. Average number of eels ascending the eel ladder per day, over a 31-day period for each year from 1974 to 2004. The ladder is located at the R.H. Saunders Hydroelectric Dam, in Cornwall, Ontario. Note: no data are available for 1996. Source: MNR 2007

Cont'd on next page....

During the 1980s to early 1990s, eels were one of the three most important commercial harvested from Lake Ontario, at times amounting to 50% of the landed value of all species harvested from these waters.

In recent years, eel recruitment to Ontario has declined precipitously (Figure 2). The commercial and recreational fisheries in Ontario were closed in 2004 and 2005 respectively. The species is approaching extirpation in most Ontario watersheds and is now listed as “endangered” provincially under Ontario’s new Endangered Species Act. It is expected that eel abundance will remain low in Lake Ontario for at least the next several decades. Recovery in inland waters of Ontario will take longer.

The long life span and vast migration of American eel, makes them susceptible to a wide range of factors. In the course of completing their life history eels must run a gauntlet of threats, including:

- mortality in turbines at hydroelectric facilities during downstream migration to the oceanic spawning grounds
- physical barriers, such as hydro dams, blocking migration, excluding them from important freshwater habitats
- exploitation by fisheries
- habitat and environmental alterations including changes in freshwater and oceanic conditions
- contaminants and pollutants affecting fertility and survival
- invasive species and diseases, including parasitic bladder worm from Europe now found in eels in parts of the U.S. and Canadian Maritime provinces

The aforementioned effects accumulate across the range, having substantial a impact on the single spawning population.

Ensuring the long-term sustainability of the American eel population is highly complex and requires significant international and multi-jurisdictional coordination.

Some measures currently underway across North America include identifying recovery actions; reducing or eliminating harvests; improving passage downstream around hydro-electric facilities; installing eel ladders to improve upstream passage at dams; and stocking in the St. Lawrence River, Lake Ontario and Lake Champlain.

The American eel is a highly unique species integral to our biodiversity, and a special part of our natural heritage. Our latitudes host eels that are entirely female, the largest and most fecund in the species range. This leaves us in the Land Between with the responsibility to help steward a significant segment of the entire species, fundamental to its future status..

As eels are now extremely rare in many waters, it is difficult to capture them in routine fisheries assessment programs. If you encounter an eel, your report of the date, location and approximate size to the Land Between or Ontario Ministry of Natural Resources would be greatly appreciated and important in planning future recovery actions.

Reports can be made verbally or via email to:

Alastair Mathers
Ontario Ministry of Natural Resources
alastair.mathers@ontario.ca
613-476- 8733

or to the Land Between at:
tlb@thelandbetween.ca
705-457-4838

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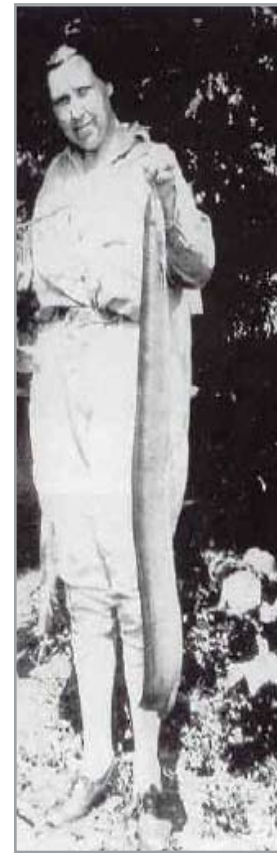
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Available: www.sararegistry.gc.ca/status/status_e.cfm



How Old is That Turtle?



Column and Photos: Doug Armstrong, Wildlife Ecology Group, Massey University, New Zealand

Having helped many turtles cross the road during my periodic trips home to Haliburton over the years, it was great to see The Land Between featuring turtle education and facilitating crossing signs. It's critical that people appreciate how vulnerable turtle populations can be, especially due to deaths of adult turtles. While it is also sad to see dead birds and mammals by the roadside, most bird and mammal populations are tightly regulated and have rapid reproductive rates, meaning deaths of a few individuals has negligible effect on populations. In contrast, turtles usually have very low recruitment rates (i.e. few hatchlings make it to adulthood) and they reach sexual maturity very slowly, so populations can only persist if turtles have long lifespans. This is even more critical at the northern edges of turtles' ranges, because only a small proportion of the eggs develop into hatchlings over the short summers.

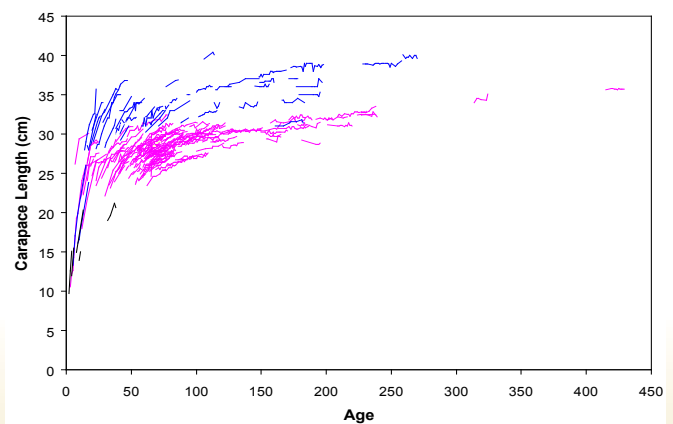
My colleague Dr. Ron Brooks has led a long-term research program on turtle ecology in Algonquin Park, and has annual data for individually-marked snapping turtles extending back to 1974. I was first involved in the project as a summer student at the University of Guelph in 1981, and since 2006 I've been working with Ron on analysing some of the data. Our main goal is to build a model of the population that can be used predict its long-term future under different possible scenarios, and ultimately to be able to generalize the model to other locations and species. For example, we should be able to predict the maximum number of road deaths a population could withstand, and to predict how population dynamics are likely to change with global warming.

So far we've focused mainly on one simple question, namely "How old are the turtles"? Looking at Ron's data set, the first thing you notice is that most of the adult turtles monitored over 25+ years have barely grown. So how long did it take them to get to that size? Although young turtles show growth rings on their shells, these wear off with age so you can't age old turtles by counting these rings. A simple approach would be just to work out the average growth per year from all the turtles, then extrapolate to calculate the ages when first captured. However, growth rates change with age, and more importantly, it turns out

they are highly variable among individuals.

To overcome these challenges, I used an approach called Bayesian-updating that allowed me to fit realistic growth models to the data while allowing for individual variation. As well the analysis uses a distribution of expected ages based on survival rates. The results suggest that it takes Algonquin snapping turtles 10-45 years to reach breeding size (24 cm carapace length). They also indicate that males and female grow at similar rates until they reach breeding size, and then the female growth rate slows down, accounting for the fact that males get much larger than females. The slow down is presumably due to females putting most of their resources into making eggs rather than growing themselves.

Using the model I was then able estimate the age of turtles. The figure on the following page shows reconstructions of all the turtles' growth trajectories, with males in blue and females in pink. The left-most portion of each line is the turtle's estimated age when first caught, and the remainder accounts for that turtle's changes in size over time when it was recaptured (usually annually).



The results are striking, with many turtles estimated to be over 100 years and the oldest estimated to be over 400. The upshot is that the lives of adult turtles may be even more precious than we realized: Each death of an adult female (usually the ones crossing the roads to lay eggs in the spring and summer) potentially results in hundreds of years of reproduction attempts being lost.

Aquatic Biodiversity and Function in The Land Between

By Dr. Andrea Kirkwood, Assistant Professor of Biology, University of Ontario Institute of Technology

Although much focus has been placed on the terrestrial biodiversity (i.e. plants and birds) of The Land Between (TLB), it is also a highly significant region of aquatic ecosystem diversity and function. The mosaic of limestone and granite geology in TLB has a major influence on the types of water bodies that dot the landscape, from low-nutrient, tea-stained lakes to highly productive wetlands. For those that camp or cottage in TLB, this is likely not a huge surprise.

I myself spent many summers of my youth at the family cottage in Haliburton, and was always intrigued by the changing land and waterscape as we drove north on Hw. 35. Certainly when I tell students, friends and colleagues why I chose to be an aquatic ecologist, I always refer to my early experiences exploring the lakes, rivers and wetlands of what is now referred to as The Land Between. To my delight, I am now able to focus my research activities as an aquatic ecologist on the regional-scale biodiversity and function of lakes in this region.

Why should we care about aquatic biodiversity and function? Putting aside the intrinsic value of biodiversity, we now know that there is an integral link between the biodiversity of an ecosystem and its functional stability. For example, each species has a unique niche or ecological role in an ecosystem, that may contribute to ecosystem processes such as nutrient cycling, waste removal, and energy flow. With the loss of species diversity we should expect these processes to be diminished, lost or the overall ecosystem function to decline.

Ecosystem processes contribute essential services to the watershed and region as a whole, including human populations. Obvious aquatic ecosystem services include sources of drinking water and food (fish) and recreational activities of boating and swimming. Less obvious are the “background” services that most of us take for granted, such as their roles as waste-treatment “bioreactors” for pollution inputs (e.g. sewage and agricultural run-off). Wetlands are probably the best known bioreactors, as they are effectively designed to filter out contaminants and organic waste as water flows through them. However, lakes also play a significant role in absorbing and processing sewage/septic waste, as well as pesticides and fertilizers that wash off of the landscape.

How do wetlands and lakes reduce and de-toxify our waste? The common denominator in both systems are the resident microbial communities. Certainly aquatic plants play an important role in wetlands, but microbes (algae, bacteria and fungi) are the essential drivers of ecosystem function, whether they are bringing energy into the system by way of photosynthesis, or reducing organic waste and contaminants by way of decomposition. You could not have a working septic system without microbes, that’s for sure!

Microbial processes in aquatic systems can be quite complex, but they provide a free service of reducing and de-toxifying waste that is priceless. Nevertheless, it is important to note that we can short-circuit these essential services if we allow too much waste to enter water bodies. If critical loadings of sewage or fertilizer are surpassed, excessive algal growth can occur and negatively effect aquatic foodwebs, fisheries and our drinking water supply. When too much organic matter is in lakes, excessive decomposition by bacteria depletes oxygen levels, which in turn causes winter fish kills.



Stay tuned as my research will be investigating aquatic microbial diversity and activity in TLB, to determine the role that microbes play in relation to algae and to overall aquatic ecosystem health.

Student Research

The Land Between works with Trent University and the Trent Centre for Community Based Education as well as Ryerson Polytechnic Institute and Sir Sandford Fleming College, and in partnership with organizations like Ducks Unlimited Canada and Nature Conservancy of Canada, to advance student’s skills and experience in the fields of natural and cultural heritage and geographic information systems-remote sensing technologies.....

Often projects are completed to receive credit in place of class curriculums. We have a list of pioneering research and applied projects that need your assistance. Check out our web site if you would like to conduct or participate in a unique research project and experience learning through application.

science and discovery



FOCA Lake Planning Program 2009

By: Samantha Brown, FOCA Lake Planning Coordinator

One of the main reasons that many lake associations are formed is to tackle concerns about the health of their lakes and its residents. The Federation of Ontario Cottager's Associations (FOCA) recognizes that these concerns for the environment and water quality are common to almost all waterfront groups and residents.

With a vigour that has been steadily growing over the last few years, shoreline associations are becoming more active and are undertaking the development of lake management or action plans. These documents identify the unique characteristics of a lake or watershed and its community, identifies issues that are negatively affecting the health of the lake and its surroundings, and provides recommendations or action items, often stewardship initiatives, that can be taken to help ensure that the lake will remain healthy for generations to come. This process and the resulting documents can be a very valuable resource for the lake community if the recommendations are implemented.

FOCA wants to help associations by giving them the capacity to activate their own stewardship and lake planning programs.

With the active involvement of community stakeholders, FOCA is developing and refining two important tools for lake-based communities: a revision of FOCA's "Take the Plunge" resource guide to stewardship and the Lake Planning Handbook for Community Groups. FOCA, in collaboration with the Haliburton Highlands Stewardship Council (HHSC) has been funded to do this project courtesy of a grant from the Ontario Trillium Foundation.

The Lake Planning Handbook has three main components and is being built upon the experiences of lake associations across the province:

- Engagement – effectively engaging the community, volunteers, municipality, government agencies, communications
- Resources - information links, examples, methodology, techniques, identification of information gaps
- Implementation – starting at the beginning, getting initiatives on the ground, who can help, and how will you do it,

A pilot group of individuals has been assembled to provide guidance and input into the design and content of the handbook. The group consists of volunteers from Haliburton County that have experience with lake plan development, those that are interested in implementing stewardship strategies on their lakes, plus a number of municipal planners and councillors. Over the last 8 months the group has been providing FOCA with valuable insight and the final product is almost complete.

The Lake Planning Handbook for Community Groups will be launched at the FOCA Spring AGM on March 7 in Toronto. For more information on this event visit www.foca.on.ca

Once community groups have decided to act, their efforts are often focused towards their local municipalities. Working with their local government to amend Official Plan by-laws and instill environmentally sustainable policies has been successful for a number of associations in Ontario. From setbacks to buffers, from viewscapes to the preservation of night time darkness, the environment is being given a standing chance thanks to the hard work of community volunteers who care about the future.

Many municipalities are catching on to the "lake planning craze" and encourage local groups to start lake planning initiatives, a positive way to contribute to land use planning. Many municipalities are becoming more approachable and open to collecting and using the information that waterfront groups have attained from their communities.

The Lake Planning Handbook will provide access to examples of lake plans, stewardship initiatives, surveys, workshops, projects and more, that similar groups from all over Ontario have put together and implemented in their communities. For more information about the lake planning program you can email lakeplanning@foca.on.ca

The important things to remember are: your association doesn't need a large bank account to initiate stewardship activities, there are many ways to go about strategic or long-range planning – a complicated lake plan may or may not be right for your association, but effective communications with your local government is, and involving all stakeholders to provide their input is a must!

The Federation of Ontario Cottagers' Associations (FOCA) has been representing waterfront residents and communities for over 45 years. Join FOCA today. Visit www.foca.on.ca or contact info@foca.on.ca for more information.

Can Outdoor Lighting Harm the Environment?

By: Robert Dick, Royal Astronomical Society of Canada

My grandfather purchased our family property in the 1920s. In the 1960s, the stars reflected off the water as we fell asleep. By the 1980s, this had all changed. The lake was evolving into a virtual urban subdivision with fast boats, outdoor sound systems and lighting systems that were left on after the occupants had gone to bed. The stars were gone. But we can bring them back.

The waterway is an important ecosystem that supports wildlife in the water and adjacent lands. There are setback requirements for buildings to protect this wildlife. But few people consider the impact of outdoor lighting on the nighttime environment.

The dark of night is just as important to wildlife as the daytime. Our ubiquitous outdoor light damages the river and lake environments in two ways.

From the human point of view, bright lights along the shoreline make it difficult to navigate the channel. Glare from unshielded lighting prevents us from seeing markers and channel hazards.

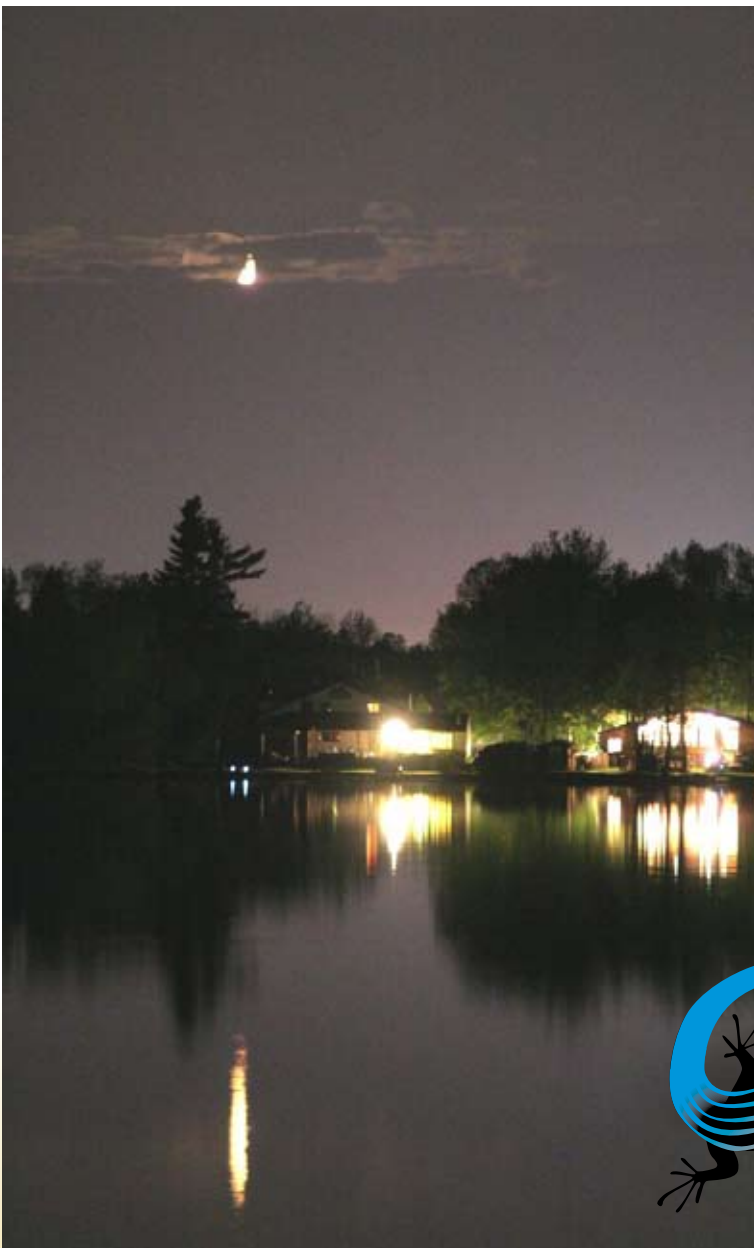
The second impact is on the aquatic and land plants, and fish. Fish are attracted to the light from their natural feeding depths. Artificial lighting also causes fish and plants to perceive a longer day and this confuses the cues to seasonal change. Plants flower too late (and some too early) to be properly pollinated.

But what about security lights? Although outdoor lighting makes some people feel safe – the light actually puts their property on display for thieves and vandals. The vandals don't even need a conspicuous flashlight to see what they are doing – the homeowner provides the light for them. Besides, most people leave on their outdoors lights when they go to bed. There is no one to see what is going on. Security must be monitored to be effective.

What can we do to help protect the environment, improve security and safety?

1. Keep lights back from the shoreline and shield them so their light does not shine onto or across the water.
2. Replace or shield all outdoor lighting fixtures so they don't shine over your neighbour's property and into their bedroom windows. Since you can see much better without glare, reduce the bulb wattage.
3. Turn off outdoor lights when you are indoors.
4. Use motion detector switches to trigger lights. They will signal someone's presence.

All this will help save electricity and it will help bring back the stars.



Options and Benefits for Land Conservation

A Conservation Agreement: An agreement between a landowner and a conservation agency to control future use and development on the land even after the property changes hands. The landowner agrees to place limits on certain practices or uses in order to conserve the property's natural attributes, but still owns the land, can live on and use it, restrict access to it, and can still sell, give or pass the property on. For more details contact a local Land Trust through visiting www.ontariolandtrustalliance.org/members

Managed Forest Tax Incentive Program/ MFTIP: If your land has a forest area of 4 ha/10 acres or more, you can receive property tax relief of up to 75%. The MFTIP requires a minimum number of trees per hectare. Also open areas such as outcrops and wetlands can be included. Plans must be approved by a Managed Forest Plan Approver. Plans outline actions to be followed and may include various cutting practices as well as conservation actions such as invasive species control and reforestation. For more information or a list of Plan Approvers visit www.oforest.on.ca; or www.ont-woodlot-assoc.org

Conservation Land Tax Incentive Program/CLTIP: Landowner agreeing to protect the natural values on lands designated as provincially significant will receive tax relief of 100% for those lands (excluding buildings). Significant lands are identified by the Ontario Ministry of Natural Resources (OMNR), and harbour significant wetlands, are home to species at risk, or which are part of an Area of Natural and Scientific Interest, are eligible. Applications for lands that qualify are sent out by OMNR for completion and registration. The CLTIP is voluntary. For more information call 1-800-268-8959 or visit www.mnr.gov.on.ca/MNR/cltip

Exploring Biodiversity in The Land Between

By: Mike McMurtry, Natural Heritage Information Centre

Photo: Mike McMurtry; Wetland in the western end of The Land Between.

Have you ever wondered what information is used to determine whether a species is rare or of conservation concern in Ontario? The Natural Heritage Information Centre (NHIC), of the Ontario

Ministry of Natural Resources, compiles and maintains information on occurrences of rare species, rare vegetation communities and natural areas throughout Ontario. This information informs a variety of conservation actions and decisions, from assessing the status of species that may be at risk, to planning for their recovery, to avoiding impacts from urban development and planning for protected areas. Staff members of the NHIC also participate in surveys of rare species and plant communities and inventories of natural areas.

Some areas in the Land Between, such as the alvars of the Carden and Napanee Plains, Big Chute on the Severn River and the Warsaw Caves Conservation Area, have been the subject of detailed natural heritage studies, but other areas are less well known. The NHIC is participating in reconnaissance inventories of several areas in The Land Between that have interesting natural features and may offer new opportunities for conservation through private land stewardship and



improved land management on publicly-owned lands. These areas include the area west of Sparrow Lake and south of the Severn River, the area surrounding and including the Somerville Tract west of Kinmount and the upper portion of the Crowe River watershed. These locations offer a diversity of habitats for wildlife, contain extensive road-less areas and support some provincially rare and at-risk species. They are comprised of private and municipally-owned land as well as Crown Land. The NHIC is working with other partners participating in The Land Between project to identify their information needs and ways to share resources in learning more about this diverse area. The attached photo shows a wetland south of the Severn River that is being explored as part of these studies. The information we gather will be shared with The Land Between group and any rare species data will be entered into the provincial database to be made available for a variety of conservation initiatives.

Site reconnaissance information is available on the NHIC website at www.mnr.gov.on.ca/nhic and The Land Between site under science and discoveries: www.thelandbetween.ca

A Gift for Generations



Ian Attridge – Executive Director, Kawartha Heritage Conservancy

With a proud sweep of her arm, Heather Elliott shows neighbours from Stoney Lake the extent of the land she is conserving north of Peterborough. “This is a special place that, with the help of the Conservancy, now will be preserved forever,” she describes.

Heather is carrying on the tradition her late husband, Don, began over a decade ago. Don led nature walks for cottagers and enabled research by local students on their property. He developed trails and a managed forest plan. Heather and Don’s children and grandchildren are keen to participate, too, pointing out the old turtle shells and other natural objects they have found nearby.

The 134 acre property lies right on the southern edge of The Land Between. Its wetlands and a “disappearing” stream flow north from a limestone base onto more acidic Canadian Shield granite. The long natural shoreline protects two important bays that act as fish nurseries to supply the entire Lake.

Scientists have identified this property as one of the most biologically diverse on the Lake, with some 400 plant species due to its variety of underlying bedrock and habitats. Heather also points out that, “it acts as a wildlife corridor, connecting with forests to the south and across the islands to the north shore”.

Heather and her family have now taken a further step to realize Don’s wishes. She has entered into a conservation agreement with the Kawartha Heritage Conservancy, a local land trust charity. She explains: “The agreement limits development and protects the property’s natural features, which is what we have been doing here for years and want to see continue”. Heather still owns the property and can pass it on to the family or sell it, as she wishes.

With the agreement registered on title and noted on the property’s deed, it will apply to the current owner and to all future owners. The Conservancy will meet with them at least

once a year to review the agreement and activities on the property.

The agreement also will contribute important income tax benefits. The donation of the agreement through the federal Ecological Gifts program will produce a sizeable charitable donation receipt plus help reduce future capital gains tax.

Heather’s generous donation of the conservation agreement is just one example of the many voluntary approaches landowners can take to steward their own corner of The Land Between. Whether it is leading nature walks, doing research, developing a plan, maintaining trails, or protecting land and claiming tax benefits, there are many options that can help leave a legacy on this special landscape.

The Dahl Property- a Land Donation



Column By: Peter Dahl

My family has decided to make a donation of our Dahl Forest property to the Haliburton Highlands Land Trust. The Forest is a 500-acre private conservation area south of Gelert with 2.7 kilometres of waterfront on the Burnt River. It is to be turned over to the Land Trust later this year, pending government approvals and creation of an endowment, and preserved in perpetuity as a wilderness conservation area.

This was an easy decision – for us there is no real alternative; for more than 50 years we have maintained Dahl Forest as a conservation area. To lose it to development or any other purpose would be unthinkable.

My father, William Dahl, was a successful businessman man in Lindsay when he purchased the property. He came from Sweden, a country that places a high value on social responsibility and conservation. Sweden has been nurturing forests, practicing forest ‘farming’ and sustainable forestry for generations.

In the 1950s the Dahl Forest property, like much of the more settled parts of Central Ontario, was at a crossroads. Small farming operations were very much in decline – the



land around here is not rich soil, and industrialization was changing the economy so that farming here was a losing proposition. Young people were fleeing to industrial centres in droves and life on most local farms was more and more a life of poverty.

The land had been practically farmed to death. My childhood memories of Dahl Forest are memories of open grassland interspersed with bare sand and gravel pits, barbed wire fences, smooth rock outcrops and alder swamps. You could stand near our entrance gate and see for miles. There were very few trees larger in diameter than your leg on the entire 500 acres. Cattle wearing bells roamed about, grazing wherever they could find something edible. .

What a change today! Over the years we planted more than 100,000 trees. Fortunately my dad had the money to do it, because we got precious little help. We had to buy the seedlings, hire local folk to help plant and purchase a tractor and tree-planting machine.

Most people thought he was absolutely crazy! Trees were for cutting down, not growing up. Land had to be made 'usable' – reverting it to wilderness was a concept that ran counter to tradition and common sense. Canada was built (and to some extent is still building itself) on the exploitation of natural resources. It has been fundamental to our political, legal, economic and social systems to take what we can get from the land. Fortunately, in the last century there were a few in government with the foresight to preserve some wilderness areas as federal or provincial parks.

But the thought of private individuals doing such a thing was almost unheard of. The concept of a 'private park' would be thought an oxymoron.

Well – we persevered, and although small, Dahl Forest has matured into a glorious wilderness park.

Natural mixed forest blends in with the plantations. Some of the tiny trees that we stuck in the ground are almost as

big around as I am.

Almost every animal and plant species native to this area now thrives there. More recently we have discovered that some species at risk of extinction have found sanctuary there.



My family and I are at the same time humbled by, and proud of what we have achieved. There can be no thought but to preserve Dahl Forest as a conservation area for all time – something we cannot do by ourselves.

It will soon pass to you, those of you who appreciate the value of wild places and find solace in the wonders of nature. We look forward to working with you to do nothing, nothing but leave it alone and protect it, enjoy it - taking nothing but pictures and leaving nothing but footprints!



About 1990, my mother, Peggy, and I were involved in the founding of the Haliburton Highlands Field Naturalists as a way of bringing together people who shared her interest in the woods, wildlife and bird-watching.

We brought together a few friends and put together a small ad in the local paper hoping for a turnout of 10 or 15. Instead, the meeting was packed. Well, here we go again.

The land trust must now build up an endowment fund for the preservation of the Dahl Forest. Time again to pitch in, seek out those who care about conservation and wilderness retreats, those willing to give back and invest in leaving something alone for future generations.

For more information about the Dahl Forest, please see <http://www.members.shaw.ca/dahl-forest/index.htm> or call the Haliburton Highlands Land Trust at 705-754-2532.



Gathering Aboriginal Traditional Knowledge

Article By: Krista Coppaway. Curve Lake First Nation

In September 2008, Curve Lake First Nation began a journey to gather Aboriginal Traditional Knowledge about species and species at risk. The project would raise awareness of the cultural significance and importance of the species and continue our traditions within the community, the Williams Treaty Area and The Land Between region. Zac McCue and Krista Coppaway were hired from the community. They jumped in and created project flyers that were posted and distributed throughout the community- The word got out within the first week!

Vignettes of each of the species at risk were produced along with a one page brochure that identified the 9 species that were being studied. A questionnaire was produced and sent out to Elders and community members that hunt, fish and trap in and around the community.

Zac and Krista attended meetings and workshops at several locations including Parry Sound and Ottawa that dealt with Species at Risk. They also contacted individuals from Curve Lake that may have traditional knowledge that they were willing to share.

A celebration event called the “night of nostalgia” was held at the Curve Lake Cultural Centre with special invitations delivered to community members who may hold traditional knowledge. It was hoped that reminiscing about our past would spark discussion around traditional relationships and uses of Species at risk and other non threatened species.

A presentation highlighting each species was produced and presented by Krista Coppaway, a slideshow of over 300 old photos of Curve Lake were shown along with a video of Wellington Williams and son Gary Williams touring around the Curve Lake islands and Wellington spoke in Anishinaabe about what it was like “back in the day” and about the animals they encountered along their tour.

Elders shared traditional knowledge about non threatened species that were food sources and that linked the Anishnaabek culture to the land. Stories about the Butternut and American eel were shared during the discussions. A traditional feast of moose stew, wild rice pudding and saasgan was prepared for everyone who attended. Some of the knowledge shared confirmed what was gathered earlier in the month. The food was delicious and everyone enjoyed the gathering.

But overall, we discovered that there is a lack of traditional knowledge about species at risk specifically. Theories as to why this might be pointed to the fact that we passed our traditions on through stories and practical experience, not through the written word or other medium. Others

suggest that the speed at which our traditional territory was colonized impeded and interfered with our traditional practices.

However, what is clear is if no action is taken soon, this important knowledge will be lost as we loose our Elders. So that Curve Lake First Nation is reaching out and communicating with other First Nations in these areas to gather and share knowledge. This way we can keep our traditions alive, effectively assist in the recovery of species at risk and steward the land.

We are also developing a guideline of best practices and lessons learnt to share with other First Nations. One lesson is to talk about other species that would be comparable to those that are at risk. And, Curve Lake will continue to gather this important Anishinaabe traditional knowledge with the support from the Aboriginal Fund for Species at Risk.

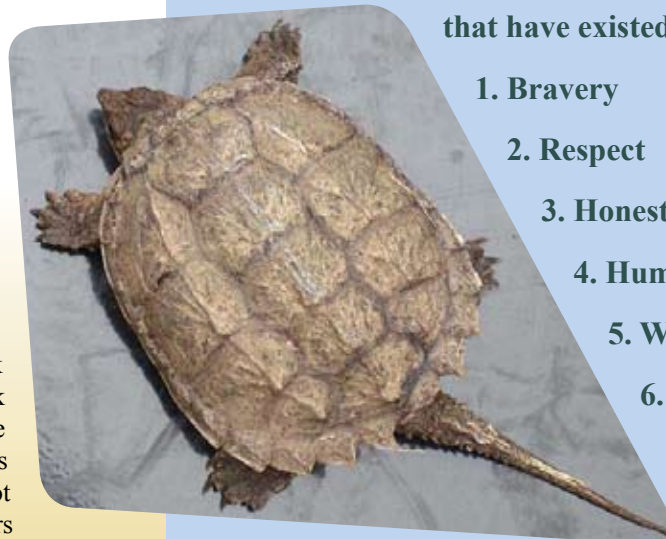
Aboriginal Traditional Knowledge will be gathered within the Williams Treaty territory and “The Land Between” and distributed throughout this area. By distributing communication and educational products that contain ATK present and future generations will learn about who they are culturally, and the essential interrelationship that we and living things have with the surrounding natural world.

If you would like to see the work that Krista and Zac have done; to visit our Cultural Centre; or to learn more about Curve Lake First Nation, check out our website: www.curvelakefirstnation.ca.

To First Nation People, the Turtle is sacred.

It is Mother Earth. Turtle Island.

The turtle shell has 13 scutes corresponding to the 13 moons in a year and the 7 parts of the turtle: head, tail, body, and 4 legs, represent the 7 Grandfather Teachings; the 7 codes of life and Indigenous North American values that have existed for ages...



- 1. Bravery**
- 2. Respect**
- 3. Honesty**
- 4. Humility**
- 5. Wisdom**
- 6. Honor**
- 7. Sharing**

highlight on culture



North Limestone Island, District of Parry Sound

By William A. Allen, Archaeologist and Cultural Researcher, Heritage One.

North Limestone Island is a remote, little-known treasure of natural diversity and important Aboriginal cultural history. The island lies 12 kilometres offshore in central Georgian Bay. It is seldom visited in modern times but this was not always the case. The windswept long narrow island, now a provincial bird sanctuary and nesting ground, is a limestone alvar with tiered limestone cobble beaches and a warmer microclimate and longer growing season than any other part of The Land Between. The sparse soil and lack of tree cover provide an environment for rare ground-hugging plants, lichen and a few shrubs. Along the midline of the island rests a sinuous spine of cobble formed by the action of ice in a post glacial lake of an earlier geological time. In this low lying ridge Aboriginal people of centuries ago removed cobblestones to a depth of over one metre, forming circular pits over which they built low lying round lodges supported by the inner sides of the pits.

The people gathered in the early summer for the collection of bird eggs and again in the fall for the communal fishery. Now, amid the surviving house pits, fragments of ancient stone tools and pottery fragments are all that remain of that occupation of long ago. Because of the mass of poison ivy covering much of the island, modern visitors at this location at N45° 25', W80° 32' are hesitant to venture far from the shoreline but the ancient house pits are easily visible during a virtual visit using a home computer and Google Earth 5.0 software.

In 1623 Gabriel Sagard, a Recollet missionary, travelled to some islands, widely believed to include North Limestone Island. The people put up a lodge in the Algonquian fashion near several households already established there for the purpose of fishing, fish drying in the continuous winds, and boiling of the larger fish to skim off oil. Sagard reported that when a number of lodges were occupied there was a perpetual round of feasts. In the same region, in 1641, two Jesuit missionaries, Fathers Claude Pijart and Charles Raymbault, attended a gathering of 2000 Anishinaabeg who had assembled at the time of the fall fish harvest to celebrate a Feast of the Dead, a ceremony to honour those who had passed away recently. North Limestone Island, almost unchanged from those earlier fish economy times, is indeed a treasure.

Kawartha Turtle Trauma Centre

By: Rebecca Dolson

In 2002, veterinarian Kristy Hiltz founded the Kawartha Turtle Trauma Centre (KTTC). Kristy was inspired by Kids for Turtles, a group of children/young adults who successfully lobbied to post turtle crossing signs in the Peterborough area. The KTTC is a charitable organization that performs emergency surgery for injured turtles, and also rehabilitates them for release back into the wild. Since 2002, the KTTC has become a local leader in turtle conservation and rehabilitation. The KTTC has taken in hundreds of turtles, successfully rehabilitating approximately 60% of the patients and returning them to the wild.

The KTTC operates within three broad areas:

1. Turtle rehabilitation

Injured turtles can be dropped off at various locations for emergency veterinary care. Once the turtle has received life-saving treatment, it is released to the KTTC for rehabilitation. It is very important for concerned citizens bringing in an injured turtle to record the location of where they found the turtle. In this way, rehabilitated turtles can be returned to the habitat where they were found.

2. Wood Turtle headstart program

In partnership with the Ontario Ministry of Natural Resources the KTTC headstarts endangered Wood Turtle (*Glyptemys insculpta*) hatchlings. Headstarting is a successful conservation initiative whereby young individuals are cared for in captivity until they are big enough to survive in the wild (reducing juvenile mortality). Wood turtle populations are highly endangered. However, by headstarting young turtles the MNR and KTTC are providing new generations of Wood Turtles with a greater chance at survival.

3. Outreach programs

KTTC produces a quarterly newsletter that explores interesting facts about turtle conservation, as well as recent news about the Centre. KTTC volunteers also present at several conventions and local grass-roots organizations to engage the public in turtle conservation, stewardship and rehabilitation. One of KTTC's major goals is to inform the public about the high number of turtles injured and killed each year on our roads during turtle nesting season (May –September). Through public displays, presentations, and KTTC bumper stickers advising drivers to 'Break for turtles!' the KTTC hopes to significantly reduce turtle road mortality and injury.



Several species of turtles are brought to the Centre:

- Blanding's Turtle
- Snapping Turtle
- Painted Turtle
- as well as the occasional Map Turtle.

The centre does not accept unwanted pets, such as the Red-eared slider.

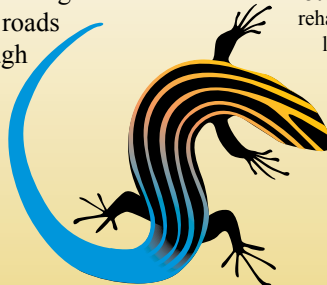
The KTTC is housed in Peterborough at Burman & Fellows Groups and Classy Chassis. However, as the centre grows finding a new home for all our turtles has become a major task.

The KTTC is a volunteer run organization. Veterinarians generously donate their time and expertise, and volunteer wildlife assistants provide husbandry care for turtles while they recuperate. Outreach and fund-raising are also volunteer driven.

Concerned and interested public can provide valuable assistance to turtles in need by becoming a member of the KTTC. Because the KTTC strives for hands on community involvement new volunteers are always welcome!

For more information about the KTTC, to find out where you can drop off an injured turtle, or to find information on how to become a member or volunteer, please see our website at: www.kawarthaturtle.org

Photo: Board members and volunteers at a rehabilitation centre development workshop: back l-r: Gina Varrin, Robert Hailman, Lysa Borland, Steve Peterson. Front l-r: Danielle Tassie, Kip Parker. (photo courtesy of Danielle Tassie).



Ecotourism In Your Own Backyard

Author: Val Bishop, Chair, the Ontario Ecotourism Society www.toes.ca

No need to rack up carbon footprints looking for ecotourism experiences in far away lands, there are opportunities right here in The Land Between. The Ontario Ecotourism Society (TOES) is a provincial organization promoting the development and understanding of ecotourism and sustainable tourism product for consumers and service providers. TOES is a not-for-profit network led by a volunteer Board of Directors, with a supporting membership comprised of operators, associations, related institutions and the traveling public at large.

Let's take a minute to get a clearer picture of what ecotourism is really about: Ecotourism is defined by The International Ecotourism Society as: "Responsible travel to natural areas that conserves the environment and improves the well-being of local people." (TOES, 1990)

Ecotourism is a management philosophy intended to unite conservation, community, and sustainable travel. This means that those who implement and participate in ecotourism activities follow the following ecotourism principles:

1. minimize impact
2. build environmental, cultural awareness and respect
3. provide positive experiences for visitors and hosts
4. provide direct financial benefits for conservation
5. provide financial benefits and empowerment for local people
6. raise sensitivity to host countries' political, environmental, and social climate

The Ontario Ecotourism Society is working to help operators and consumers put these principles into practice through education, networking, advocacy and policy development.

The Land Between is home to five nature based tourism operations who have embraced this management philosophy. On the TOES website, www.toes.ca, you can see each operation's "ecotourism in action" actions. Let's meet them now:

Cedar Grove Lodge: www.cedargrove.on.ca

Cedar Grove Lodge in Hunstville, is proud to be a resort that strives to make its impact on the environment as small as possible. One of the biggest reasons guests come to Muskoka is to enjoy the natural environment, so it was a natural progression for Cedar Grove to do whatever it can to reduce its environmental footprint. The resort encompasses 80 acres and 1600 feet of shoreline on beautiful Peninsula Lake in Muskoka, Ontario. The majority of this land has remained undeveloped so that guests at Cedar Grove can enjoy a good representation of the local flora and fauna, just steps from their lakeside cabins.



Gaia Centre: www.gaiacentre.org

The Gaia Centre offers retreats and workshops in the area of earth-based spirituality, environmental education and sustainable work. Its headquarters are in the evocative Haliburton Highlands where they host many different programs. As well, speakers, conferences and events are held in many communities and in conjunction with a variety of interested partners. Incorporated in 2005, the Gaia Centre is a not-for-profit corporation with charitable status.

Gamiing Centre: www.gamiing.org

Gamiing (gaa-'minj') is Ojibway meaning 'at the shore'. The centre is located at the West Side of Pigeon Lake between Bobcaygeon and Lindsay. Gamiing promotes the sharing, enjoyment and importance of living in harmony with nature, by providing educational experiences to engage the community in balancing human needs with the needs of nature in our every day lives. Discovering plants, animals and water life. Becoming guardians of our water, land and air. Working towards a sustainable ecosystem for future generations.

White Squall: www.whitesquall.com

White Squall offers unique small group trips through the islands of Georgian Bay, the largest freshwater island archipelago in the world and a world biosphere reserve. Their talented staff offer educational trips that range in topics from geology, astronomy, ecology and photography. White Squall operates two shops in the Parry Sound region which offer a full range of specialty paddling accessories, rentals and sales. They are proud to be powered by clean, renewable energy from Bullfrog Power.

Yours Outdoors: www.yoursoutdoors.ca

Yours Outdoors is an exciting new company that helps visitors and residents experience the Haliburton Highlands in unique and wonderful ways. Yours Outdoors provides one day and multi-day experiential learning opportunities that foster a greater awareness of the natural environment, ecosystems and the history and culture of the local community. Yours Outdoors also provides consulting services in outdoor and environmental education and recreational trail management.

So, while I encourage you to continue to reduce your carbon footprint in your day to day life, I also encourage you to begin to reduce your footprint in the travel experiences you choose. Ecotourism is right here in your own backyard and, when done well, it has the power to contribute to further positive change.

We would like to thank our funders, project partners, students and volunteers of 2008-2009:

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The Ontario Trillium Foundation

The Salamander Foundation

The George Cedric Metcalf Charitable Foundation

The Habitat Stewardship Program for Species at Risk

RBC BlueWater Fund

Aboriginal Fund For Species at Risk

Collaborative and Project Partners:

Couchiching Conservancy

Kawartha Heritage Conservancy

The Alley Family

Curve Lake First Nation

Plenty Canada

Trent University

Trent Centre for Community Based Education

Haliburton Highlands Land Trust

The Land Trust for Kingston Frontenac Lennox and Addington

Hastings Prince Edward Land Trust

Haliburton Highlands Outdoors Association

The Ontario Visual Heritage Project

Sir Sandford Fleming College

Bird Studies Canada

University of Toronto

Lakehead University

University of Ontario Institute of Technology

Muskoka Parry Sound Stewardship Network

Haliburton Highlands Stewardship Council

Ducks Unlimited Canada

Natural Heritage Information Centre

Durham Lands Stewardship Council

Muskoka Heritage Foundation

Kids for Turtles


Student Researchers:

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Heritage and Advisory Committee Members:

Tom McIlwraith, Brian Osborne, John Wadland, Tom Whillans, Gary Williams, Larry McDermott, John Marsh, Bill Allen, Paul Wianko, Alan Brunger, Peter Carrothers, Sheryl Smith





The Land Between is a name chosen for a unique region.

Partners across this landscape have formed a collaborative group cooperating towards a simple vision: a sense of place and pride, that is reflected in a culture of respect for each-other and the natural world .

Our goals are to gather and share information on the natural, cultural, social and economic features of the landscape and to support the enhancement of those features.

The Land Between activities involve:
Sharing and Networking; Coordinating Efforts; Facilitating Research and Conservation/Enhancement Projects; and Communicating Findings.

We are a grassroots assembly and our actions are respectful of the rights and privacy of individuals.

For more information contact Leora Berman, Program Manager, at tlb@thelandbetween.ca or visit www.thelandbetween.ca