



# Carolinian Canada

Winter 2010

## Species and Habitats at Risk Special Edition Newsletter

BRONWEN BUCK, Editor, Carolinian Canada Coalition newsletter

### Special Focus on Species and Habitats at Risk - 3rd Edition

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**2010** was the United Nation's International Year of Biodiversity. It provided an opportunity to celebrate, and raise awareness about, the importance of the diversity of life on earth. Our beloved Carolinian Life Zone has given us good reason to celebrate. Not only does this region have many rare and uncommon species (such as the American Badger page 15, or the Spoon-Leaved Moss page 17), it boasts a greater array of species than any other place in Canada.

The articles in this issue span over a year of conservation-related activities taking place across the Carolinian Life Zone (we are now playing "catch-up" after my eight month maternity leave). These submissions share stories about some of the intriguing plants and animals that make this area special. In Lorraine Johnson's feature article, Where Eagles Fly and the Southern Flying Squirrel article, Taking a Flying Leap, we highlight research taking place on some of the better-known Carolinian animals. You can also learn about some of our lesser-known gems. For example, did you know we have a plant that looks like a living monument? Turn to page 14 to learn more about the majestic American Columbo.

One cannot fully appreciate biodiversity in southern Ontario without valuing the people and organizations who steward it. While no issue can hold all the good news about what goes on in the Carolinian Life Zone, we trust stories like Scott Guthrie's schoolyard naturalization initiative and the good work of the Ontario Stewardship Rangers will inspire you to learn more about our natural world.

As you read on, we hope you will be encouraged to continue to celebrate biodiversity in your own way. Perhaps you plan to take a foray into native plant gardening, volunteer at a local environmental festival, or undertake a new conservation-related activity you would not otherwise do. Whatever you choose, keep in mind: even the smallest of actions can contribute to a "ripple effect" that will help safeguard biodiversity now and in the future.

#### "Celebrating Forests For People"

The United Nations uses this tagline to promote 2011 as the International Year of Forests.

Did you know the livelihoods of 1.6 billion people depend on forests? Around the globe, people are planning ways to raise awareness about the importance of sustainable management, conservation and sustainable development of all types of forests. These range from international conferences to low-key interpretive tours.

How will you celebrate? Let us know and we will post your events or related articles on the website for all to see.

E-mail [info@carolinian.org](mailto:info@carolinian.org) with your submissions.

*Yours in conservation; Bronwen Buck*

When it comes to species and habitats at risk, there is much to tell. We plan to keep focusing on species and habitats at risk in forthcoming issues. Ideas for future topics are welcome, as are submissions related to habitat enhancement, research, youth involvement, education and land stewardship. For editorial guidelines, please contact: [newsletter@carolinian.org](mailto:newsletter@carolinian.org)

#### Connecting our Community

Help break a record by signing up for our e-news. We hope to double the number of subscribers to our monthly newsletter this year. Through your free subscription, you can receive and post events, publications, and program updates across Carolinian Canada. To become a subscriber, contact us at [enews@carolinian.org](mailto:enews@carolinian.org).

#### The Lake Erie Coastal Zone Program

The North Shore of Lake Erie is over 590 kilometres long. It contains an array of habitats and species and is also a highly settled area. This landscape, Lake Erie's Carolinian Coast, is a hotspot of diversity. Many species at risk call this area home.

The Lake Erie Coastal Zone Program is a way for public and private partners to work together. By uniting efforts, all stakeholders can better manage the coastal zone for people and nature. Improving business, research and conservation opportunities are key goals of the Coastal Zone Program. One way to work towards this goal is through a Lake Erie Coastal Stewardship Trail. Read more about how we are developing a proposal for the trail on page 4.

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Assistance for this newsletter  
is provided by the Ministry  
of Natural Resources.

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# Where Eagles Fly

## Community Volunteers Track an Unprecedented Increase in Eagle Populations Along the Grand River



### Greening the Future in Southwestern Ontario

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The volunteers who monitor bald eagle activity along the Grand River are a hardy bunch. Their work involves pre-dawn excursions, in the middle of winter, to stand for hours in -20 C wind chills, waiting to see the early morning stirrings of the grandest of avian creatures – bald eagles – as they leave their roosts to forage for food.

Me, I'm not so hardy. "Maybe I can just meet up with you guys at the Tim Hortons?" I suggest to Bob Scott, after he's graciously invited me to join the eagle monitors near Brantford very early on a Saturday morning in January. The coffee shop meeting is at the more savoury hour of 9 a.m., and it's a chance for all the monitoring volunteers to compare notes on sightings and, not incidentally, warm up. As it turns out, Bob Scott doesn't expect this particular Saturday to be a good one for eagle monitoring – the weather is predicted to be cloudy, snowy and wet. "The eagles tend not to move much on a morning like that. They just say, 'We're gonna stay right where we are for a while.'" I decide to follow the eagles' lead and stay put myself, even though the monitoring volunteers will be out in full force.

Of course, you can't really predict the weather. While I was snug at home, the hardy volunteers were rewarded with one of the best eagle monitoring days to date: at least 15 eagles spotted between 7:25 a.m. and 9 a.m., along the Grand River from Kitchener to Brantford.

The propitious first sightings of 2009 follow a trend that the monitors have been observing for close to a decade: the numbers of bald eagles along the Grand River have been steadily increasing year by year. "In the winter of

2001/2002," says Bill Wilson who, with his wife Heather coordinates the volunteer monitoring between Kitchener and Spottiswood, "we knew that there were at least four eagles on the river. Then it went up to eight in 2006/2007. Last year [the winter of 2007/2008], we had twelve to fifteen confirmed between Kitchener and Brantford. That was unprecedented."

According to Art Timmerman, Management Biologist with the OMNR, Guelph District, "Up until about ten years ago, it was quite rare to see bald eagles in the Grand River area in winter – and even rarer to see them in summer." Their population numbers started to increase, as did reports of sightings. "Now, they're showing up in November or December and regularly and predictably staying around parts of the Grand River in the winter months," says Timmerman.

Just as regularly and predictably, the volunteer monitors are there to watch the eagles. Bill Wilson recounts with enthusiasm a story of the day in February 1994 when a friend phoned him to say that he'd seen a large bird standing on the ice on the Grand, near the Fountain Street Bridge in Cambridge. "Sure enough, it was a sub-adult eagle," says Wilson, "and that was the first time I'd seen a bald eagle feeding on fish in the Cambridge area." The result of this encounter: "I started paying attention!"

For Wilson, "paying attention" has meant an almost decade-long commitment to coordinating a roster of more than two dozen volunteers. Every second Saturday in the winter months, the group fans out along a stretch of the Grand River between Kitchener and Spottiswood, pairing up at pre-established





monitoring stations. Downstream, Bob Scott and the ten volunteer monitors he coordinates are likewise perched for eagle spotting between Paris and Brantford.

Armed with two-way radios and cell phones, their watches synchronized, their binoculars and scopes trained to the tree tops and sky beyond, the volunteers carefully record all eagle-related activity: “We’ve seen some really lively courtship behaviour,” says Wilson. “Tail chasing, talon grasping, cartwheel spinning around in the air – the eagles can be like WWI airplanes in a dogfight, only it’s love not war.”

While such displays can be rewarding for the volunteers – making all that early morning winter chill worthwhile – Wilson is quick to point out that there’s no guarantee the monitors will see eagles at each session. “Some of the volunteers may go an entire season and not see any eagles,” he notes. But even that is useful: “Negative data is just as important as positive sightings,” says Wilson. “We need to know where the eagles are not.”

Indeed, the more that information is gathered – about where the eagles are and are not – the better equipped municipal and provincial planners will be to make sound and informed land-use decisions. For example, the volunteer monitors’ data has been used to comment on development proposals in Kitchener, Cambridge, Brantford and Glen Morris. And current mapping of significant bald eagle habitat – based, in part, on the data gathered by the volunteer monitors and supplied to Bird Studies Canada and to the Natural Heritage Information Centre – will have major implications under the Provincial Planning Act: lands adjacent to significant habitat will require an environmental assessment if development is to take place.

As the volunteer monitors’ sightings confirm, the Grand is increasingly providing critical overwintering and stopover habitat. And some of the eagles are now also nesting along the river. According to Jody Allair, Project Biologist and Outreach Coordinator with Bird Studies Canada, “In 1980, there were zero reproducing bald eagles in the Lower Great Lakes. But from that point on, we have seen a slow but steady increase. As of 2008, we have seen 45 active nests in the Lower Great Lakes.” While very few of these nests are along the Grand River, Allair is hopeful that with the stable wintering population of bald eagles, “it’s just a matter of time before we have more breeding.”

For Bill Wilson and Bob Scott and all the Grand River eagle monitors, the work of waiting and watching with keen attention and high hopes continues. Says Wilson, “I want to live within a landscape I share with creatures like bald eagles, because their presence says something about the quality of that landscape.”

# A Trail for Lake Erie

## CCC Develops a Proposal for a Stewardship Trail

by MEGAN IHRIG for the Carolinian Canada Coalition

The Carolinian Canada Coalition (CCC) is embarking on an ambitious 3-year program to plan a Coastal Stewardship Trail along the north shore of Lake Erie. This “Carolinian Coast” is a hotspot for biodiversity. It is home to some of the highest concentrations of species at risk in Canada, as well as globally significant habitats and unique cultural heritage sites. On a largely private, multi-use landscape, our goal is to connect and strengthen rural and urban stewardship efforts by increasing local pride, understanding, appreciation and enjoyment of our unique coastal ecosystems. The planning of this trail will engage recreation, tourism, research and conservation, in a collaborative effort to make a positive difference on a significant landscape.

Our Coastal Trail Plan will build on existing trail segments and identify other potential routes in the counties and municipalities of Essex, Chatham-Kent, Elgin, Norfolk, Haldimand and Niagara.

Such a trail could reconnect residents with the diverse Carolinian coast. Although the Carolinian zone in southwestern Ontario occupies only 0.25% of Canada’s land mass, it is home to over 25% of Canada’s human



PHOTO CREDIT: CHERYL VEARY

Participants fill out workbooks at a Coastal Stewardship Trail workshop.

population. Many public and private landowners already work diligently to steward this area by protecting ecosystem diversity. The Coastal Stewardship Trail will highlight some of the fantastic work that is being done on the ground, encourage new projects and link stakeholders. The north shore of Lake Erie has the potential to be an eco-tourism destination. The trail could be one component to bring this message to a larger audience.

Simcoe, Eagle, Essex and Port Colborne hosted workshops on the coastal trail in November and December, 2010. Participants from all sectors provided valuable input on

relevant topics including conservation, trails, business and planning. A number of suggestions for refinements to the trail messages, routes and sites will enhance the Lake Erie Coastal Stewardship Trail plan.

A great thank you to everyone who participated. If you weren’t able to attend the workshop but want to provide input please visit [www.carolinian.org](http://www.carolinian.org). The workshop workbook, draft maps and site lists, and presentations from the workshops are all online for your comments and review.

## Student Internship Update 2010

by MEGAN IHRIG for the Carolinian Canada Coalition



PHOTO CREDIT: JENNIFER VAN OVERBEEKE

Scenic Sunset on the Lake Erie Coast

Three student interns participated in the joint CCC-University of Waterloo Internship program in the summer term of 2010 (May to August). Mark Funk worked as a field researcher with Earth Trampler Consulting. During his term, he assisted in the second season of ecological inventory at Backus Woods, part of a larger project to develop management guidelines for Species at Risk. As researchers for Carolinian Canada, Samantha Dupre and Jennifer van Overbeeke focused on planning a trail for the Lake Erie shore as part of the Coastal Zone Program. The following page contains pictures and testimonials from these highly successful internship experiences. Carolinian Canada and the University of Waterloo would like to thank all the hard-working, talented participants who continue to make this program a success.

*It is with regret that we bid farewell to Megan Ihrig as the Coastal Zone Coordinator. Megan is moving to Ottawa with her husband, Vince. We wish her the best of luck in her new endeavours.*



# Observations from the Field

## Coastal Zone Program Interns Share their Experiences

by SAMANTHA DUPRE & JENNIFER VAN OVERBEEKE, 2010 Coastal Zone Program Intern

### Samantha's Experience:

From the start of background research onward, I have been amazed on a daily basis by the number of interesting discoveries to be made.

In researching the Carolinian Coast, our focus ranged from the site of an ancient mastodon skeleton one day to a fishery restoration project the next. It has been really inspiring to see the number and variety of organizations, such as local land trusts, community museums, private land stewardship groups and publicly managed Conservation Areas and Parks that are collaboratively working towards the preservation of natural and historic heritage sites. People of all ages and backgrounds are coming together. I find the potential for this trail to link these initiatives really exciting!

There is a rich cultural history stretching from First Nation villages to present day cottagers and I find it fascinating to learn how humans over time have influenced, and been influenced by, the beautiful coastal environment.

### Jennifer's Experience:

As a student who cares about the Environment, it is very easy to get discouraged by the doom and gloom of messages about its state. Yet, the research I have been doing for the Coastal Zone Project has been providing quite the opposite experience. It has been very encouraging to learn about private landowner initiatives occurring across the Erie coast. From movements towards no-till agricultural practices, to sustainable woodland management, to major habitat restoration, there are a lot of cool activities going on!

It seems to me that the people of southern Ontario are stepping up to the challenges of conservation and stewardship. I hope that with this trail we can share these success stories with those who may not know about them... in our own neighbourhoods, and around the world.



PHOTO CREDIT: MEGAN IHRIG

*Samantha Dupre and Jen Overbeeke, 2010 Coastal Zone Program Interns*

# Conservation Action Planning in Carolinian Canada

by JARMO JALAVA for the Carolinian Canada Coalition

Staff at the Carolinian Canada Coalition (CCC) are continuing to develop, implement and monitor Conservation Action Plans (CAPs) with key conservation partners in Canada's most biologically diverse and threatened ecoregion. CCC is facilitating a multi-year project that aims to significantly enhance the coordination and efficiency of conservation activities in fifteen "hotspots of biodiversity" in Carolinian Canada. These areas require urgent action to recover threatened species and habitats and are therefore the places where conservation planning will yield the greatest benefits. CAPs were initiated in 2008 for three such areas: (1) Essex Forests and Wetlands; (2) Ausable River – Kettle Point to Pinery; (3) The Upper Thames River Watershed.

In 2009/2010, CAPs were initiated in three additional hotspots, this time in the southeastern portion of the Carolinian life zone: (1) the Hamilton – Burlington area; (2) Short Hills; and (3) the Niagara River Corridor. The many agencies and organizations that contributed directly to the development of these CAPs included: the Hamilton Halton Watershed Stewardship Program; Hamilton Wentworth Stewardship Council; Conservation Halton; Hamilton Conservation Authority; ReLeaf Hamilton; The Royal Botanical Gardens; Cootes to Escarpment; Tallgrass Ontario; Ontario Ministry of Natural Resources; the Niagara Peninsula Conservation Authority; Niagara Parks Commission; Niagara Restoration Council; Ontario Parks; The Nature Conservancy of

Canada; Welland River Keepers; Niagara Land Trust; Trees Unlimited; Ontario Power Generation; Regional Municipality of Niagara; Bert Miller Nature Club; and Department of Fisheries and Oceans Canada.

Carolinian Canada is now working closely with Ontario Nature, the Thames Talbot Land Trust and several local partners to develop a CAP for southern Elgin County. In the initial phase of this exciting project, which began in early 2010, mapping is being prepared by Ontario Nature as part of its Greenways program. The CAP, which will identify key sites, conservation and ecosystem recovery objectives, and stewardship priorities, will be developed in 2011. This project is yet another example of the strength and efficiency of a multi-partner approach to conservation.

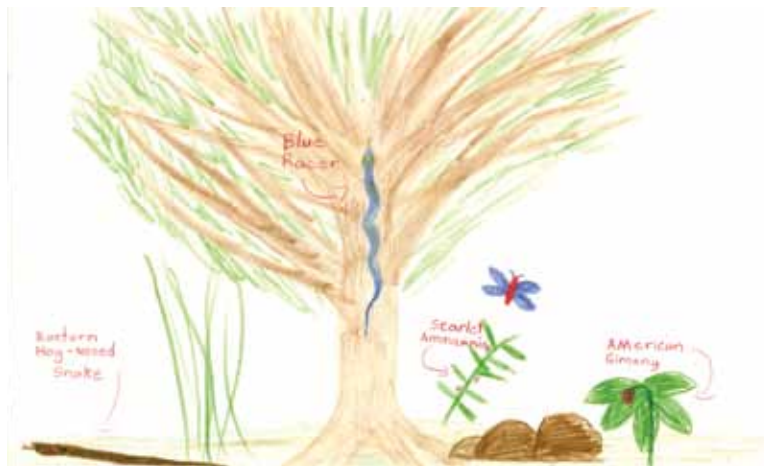
Five of the seven CAPs are now completed and are posted on the CCC web site (follow the link from the main page, <http://www.carolinian.org>). Carolinian Canada is presently working with the lead organizations to ensure that the many activities identified in each of these CAPs are implemented on schedule. In early 2011, CCC will make a detailed evaluation of progress of each of the CAPs in its second annual CAP monitoring report.



*Assistance for this project is provided by the Government of Canada Habitat Stewardship Program for Species at Risk and the Ministry of Natural Resources.*

# Blazing the Way for a "Biodiversity Awareness Trail"

by BRONWEN BUCK for the Carolinian Canada Coalition



Jesse Baisley (Grade: 4) - Biodiversity Drawing

Can an interpretive trail provide environmental education while fostering stewardship? We intend to find out! Thanks to a grant from the Trans Canada Trail, the Carolinian Canada Coalition is developing a framework for a pilot project. We are calling this newest initiative a Biodiversity Awareness Trail (BAT). The goal of the trail will be to raise awareness of the importance of the Carolinian Life Zone's biodiversity. It will also encourage good stewardship behaviour.

The trail, proposed for Essex County, will combine traditional nature interpretation tools (e.g. signs, brochures) with other features to inspire users to undertake new activities such as gardening with native plants or conservation-related volunteering. These features will include native plant gardens, restoration sites and possibly art installations.

We also hope the trail can help us track user participation and involvement. We could do this, for example, by encouraging trail-goers to sign a stewardship pledge or directing them to an internet site full of native gardening resources. Once the pilot is developed, we hope our framework will provide the guidance for developing similar projects. Stay tuned.



# We Will Protect You!

by BRONWEN BUCK for the  
Carolinian Canada Coalition

*Ranger Teams Learn about Rare Species and Habitat Stewardship through CCC's Hands-On Camps*



PHOTO CREDIT: JENNIFER VAN-OVERBEEK

*Ranger teams learn about coastal erosion with Brian Craig from Parks Canada*

CCC's annual Species at Risk (SAR) Camps are designed to provide Ontario Stewardship Rangers with meaningful learning experiences. While many students know that animals like the Giant Panda and Blue Whale are endangered, most are unaware of locally rare species and what they can do to help.

The 2nd and 3rd annual camps held in July 2009 and 2010 gave rangers interactive introductions to the stewardship of Southwestern Ontario's unique diversity. In keeping with the Lake Erie Coastal Zone Stewardship theme, the Camps took place in Turkey Point (2009) and at Point Pelee (2010). Over the course of these two-day camps, the teens learned about agricultural stewardship, met with rare snakes and worked in teams to remove invasive plants.

Stewardship Rangers are summer students who work for stewardship councils and First Nations groups. For many of them, this is their first job. Throughout the season, the teens carry out much-needed conservation work for landowners. Our camps allow local rangers a chance to immerse themselves in learning about Carolinian species and stewardship issues. Crews that have attended the SAR camps include the Chippewas of the Thames, Middlesex-Lambton, Waterloo-Wellington, Oxford Elgin, Walpole Island, Brant-Hamilton, Chatham and Aurora.

Throughout their summer work, rangers often are unable to directly observe the species they are trying to help. Many wild species are simply too secretive to make an appearance. CCC tries to find a way to allow the Rangers to see the types of animals they are helping. Not surprisingly, live demonstrations featuring snakes and raptors received rave reviews. No one ever seemed squeamish when it came to handling the reptiles. In fact, holding snakes brought smiles to everyone's face.

Activities during the camps also serve to connect the Rangers to unique Carolinian habitats. For example, during their stay at Point Pelee in 2010, rangers were able to get up close and personal with the park's rare flora and fauna (this National Park boasts the most Species at Risk in Canada). While completing some skink habitat work with park staff, participants found a Common Five-Lined Skink (despite the name this lizard is rare). The novelty of finding Canada's only lizard in the wild made a great impression: Rangers ranked their efforts that day as one of their favourite activities.

Through the interactive sessions, rangers also meet conservation professionals, discuss issues (e.g. shoreline erosion) and find creative ways to share their experiences. For example, at one camp, a team presented humorous skits providing tips on how to prevent reptile persecution. At Pelee, the rangers may have stumbled upon a new camp anthem. Donning costumes of species they had helped to protect, the teens belted out, "We Will Protect You" to the tune of "We will Rock You". These bonding experiences during the camps will serve to cement Rangers' memories of their important work for years to come.

Darren Bonenberg, the Aylmer Team Lead, notes the rangers "have a wonderful time because they remark about their experiences for days after camp completion." It's hard to summarize what the Stewardship Rangers liked best about the camp. As one Ranger puts it "The leadership, the INFO!, the experience, the connections, INVALUABLE experience!"

*The Species at Risk Camps are part of the Coalition's "Greening the Future for Species at Risk" program to inspire, inform and guide communities towards habitat recovery in harmony with working landscapes. Assistance for this project is provided by the Ministry of Natural Resources, Parks Canada, TD Canada Trust's Friends of the Environment Foundation and Ontario Stewardship Councils.*

# Public Reporting of Species at Risk

by BERNIE SOLYMÁR for the Carolinian Canada Coalition

The Carolinian Canada Coalition's "Caring for Nature" project provides colourful and informative guides for landowners and communities. The series consists of one factsheet per county within the Carolinian life zone. The factsheets are being developed with input from dozens of local stakeholders. They profile leading conservation landowners, as well as offer a wealth of inspiring stories about how rural landowners are helping wildlife and natural habitat.

Each Caring for Nature factsheet contains a section on species at risk (SAR), including the importance of habitat for their specific foraging, nesting and shelter needs. Two to four easy-to-recognize species at risk are highlighted in each of the factsheets, along with a contact e-mail address ([wildlife@carolinian.org](mailto:wildlife@carolinian.org)) for landowners that happen to come across one on their property or elsewhere.

When landowners send SAR reports in, they are sent on to an appropriate Recovery Team member. This information helps Recovery Teams focus their efforts on habitat protection and learn more about the distribution of rare plants and animals in each county.

By far the most commonly reported sighting (74%) is of the Red-headed Woodpecker, a bird considered a "species of special concern" in Ontario. This striking woodpecker prefers woodland edges, open parklands and sparsely treed hedgerows. The Ontario Breeding Bird Atlas indicates that this bird's range has significantly decreased in southern Ontario since the last census 10 years ago. To date, the public is reporting sightings from Niagara, Halton, Middlesex and Norfolk. Most observed the Red-headed Woodpecker feeding at their suet and peanut feeders.

Other species reported to date are American Badger, Grey Ratsnake and Hog-nosed Snake.



## Social Marketing Update

by BRONWEN BUCK, Ecosystem Recovery Network Coordinator

Carolinian Canada Coalition is well on its way to creating a joint social marketing strategy for Recovery of Species and Ecosystems at Risk across southwestern Ontario. In 2009, a random sample telephone survey was administered to 385 residents in Southwestern Ontario as part of our outreach project. The survey helped us understand:

- Residents' awareness and attitudes towards species at risk issues and protection
- Residents' willingness to help species at risk
- Barriers preventing residents from becoming involved in protecting species at risk
- Target audience we should be addressing in our communication strategy
- The best methods to reach the audience with information

For more information about the survey, or for survey results, please contact [woodland@carolinian.org](mailto:woodland@carolinian.org).

**We invite submissions of articles for the newsletter.**

**For editorial guidelines, please mail to: [newsletter@carolinian.org](mailto:newsletter@carolinian.org).**

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Carolinian Canada News, Winter 2010

Publisher: Carolinian Canada Coalition

Editor: Bronwen Buck

Design: Jane Thomson

Over The Moon, Port Rowan

## HOW ARE YOU GREENING CAROLINIAN CANADA?

### Send Us Your Stories!

*Thousands of people across Carolinian Canada are facing similar conservation challenges. Your experience can inform and inspire others and sharing our stories makes our conservation community stronger. Send us notes and photos about your interesting project, conservation success, innovative idea, dedicated volunteers or favourite natural area to [newsletter@carolinian.org](mailto:newsletter@carolinian.org).*





# Stakeholders share their thoughts on the 'Caring for Nature Factsheets'

by NIKKI MAY for Carolinian Canada Coalition

The first phase of Carolinian Canada's 'Caring for Nature Factsheets' project is nearing completion. Nine of 12 factsheets have been issued for the counties of Essex, Elgin, Lambton, Middlesex, Norfolk, the Regions of Halton and Niagara, and the Municipalities of Chatham-Kent and Hamilton. Those for Brant, Haldimand and Oxford will be launched this spring. The first of these factsheets was published in 2006, with 3 more in 2007, and 5 in 2008.

Support for this project from stakeholders has been enthusiastic. Now we are interested in finding out whether they think the factsheets have proven useful in spreading the word to the public and inspiring landowners and volunteers to get involved in projects to conserve and restore natural habitat. Over the last two months we have sent out surveys, and have started to trickle in. But even though the return on the surveys is as yet quite low, the information contained in those few is plentiful and very revealing.

Overall the feedback has been positive and there is much praise for the brochures. In some places, landowners have made inquiries about

articles within the factsheets and have shown an increased interest in habitat projects since the factsheet was published. We have also received a good number of helpful comments on the challenges that face projects of this kind. In some areas there has been no real change in interest. For some of these areas, perhaps the survey process has started too soon, or the strategy to get the word out about the surveys was not as successful as it could have been. In other areas the poor economic outlook overshadowed our message.

The surveying process will continue so that Carolinian Canada Coalition can learn from this project and use this feedback to continue to improve our products and our effectiveness. Given the wealth of information from the survey, there are several ideas that will be used to improve the effectiveness of the last three factsheets that have not yet been issued. Overall we are very pleased with the results of this project. The survey responses indicate we have been very successful in achieving our main objective: to engage numerous stakeholders in each locality.

## ***Caring for Species at Risk Stewardship Workshops for Southern Ontario Rural Landowners***

In a follow-up to the successful and well-received 2008 and 2009 launch of the "Caring for Nature" factsheet series, the Carolinian Canada Coalition and partners are hosting a series of "Caring for Species at Risk Workshops" in four counties this winter. These unique workshops, geared to the rural landowner, will provide participants with an opportunity to learn about species at risk found in their area, learn about local habitat stewardship projects that are underway, learn how landowners can initiate projects on their own land to create natural habitat and conserve biodiversity, and receive information on sourcing financial incentives and expert advice.

Workshop participants will be introduced to The Rural Landowner Stewardship Guide, developed by the University of Guelph's School of Environmental Design and Rural Development, along with a newly developed module on species at risk. They will also receive a colourful and informative resource package, providing information on a wide variety of stewardship topics, as well as contact information for local agencies and resources to help them implement some of the recommendations outlined in the guide. In addition, local representatives from the Carolinian Canada Coalition, the local Stewardship Council and Conservation Authority, local naturalist groups and other organizations have been invited to be on hand to answer any questions participants may have and for individual consultations and follow-up plans.

Funding for this project is provided by the Ontario Trillium Foundation, the Ministry of Natural Resources, Parks Canada, and local conservation partners.

### **Workshop Dates and Locations are:**

- **Saturday, January 29th, 2011 – Optimist Club Hall, 30 Queen St. S., Aylmer**
- **Friday, February 4th, 2011 – Oil Heritage District Community Centre, 360 Tank Street, Petrolia**
- **Saturday, February 5th, 2011 – Delaware Community Centre, 2652 Gideon Drive, Delaware**
- **Saturday, February 12th, 2011 – Hamilton Conservation Authority, Ancaster**

*To sign-up for a "Caring for Species at Risk" Workshop please e-mail [workshop@carolinian.org](mailto:workshop@carolinian.org) to reserve a spot or call Bernie at 519-426-7124 for more information. There will be a nominal registration fee of \$10 per person, payable on the day of the workshop. Lunch is included.*



# Forest Festival Teaches Students about the Carolinian Life Zone

by BETSY MCCLURE, Festival Coordinator

Approximately 1,500 students from 21 schools in Elgin, Middlesex and Oxford Counties participated in the second annual Carolinian Forest Festival held October 5-7, 2010 at Springwater Conservation Area and Jaffa Environmental Education Centre near Aylmer, Ontario. The Forest Festival, geared towards grade 6 and 7 students, uses interactive activity stations to teach the students the importance of the Carolinian Life Zone, species at risk and forest ecosystems.

“The Festival is focused on providing a fun and educational day for the students in an outdoor setting in the hopes that these students will become more aware of and in tune with our local natural resources,” says Festival Coordinator Betsy McClure. “We hope that the lessons they learn at the Festival will motivate behavioural changes and encourage the students to become environmental stewards in their community.”

The activity stations are focused around five themes including: forest ecosystems and interactions, forest resources, species at risk and biodiversity, climate change, and stewardship and conservation. Three live animal exhibits were showcased at this year’s Festival and the students were amazed to see native reptiles, birds and mammals up close.

Volunteers for the Festival are comprised of forest resource professionals from government agencies, environmental organizations, private business and over 100 local high school students. The diversity of partners and volunteers is imperative to the success of the Carolinian Forest Festival.

The Festival is funded largely by the Ministry of the Environment’s Community Go Green Fund and the Ministry of Natural Resource’s Species at Risk Stewardship Fund. Additional support for the Festival was provided by the St. Thomas Chapter of the TD Friends of the Environment Foundation and a number of other local organizations.



Forest Festival 2009 – Students learn about Carolinian Canada mammals as they observe a badger at the activity “Marvelous Mammals”



Forest Festival 2009 – students learn the interconnectedness of species in the Carolinian Life Zone at the activity “Web of Life”

## “A Trail for Lake Erie” Virtual Workshop - You’re Invited!

Tell us your ideas for the Lake Erie Coastal Stewardship Trail.

Our virtual workshop is venue through which you can share ideas and stories about the Lake Erie Coast. Your participation will help us develop a better trail proposal.

Log on to [www.carolinian.org](http://www.carolinian.org) from your home or office and fill out our workbook. These workbooks will be available until February 1st, 2011.



Lila Baisley (Grade 2) - Coastal Trail Drawing



# Take a Walk on the Wild Side

by SCOTT GUTHRIE, CCC Member

## Teachers at Hickory Wood Public School Instill Seeds of Knowledge through a Naturalization Project

Hickory Wood Public School (HWPS) in Brampton truly lives up to its name! Our students have been naturalizing the grounds almost since the school opened thirteen years ago. HWPS has nearly 1000 kindergarten to grade four students, many of whom are new immigrants. Given the multicultural nature of our school, we have taken great effort to expose the community to the natural environment through the activities of our students.

Every year, administrators provide strong support for staff to involve each of their students in schoolyard naturalization. From the Millennium Peace Garden at the front of our school, to the wildlife corridor to the rear, students have planted thousands of Carolinian trees, shrubs, wild flowers and vines. We have also been able to create attractive borders for these gardens with logs donated by the Brampton Parks department. These efforts have enabled most of our students to become well aware of how their naturalization activities are enhancing the Carolinian Life Zone.

As a grade four teacher, I am responsible for teaching about Habitats and Communities as part of the Science curriculum. My years of experience leading the naturalization program have enabled me to incorporate schoolyard greening activities into their lessons whenever possible. For example, last fall I accompanied my students to an adjacent woodlot where we collected Shagbark Hickory Nuts as gifts for each student in the school to plant at home. In addition, I've taught students how to collect seeds from our many gardens and had them prepare the seeds for planting next spring through cold-moist stratification. This year we collected seeds from Cup Plant, Swamp and Common Milkweed, Big Blue Stem, Black-eyed Susan and many more.

In addition to scheduled community planting and cleanup days, Earth Week and National Wildlife Week provide opportunities for us to give back. Each year we ensure all staff and students receive either a shrub, tree seedling, or a wildflower. Recent giveaways include Shagbark Hickory seedlings, Red and Black Elderberry, Silver Maple, Bur and Red Oak and Staghorn Sumac to name a few. Our goal is to spread nature into the surrounding neighbourhoods as well as throughout the school grounds.

The enthusiasm students share over time as they watch their 'wild' backyard grow is indeed inspiring. Our school is now collecting photos of students planting their Earth Week giveaways in their own backyards to document the growth of nature in their neighborhoods. Students who arrive in Junior Kindergarten and are at HWPS for six years witness the growth of wildlife habitat right in their own backyards.

We have received funding from many sources such as TD Friends of the Environment Foundation and Shell Environmental. School fundraising programs such as draws, daily milk and cookie sales and individual donations also support our work. Our students participate in Bird Feeder Watch, Eco Schools, Green Schools, the Peel Eco Fair and are soon to begin Bird Sleuth. All these programs are helping to expand awareness of nature, the critical need to protect our natural resources, and the possibility of restoring some of the past.

At a Peel ECO Fair, HWPS students and I presented a booklet we produced entitled, "Take a Walk on the Wild Side at Hickory Wood". This guide encourages visitors to tour our grounds and experience the plants and habitats begun and nurtured by our students.

Much of the naturalized area has reached a point of maturity where the most assistance it requires involves invasive species removal, an ongoing activity. The pleasure students experience in the gardens while playing, socializing, participating in structured activities, or while making their own discoveries when identifying insects or birds is truly satisfying. They share the knowledge that they are positively impacting the environment and their generation through their actions, and know this is a priceless and a lasting gift for future generations.



PHOTO CREDIT: HICKORY WOOD PUBLIC SCHOOL

*Elementary school teacher Scott Guthrie hands our Virginia Mountain Mint seedlings to children for an Earth Day Planting.*



PHOTO CREDIT: HICKORY WOOD PUBLIC SCHOOL

*Students at Hickory Wood Public School prepare to plant shrubs for a schoolyard naturalization project.*

# Youth Stewardship Program Sparks Interest in Species at Risk

by DANIELLE AULENBACK

Danielle Aulenback worked for the summer as the Crew Leader for the Chippewas of the Thames Stewardship Ranger Team. Here, she reflects on her work experience which involved leading a team of teenagers to restore habitat and work with species at risk in the Carolinian Life Zone.

In the summer of 2009 I had the unique opportunity to participate in the Ontario Stewardship Ranger (OSR) program as the Chippewas of the Thames Crew Lead. This was the second year in a row the Chippewas of the Thames collaborated with the Ministry of Natural Resources.

Together they have extended the OSR program to the Chippewas, youth in order to promote interest in the environmental field. As they did in 2008, the Carolinian Canada Coalition (CCC) provided an external source of funding for my position as well.

When the field season began, I was both excited and nervous about what the summer would bring. I wanted to be successful in my position as Crew Lead by providing my team members with great working opportunities and learning experiences. Since all crew members were as equally new to the program as I, I challenged myself to establish a dynamic summer work experience that could include educational and field components in a tight schedule.

Throughout the course of the summer, I was able to introduce my team to a diversity of activities. We were able to work with various conservation groups on projects ranging from trail maintenance to species at risk research. One of our most successful projects was in partnership with Friends of the Coves in London, Ontario, where we naturalized an area with indigenous wet meadow species. Since my crew was able to participate in this project from beginning to end, they benefited by being able to continually observe the progress of their work over time.

The Chippewas of the Thames band office provided a rather unique opportunity to learn about the bird populations and ecosystems of the area. As part of their first Hummingbird Banding project, the rangers were able to learn from certified hummingbird banders. Our crew, along with the Oxford/Elgin and Middlesex/Lambton crews, were able to see how to catch and band Ruby-throated Hummingbirds. By monitoring these delicate creatures over time, the Chippewas hope to learn more about hummingbird ecology, including whether the location is a spring or fall migration route, and what percentage of birds return to the same nesting location.

Other highlights of the summer involved working with various populations of species at risk. We participated in "musseling" (mussel monitoring) in the Sydenham River, carried out reptile surveys on Walpole Island and even rehabilitated nesting sites for the Eastern Spiny Softshell Turtle. The rangers expressed much surprise upon finding out



Danielle Aulenback (Team Leader), TJ Albert, Eli Jewell, Rockelle Smith, Sharissa Morrison (Stewardship Rangers)

PHOTO CREDIT: DORIS KANTER

how many species at risk existed in the area, and were consequently pleased to work on associated projects.

Sciensational Snakes, an organization that provides the public with hands-on education about conservation, presented the rangers with a workshop on native reptiles and amphibians. By end of the day, the rangers learned how to locate and handle wild snakes and turtles. The best discovery that day was a pair of Fox Snakes, one of which was a pregnant female. Needless to say, the ranger crew's favourite activity throughout the

summer involved reptile surveying.

The summer also included many additional educational opportunities. We participated in a species at risk-themed camp, hosted by the Carolinian Canada Coalition. Although it was a rainy couple of days, my crew enjoyed the daily activities and opportunity to bond with other crew members. They also really enjoyed the free time at the camp. It was especially nice for me to be able to talk with other Crew Leads, to find out what kind of projects all the other crews were working on.

Sir Sanford Fleming College kindly invited us for a tour and camping experience at their facilities. Here, the rangers explored some of the education opportunities available in the environmental field. This was another highlight of the summer, since students had a choice of activities which gave an overview of some of the classes offered. The rangers specifically enjoyed the drilling and blasting demonstration as well as the stream sampling and assessment session.

I feel I provided the rangers with a wide variety of activities throughout the summer. The rangers responded better to projects that allowed them to observe the overall outcome of their efforts. They also appreciated any experiences that allowed them hands-on work with species at risk. When activities consisted of more labour related work, such as nursery maintenance, it was often hard to motivate them throughout the day. Overall, it was a great learning experience for the rangers and myself. Through the process, I gained a great set communication and motivational skills; should I have the opportunity to be a leader again, I will be even more successful in the position.

It turns out my initial worries as a novice Crew Lead were unfounded. Over the course of our time together, I observed the rangers enjoy the summer as much as I. I feel I sparked their interest in pursuing a conservation-related career. When one of my rangers asked, on the last day, to return the program next summer, I knew I had a positive impact. I felt especially rewarded when the same ranger said she was considering studying sciences when she was finished high school. I knew then that I was successful in my summer position.



# Best Practice Guidelines for Aggregate Rehabilitation Projects

## Extracting the Benefits for Species at Risk and Rare Habitats

by DAVID BEAMER, TOARC/MAAP and KATE HAYES, Savanta Inc.

In 2008, The Ontario Aggregate Resources Corporation (TOARC), with matching funding assistance from the Ontario Ministry of Natural Resources, produced a guideline document called Best Practice Guidelines for Aggregate Rehabilitation Projects: Extracting the Benefits for Species at Risk and Rare Habitats.

Savanta Inc. led the development of the report, in partnership with a number of additional experts in the field of rehabilitation and species at risk (SAR). This report offers a series of best restoration and management practices for rehabilitating former aggregate sites to achieve the goal of maximizing biodiversity (including SAR) while minimizing maintenance costs. The recommendations are outlined within the context of the latest developments in recovery planning and implementation for SAR, best management practices and ideas that the aggregate industry or its related clients may be able to follow or to build upon.

There are few opportunities to recreate large individual and cumulative tracts of land and ensure their conservation in perpetuity in the province of Ontario. With approximately 3,700 pits and quarries under license on private land in designated areas and close to 3,400 under permit on Crown land, occupying a total area of over 175,000 hectares of land, the aggregate industry is in a unique position to contribute to positive efforts related to the recovery of at risk and rare species in Ontario.

Some of the many aggregate sites either overlap or are located in close proximity to documented occurrences of SAR. Some of these areas currently provide important habitat for them, while others could potentially be restored to provide suitable habitat.

Ontario's new Endangered Species Act has sparked both an interest and an opportunity to explore restoration activities that will specifically benefit SAR, rare species, and rare habitats. To this end, TOARC has developed practical best management guidelines that can be used by aggregate producers, regulatory agencies, ENGOs, and others to guide the rehabilitation of aggregate sites specific to the conservation and enhancement of habitats for rare and at risk species in Ontario.

*This document is available for free download at: <http://www.toarc.com/maap/information/research.htm>*

*To order hard copies or CDs, please call 905-319-1968, or email [djbeamer@toarc.com](mailto:djbeamer@toarc.com).*



## Sarnia Partners Aim to Return the Landscape

by NIKKI MAY

The Lambton Environmental Action Plan (LEAP) and the University of Western Ontario Research Park, under the leadership of Shawn McKnight of the Urban Nature Centre, have formed a partnership to rescue native plants from development lands in Sarnia Lambton.

With funding from the Ontario Trillium Foundation, the group will complete an initial feasibility study in 2010/2011 to determine if the volume of native plant material lost from development each year in Lambton County can be matched with a sustainable demand from local restoration projects and native plant gardeners. If the idea proves feasible, the group plans to build a greenhouse to store and propagate the native plants. They also have plans to work with schools to naturalize their grounds with the City of Sarnia and other municipalities in Lambton to naturalize suitable areas in parks and open spaces. Typically, these projects would be done using plants brought in from native plant nurseries in other parts of the province, sometimes even from the US. One of the important benefits of this project is that it could provide a source of local genetic stock.

For the past four years, Shawn has been leading a local effort to collect plants from wild places around the Sarnia area that have been slated for development. Often working just ahead of the bulldozers and backhoes, he and other dedicated volunteers go in and dig up hundreds of Foxglove

Beardtongue, Mayapple, Large Flowered Bellwort, Christmas Ferns and many other native species that otherwise would end up as compost as the topsoil is removed. (In this work, he has picked up the baton from people like the Teasell brothers – John and Art, who for many decades, have expressed their love of natural habitat through actions such as these.)

In the process of carrying out this work in a rushed and ad hoc manner, Shawn wondered if it would be possible to work with the county planning departments to find out ahead of time which sites were under threat, so that the plant rescue could be done in a more organized and effective way. He also came to realize that he did not have enough space at the Urban Nature Centre to store and pot all the plants that the volunteers were rescuing. Using the Ontario Trillium Foundation funding, Shawn will write a Business Plan for a sustainable Plant Rescue program. If the idea appears to be feasible, Shawn will then go back to ask for more funding to develop policies for working with municipalities in an organized manner, build the greenhouse and support the rescue work until it can generate its own funds in a sustainable manner through plant sales and restoration work.

Shawn's long-term goal is to 'Return the Landscape', one step at a time, through programs like these.

# American Columbo: A Monumental Plant

by GRAHAM BUCK, Ministry of Natural Resources

**A**merican Columbo (also called Monument Plant and Carolina Gentian) is a rather unusual plant. If you happen to encounter the thick, 2 meter (six feet) tall flower stalk erupting from a very large basal rosette (cluster) of leaves in mid June your attention will be grabbed. A careful look around can typically reveal many other American Columbo plants not in flower, if you can recognize the very different flowering and vegetative forms of this plant.

Two radically different forms of this plant occur partially because American Columbo is one of only a few monocarpic plants in North America. Unlike perennials (with repeat cycles such as flowering and seed setting over multiple years), annuals (full life cycle in a single year), or biennials (flower only in the second of a two-year cycle), monocarpic plants live for many years but complete the cycles of flowering, seed setting, and dying during the same year. Other monocarpic perennial plants in Ontario include Hill's Thistle and Pitcher's Thistle.

Interestingly, all three of these plants are at risk. Due to their affinity for really high quality examples of some rare habitat types. Hill's Thistle lives in alvars, Pitcher's Thistle on sand dunes and American Columbo requires oak savanna and oak woodland habitats.

It is a combination of the environmental conditions and plant size, not age, that determines the flowering time of a American Columbo. Not all plants flower when they reach a critical size; some plants have produced 30 leaves reaching 30 centimeters (1 foot) long and were over 20 years old before flowering. Others plants have flowered in only three years. In a population the flowering is coordinated so there are usually several flowering at once, ensuring that flowers are pollinated, usually by bumble bees. Research has found that microscopic flowers are formed three years (but possibly longer) ahead of the flowering year and it is environmental factors that cause all the mature plants in a population to flower at once.

Most populations of American Columbo are large but there are less than 20 occurrences in Ontario. American Columbo is legally listed



PHOTO CREDIT: DON KIRK



PHOTO CREDIT: DON KIRK

*The tiered flowers of the American Columbo explain its nickname: "Monument Plant"*

as endangered in Canada and Ontario. The rareness is due to a combination of habitat quality and quantity. American Columbo appears to be very conservative about where it grows and once a population disappears it is difficult to bring back. As well, American Columbo rarely colonizes new sites.

In Ontario, American Columbo grows on well-drained, but not dry, slopes with an open over-storey of oak and sometimes hickory. For the plants to flourish, the canopy must be open enough to allow ample sunlight to reach the shade-intolerant plants throughout the year. Oak savanna and oak woodland species are typically associated with American Columbo, suggesting that the species might be an oak savanna/woodland plant itself. However, American Columbo can persist in a more closed canopy suggesting that it could be a forest plant, not just a savanna species.

One compelling piece of evidence that American Columbo is an oak savanna/woodland plant is the impact of fire on it. At one location in Ontario where American Columbo is clearly living in an oak savanna/woodland complex the area was burned for three consecutive years (although slightly different areas were burned each year so that certain areas did not burn every year). Monitoring revealed that the fire led to increases in seed germination and overall increase size of population. Population counts in 2005, prior to burning estimated the population to be at 800 plants. In 2008, after the third burn the population had increased to 1250 plants American Columbo appears to have benefited from the fire.

Like many other Species at Risk in Ontario, American Columbo has a complex and complicated life history that does not lend itself to easy recovery. However, through recovery plans and restoration projects, it appears that we are starting to learn some of the secrets behind this mysterious species.



## Recovery Team Makes Great Strides in Understanding the Nomadic American Badger

by BRONWEN BUCK for the Carolinian Canada Coalition

**F**orensic analysis, monitoring and social marketing are all part of a strategy developed by Trent University and the Ontario Badger Recovery Team to restore populations of this endangered mammal. With the diminishment of grassland habitat upon which it depends and the effects of road mortality, the Ontario badger population is in peril. Likely fewer than 200 individuals remain. The largest remaining populations are thought to be in Norfolk and Brant.

By working closely with the Ministry of Natural Resources and Savanta Inc., researchers are trying to answer key questions related to badger abundance, distribution and habitat use that are necessary for developing a comprehensive recovery strategy.

Since a badger may travel over 100 km away from its birthplace, genetic analysis is an important tool. Analysis of badger hair and tissue, combined with public reports of suspected diggings, live animals and road kill is contributing to knowledge of how far badgers wander and even how our Ontario species might interact with other populations found in Michigan.

Because live animals prove difficult to find, road-kill dissections are currently the most effective way to determine population age, health status, and even dietary patterns. Notably, Trent researchers are developing new techniques to infer the movement of this nomadic species by analyzing trace elements found in their claws.

Soils across Ontario have unique chemical compounds which become incorporated into the local food web. When a badger consumes this local food, the chemical signature from associated soil is deposited into the animal's body. Biologists can then use these signatures to determine a badger's home range location and diet.

Recognizing how community members and landowners play a critical role in assisting recovery efforts, project partners are using a targeted social marketing program to increase awareness and encourage public reporting of sightings. They have produced a public service announcement with a radio endorsement from Dwayne Roloson of the Edmonton Oilers and have also developed promotional items such as magnets and badger-themed iPod covers which will reach target audiences such as landowners and youth.



*Biologists Mary Gartshore and Carrie Sadowski skin badger carcasses at Trent University looking for clues about their nomadic existence*

This work has taught researchers much about Ontario's badgers. Unfortunately, one of their discoveries is that road mortality may be a greater threat to survival than previously thought. While badgers can generally live to about ten years of age in the wild, the average age of road-killed badgers sampled to date is less than 2 years. Diet does not seem to be a limiting factor for badger health, because other health-related indicators such as muscle mass and body fat generally look good for Ontario road-killed specimens.

Environment Canada's Habitat Stewardship Program, the Ontario Ministry of Natural Resources, Walker Holdings Industries Inc., and the Norfolk Field Naturalists have provided generous financial support for badger recovery efforts. You can support the initiative by reporting badger sightings, road kills and suspected burrows. Call 1-877-715-9299 or e-mail [info@ontariobadgers.com](mailto:info@ontariobadgers.com). For more information on badger research in Ontario, please visit [www.ontariobadgers.com](http://www.ontariobadgers.com) or [www.sararegistry.gc.ca](http://www.sararegistry.gc.ca).

[www.ontariobadgers.com](http://www.ontariobadgers.com) or [www.sararegistry.gc.ca](http://www.sararegistry.gc.ca).

*Thanks to Danielle Ethier (Trent University), Kate Hayes (Savanta Inc.) and Ron Gould, Ontario Ministry of Natural Resources for their assistance with this article.*

# Taking a Flying Leap...

## Where Are Flying Squirrels Headed?

This article was reprinted with permission from the  
MINISTRY OF NATURAL RESOURCES.

**Okay,** “flying” is a little misleading, it’s more of a glide. Nevertheless, recent studies are showing that flying squirrels are on the move—with some interesting

outcomes. Both the northern and southern flying squirrel are native to North America. Northern flying squirrels are typically found in coniferous forests throughout Ontario, while southern flying squirrels are limited by cold winters and mainly live in hardwood forests, south of Dorset, Ontario. Jeff Bowman, research scientist with Ministry of Natural Resources’ Wildlife Research and Development Section, has recently wrapped up a study with Trent University graduate students Colin Garroway and Andrea Coombs to look at flying squirrel distribution, genetics, and impacts of climate change.

### **The lowdown...**

With a recent run of warm winters, southern flying squirrels are travelling much farther north than their historical northern range-limit. This expansion in range has brought them much closer to their related counterpart, the northern flying squirrel.

### **A bit of background...**

Bowman’s research began in 2002 by tagging and taking DNA samples of both flying squirrel species from across the area where these two species overlap. The sampling area extended from Lake Erie to Temagami. Because southern flying squirrels were listed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as a species of special concern, the research team wanted to look at distribution and genetic structure of both species. They also looked at nesting differences between the species and range of movement.

### **What did they find?**

By 2003, they realized that the southern species was about 200 kilometres north of where the 1988 COSEWIC status report listed their range. With southern flying squirrels moving into northerners’ territory, the team soon came across hybrid flying squirrels. In fact, it was determined that at least four per cent of the animals were genetic hybrids.

### **The big picture...**

This is the first contemporary evidence of hybridization between species that is directly attributable to climate change.

It shows that climate change can cause rapid shifts to species’ ranges and can result in interbreeding of two closely related species.

Hybridization can affect how well a population is going to do, since new genes are introduced to the species.

Conservation implications are still unknown, but hybridization may play an important role in adaptation—especially in a rapidly changing climate.

*Bowman and Garroway published [Climate Change Induced Hybridization in Flying Squirrels](#) in 2009. The southern flying squirrel was de-listed by COSEWIC in 2006, based in part on findings in Bowman’s publication, [Northern Range Boundary Dynamics of Southern Flying Squirrels: Evidence of an Energetic Bottleneck](#) in 2005.*



A southern flying squirrel with radio transmitter collar.

*The Southern Flying Squirrel was delisted as a species at risk in 2006. However, it is still of those species we describe as typically Carolinian. Because the latest Ministry of Natural Resources (MNR) research is revealing new insights into how this mammal’s range is changing, we thought it deserved a spotlight in our newsletter.*



Colin Garroway (L) and Jeff Bowman put a radio transmitter on a flying squirrel.

**Did you know...?** Flying squirrels don’t actually fly—they glide. In fact, they can’t gain elevation; they glide from tree to tree and to the ground. A thin membrane, called the patagium, connects the flying squirrels’ “arms and legs” and acts like a parachute. With outstretched limbs, and using the tail for stability, a flying squirrel can glide a distance of three times the height at which it takes off.





# A Carolinian Setting for a Rare “Cutlery” Moss

## A Summer’s Work helps NPCA Staff Protect Spoon-Leaved Moss

by PAUL MIKODA and PAUL WOODARD, Species at Risk/Land Stewardship Technicians  
with the Niagara Peninsula Conservation Authority (NPCA)



areas and continue protecting additional areas in the hopes that another population of spoon-leaved moss may be residing there.

The Spoon-leaved Moss is our favourite ‘cutlery’ moss in the Carolinian forest. Our work has brought us closer to understanding the broad habitat characteristics and species associations of spoon-leaved moss within the Niagara survey area, setting the table for an even more productive field seasons with Carolinian landowners in the future. Could there be a knife and fork moss too?



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**T**he spoon-leaved moss (*Bryoandersonia illecebra*) is a robust, bright green moss native to eastern North America and so named because of its cupped leaves. While common in southern portions of its range, it is at its northernmost extent in Canada and is known from only four populations in southern Ontario. In 2003, *B. illecebra* was listed as an endangered species by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and a subsequent recovery strategy was developed. One of the main objectives of the strategy was to fully document the extent of known populations and to conduct additional surveys for new populations. This doesn't sound very hard, but in Niagara, the little guys have been quite elusive for a few years now, with only one small population no bigger than a dinner plate being located.

But this all changed after the 2008 survey season. Through funds from the Ontario Ministry of Natural Resources Species at Risk Stewardship Fund, the Niagara Peninsula Conservation Authority was able to continue the search. With a little bit of early season luck and some 'out of the red maple swamp' thinking, the team was able to locate nine new sub-populations, ranging in size from 19 cm<sup>2</sup> to 8734 cm<sup>2</sup> with a total area of 14963 cm<sup>2</sup> (1.5 m<sup>2</sup>). All of the Canadian spoon-leaved moss populations found to date share a variety of common habitat characteristics. All are in the Carolinian Life Zone in areas that are shaded during the growing season, with little ground competition and near a pathway or route. Future research will allow us to better understand how these general habitat characteristics provide the specific growing conditions preferred by *B. illecebra* in Canada. For now, the best way to protect this rare species is to limit habitat disturbances in our remaining natural



# Green Boughs and Singing Birds

by LAURA MOUSSEAU

In her book *Green Boughs and Singing Birds*, Rosemary Gaymer's love for observing wildlife spills beautifully out. Her reflections on our feathered friends are so eloquently written, they feel as if they have wings of their own. Whether this comes from Gaymer's obvious bias for birds over mammals and other creatures, or just that the natural acrobatics of birds lend them to more poetic descriptions, is hard to discern. What is clear is that if one takes the time to sit quietly and observe, patience's reward is amazing sights and rare glimpses.

From her apartment in Oakville, to the south coast of Texas, and as far as Suffolk County, England, Gaymer takes readers on a private journey, sharing intimate moments with nature. It's easy to paint the scene and imagine being right there with her, seeing what Gaymer sees, as her beautiful descriptions draw you in. As I read, I could vividly see the coyote staring Gaymer down in the Arizona desert, and see the plovers scurrying about on Lake Ontario's shore.

From our own fair Carolinian Zone here in Ontario, Gaymer tells many tales. Tales of Red Fox at Sixteen Mile Creek in Oakville, and of Eastern Screech Owls in Toronto's High Park. Gaymer's observations of an amazing diversity of wildlife in both winter and summer accurately portray the Carolinian Zone. And no bird naturalist book from Ontario would be complete without a story from Point Pelee or Pelee Island. Gaymer beautifully recounts the incredible variety of songbirds heard in one remarkable, yet typical May morning on Canada's southern-most point.

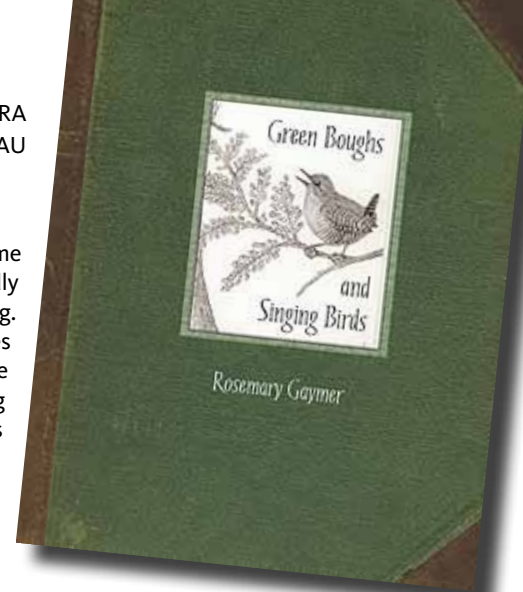
Throughout the book, and often in the Carolinian Zone, there are poignant moments where Gaymer contrasts observations of years past with present day, and the sad state of our declining birds is made

unsettlingly obvious.

The book is not without some faults. A few endings sadly fell flat and left me wanting. The way Gaymer sometimes anthropomorphizes the animals she is studying stirred mixed emotions for me as it is sometimes a blessing, sometimes a curse. The behavioural descriptions occasionally ran on a bit too long and dry – usually the ones about mammals, rarely birds – and it was hard to tell how much of the behaviour was supposed rather than factual as there are no references listed in the book. And yet, despite these drawbacks, I did learn much from Gaymer's stories.

Gaymer's illustrations never failed to bring life to her stories. The only disappointment was not seeing them in the full and amazing colours that Gaymer writes of in her descriptions.

Overall, Gaymer inspires one to go out and observe. Every story offers something – even those that don't soar still bring a smile. From laugh out loud moments, to awe inspired ones, and even an occasional tear, I was wonderfully propelled through Gaymer's memories. She shares without hesitation, and her readers will be grateful for it.



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...a community that takes action?

Do you know...?

Awards to be presented at Carolinian Canada Coalition AGM in April 2011

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