

## A Pervasive Invasive: New Research on Garlic Mustard

By Lorraine Johnson

By now, anyone who has visited a forest in southern Ontario is aware of the pervasive invasive Garlic Mustard (*Alliaria petiolata*), a non-native biennial introduced to the United States in the 1860s that has since spread to Canada. Extremely difficult to eradicate once established, this ubiquitous alien is particularly damaging because it invades mature, undisturbed forests, carpeting the woodland floor.

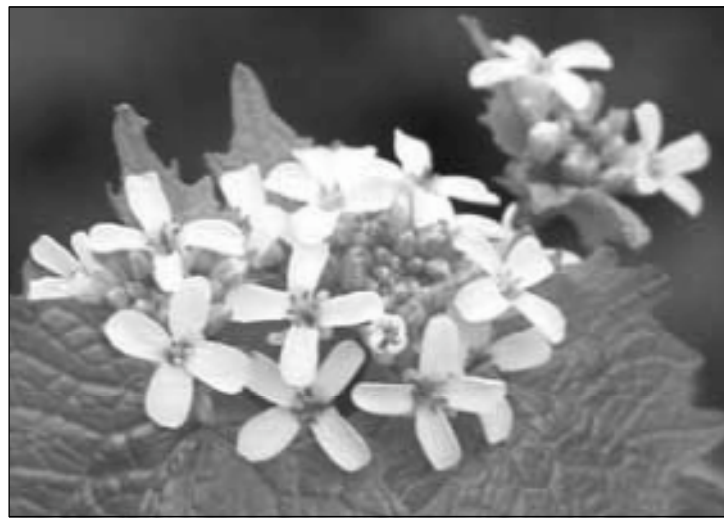
According to a recent study published in the Public Library of Science, Garlic Mustard poses a threat not only to the herbaceous flora of the understory; it also suppresses the growth of canopy tree seedlings.

The study authors, including four biologists from the University of Guelph, found that Garlic Mustard thwarts the symbiotic relationship between trees and arbuscular mycorrhizal fungi (AMF). "Most vascular plants form mycorrhizal associations with arbuscular mycorrhizal fungi, and many plants are highly dependent on this association for their growth and survival, particularly woody perennials," the authors point out. Trees, for example, depend on fungi for nutrients, at the same time as fungi depend on trees for energy.

To test the impact of Garlic Mustard on arbuscular mycorrhizal fungi, the researchers collected soil from five forests in Ontario and tested seedlings' ability to form mycorrhizal relationships in soil that had been invaded by Garlic Mustard. Sugar Maple, White Ash, and Red Maple grew significantly slower in infested soil and had much less AMF root colonization, suggesting that phytochemicals in Garlic Mustard disrupt the mutually beneficial relationship between trees and AMF, effectively poisoning trees' fungal allies. "By killing off native soil fungi, the appearance of this weed in an intact forest could stifle the next generation of dominant canopy trees," says lead author Kristina Stinson. (1)

1. In *Harvard Gazette*, reprinted in *Landscape Trades*, July-August 2006.

The study "Invasive Plant Suppresses the Growth of Native Trees Seedlings by Disrupting Belowground Mutualism" is available in Public Library of Science Biology, May 2006, Volume 4, Issue 5. Visit [www.plosbiology.org](http://www.plosbiology.org).



*The invasive non-native Garlic Mustard suppresses the growth of tree seedlings.*

*(Photo from website: [www.nps.gov/plants/alien/fact/alpe1.htm](http://www.nps.gov/plants/alien/fact/alpe1.htm))*



In the last issue of the newsletter, we included an article on the proposed new border crossing in Windsor and its potential impact on the Ojibway Prairie Complex. Readers interested in following this issue are encouraged to visit the Citizens Protecting Ojibway Wilderness website at [www.saveojibway.com](http://www.saveojibway.com).

We invite submissions of articles for the newsletter. For editorial guidelines, please contact: [newsletter@carolinian.org](mailto:newsletter@carolinian.org).

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## NEWS & EVENTS

### Research Support

World Wildlife Fund announced the opening of its 2007-2008 Kathryn Fuller Fellowship competition. Two post-doctoral fellowships will be awarded for a two-year period to individuals with research proposals that are of fundamental and immediate importance to global biodiversity conservation. For more information, application guidelines, and on-line application forms, visit [www.worldwildlife.org/sfn](http://www.worldwildlife.org/sfn).

### Species-At-Risk Strategies

On July 27, 2006, Environment Canada posted 12 recovery strategies and one management plan for the following species on the Species At Risk Act Public Registry: Henslow Sparrow, Horsetail Spike-rush, Kirtland's Warbler, Mountain Plover, Piping Plover, Red Crossbill, Roseate Tern, Tiny Cryptanthe, Western Prairie Fringed Orchid, Barrens Willow, Spoon-leaved Moss, Northern Spotted Owl, and Savannah Sparrow. These documents remain on the Public Registry for a 60-day comment period; the department then has 30 days to review comments and integrate them as appropriate, after which the final version of the recovery strategies and management plan will be posted on the Public Registry. To view the recovery planning documents, visit [http://www.sararegistry.gc.ca/plans/default\\_e.cfm](http://www.sararegistry.gc.ca/plans/default_e.cfm).

### Success Through Shelterbelts

A new program is helping Ontario hog farmers learn the benefits of using tree shelterbelts to cut down on odour and dust on their farms. In this new partnership between hog producers and conservation authorities, forestry technicians are receiving training on shelterbelt design around barns, while hog producers will benefit through improved odour and wind control.

"When we establish shelterbelts around hog barns, everyone wins," says Anne Loeffler of the Grand River Conservation Authority, co-ordinator of the provincial project.

Ontario Pork and the Canadian Pork Council are working with conservation authorities across the province to set up demonstration sites on 11 hog farms. Two sites were planted last fall and the remaining nine were planted this spring.

Farmers who are interested in establishing shelterbelts on their properties can take advantage of the Greencover Canada Program through the Environmental Farm Plan program, which provides up to \$10,000 to cover half of the cost of a shelterbelt. To access funding or to obtain assistance in planning a shelterbelt, contact your local Conservation Authority or Environmental Farm Plan Coordinator.

For more information on the demonstration study, contact Anne Loeffler, Provincial Project Coordinator, Grand River Conservation Authority, (519) 621-2761.

## Norfolk Sustainability

On November 4, the "Building a Sustainable Norfolk Community" conference is being held in Simcoe, presented by Long Point World Biosphere Reserve. Michelle Kanter, Executive Director of the Carolinian Canada Coalition, will be presenting at the event. The conference will be followed by a bus tour on November 5 to significant natural areas and sustainable farming operations in Norfolk County. For more information, contact Bernie Solymár at (519) 426-7124 or [solymar@nornet.on.ca](mailto:solymar@nornet.on.ca).

### Data Management

The Ecological Monitoring and Assessment Network Coordinating Office recently announced that the first phase of the EMAN Data Management System has been launched. The EMAN Data Management System is an on-line tool for partners to enter, access, view, manage, search, and share data related to the EMAN standardized ecosystem monitoring protocols.

The new system will allow users to enter data on-line directly into a comprehensive database. It will enable the Coordinating Office and all of the EMAN partners, for the first time, to be able to access, integrate, and analyze EMAN data from across Canada simply and effectively. The system is being built modularly and is currently functioning for the following three protocols: the EMAN Terrestrial Vegetation Biodiversity Monitoring Protocol; the Roadside Survey; and the Backyard Call Count.

The EMAN coordinating office is currently working to incorporate historical data into the system. If you have historical terrestrial vegetation biodiversity monitoring datasets which you would like to integrate into the data management system, please send these to [marlene.doyle@ec.gc.ca](mailto:marlene.doyle@ec.gc.ca) or call (905) 336-4418.

To access the system, visit:  
<http://www.on.ec.gc.ca/eman/index.cfm>.

*Cucumber Magnolia tree flower (Photo by Richard Hulse)*



## MARK YOUR CALENDARS

### Conservation Symposium

Mark your calendars for the A.D. Latomell Conservation Symposium, being held November 15-17 in Alliston. For details, visit [www.latomell.ca](http://www.latomell.ca) or call (905) 685-1211.

# SPECIES @ RISK

By Heather Webb, Biodiversity Partnership Coordinator,  
Bedfordshire & Luton Biodiversity Partnership (UK)

## Eastern Cougar

*Puma* (formerly *Felis concolor*)  
("puma/cat" + "of one colour")

Status: Endangered - Regulated (COSSARO)\*

*"The most plausible explanation [for cougar sightings] was that any lions out there - if lions they were - were released pets, bought in haste and later regretted. It would be just my luck, of course, to be savaged by an animal with a flea collar and a medical history. I imagined lying on my back, being extravagantly ravaged, inclining my head slightly to read a dangling silver tag that said: My name is Mr. Bojangles. If found please call Tanya and Vinny at 927-4667."*

*Bill Bryson, A Walk in the Woods*

The elusive Eastern Cougar is the stuff of mystery. Hunted to near extinction in the 1800s, Ontario's cougar is one of a trio of "big cats"—including Canada Lynx and Bobcat—that once made their home in the Carolinian zone. Sightings have been reported for years, but it is not known how many cougars may be out there. It is thought that those spotted in southwestern Ontario are in fact escaped or released pets, but there is currently no evidence to confirm or deny this. In true feline style, the cougar is keeping its secrets to itself.

Largest of the new world cats, the cougar once prowled the woods from New Brunswick to Georgia. It is known by many names, for example "mountain lion," "catamount," "puma," and "deer cat." Until recently, it was thought that there were many cougar subspecies throughout the Americas. But genetic evidence has brought this into question: they all seem to be genetically quite similar.

The cougar is the only plain-coloured large cat besides the lion. Its coat ranges from greyish to almost red, with a white or cream underside. Cougars are stocky, with thick limbs, large feet, and a long tail. Males can weigh up to 200 lbs, and females up to 140 lbs. They prefer to prey on deer but will also eat small mammals, large birds, and even insects.

Like most cats, cougars are solitary, only coming together to breed. Females can come into heat at any time of year, and several males will fight over a female. The winner often mates with her over 50 times a day! A litter of two to six spotted cubs is born about three months later. The cubs nurse for a few months and stay with the mother for roughly two years.

Alas, as our demand for land grew, the cougar's landscape

was carved up to make room for farms, roads and settlements. Remaining habitat patches became too small for such a large predator, and cougars that preyed on livestock were killed. The Eastern Cougar is now presumed lost from most of its range. The only confirmed population of Eastern Cougars is the highly endangered Florida panther.

### Cougar Lore:

- ◆ "Cricket and Cougar" is a Native American legend of a braggart puma who regards himself the mightiest in the forest. Cricket instructs his cousin Mosquito to bite Cougar's ear repeatedly. Eventually, Cougar flees in irritation and shame.
- ◆ The cougar is a popular sports icon: the Columbus State University, Brigham Young University, University of Houston, and University of Regina varsity teams are all called "The Cougars."

To learn more about the Eastern Cougar, check out the following links:

Ontario Species at Risk at [www.rom.on.ca/ontario/risk.php](http://www.rom.on.ca/ontario/risk.php) and Ontario Puma Foundation at [www.ontariopuma.ca](http://www.ontariopuma.ca).

\* Committee on the Status of Species at Risk in Ontario



*Eastern Cougars in North America are all now considered to be very closely related genetically.*

*(Photo by Larry Moats, USFWS)*

# The Dreaded Defoliator: Gypsy Moth in Ontario

By Linda Tucker, Forest Health Technician, MNR

If someone were to give you an audio CD titled "Sounds of the Carolinian Forest," what might you hear? Perhaps the singing of warblers, the yelping of coyotes, the evening calls of tree frogs, or even the maddening buzz of mosquitoes. Now, imagine the sound of caterpillars eating leaves, together with the sound of their droppings falling to the ground. Would you actually be able to hear this? You most certainly would if the woodlot contained thousands of caterpillars, which was the case this summer in several woodlots that were under attack by Gypsy Moth, *Lymantria dispar* (L.).

Introduced to North America in 1869, Gypsy Moth is ubiquitous throughout southern Ontario, and populations are usually at low levels. Gypsy Moths overwinter in tan-coloured egg masses located on the bark of trees, leaves, and various other nearby objects. Eggs hatch the following spring soon after the buds flush. Young caterpillars (early instars) are dark, fuzzy, and lack obvious markings. As they grow in size, blue and red spots become more visible on their backs. Larvae spend most of their time feeding on the leaves (or needles) of host trees. Defoliation typically continues until late July, followed by pupation. Moths begin to emerge at this time to mate and lay eggs. The flightless white female moths emit pheromones to attract the brown, flying male moths. Gypsy Moths have one generation per year.

At high population levels, trees and vegetation can be completely defoliated by Gypsy Moths. This can lead to whole tree mortality if coupled with other stressors such as drought or other insects. Fortunately, populations of Gypsy Moth fluctuate year to year. This is largely due to a virus and an introduced fungus that aid in shortening the duration of outbreaks. However, in relatively droughty summers (such as that of 2005), the fungus is often suppressed. This followed by a mild winter can lead to a high survival rate of both the larvae and the eggs. As a result, populations of Gypsy Moth can elevate, and landscape-level defoliation may be witnessed in some areas. The summer of 2006 appears to be a good example of this.

Moderate to severe levels of defoliation were detected in the following areas: Six Nations in Brant County, in and around Caistorville on the border of the City of Haldimand County and the Regional Municipality of Niagara, in a few woodlots near Simcoe and Long Point in Norfolk County, and in several wooded areas between Burlington and Toronto. Caterpillars were feeding on the leaves and needles of many species of trees including oak, cherry, maple, beech, aspen, and even white pine and blue spruce.

In the past, the MNR conducted a program on both private and Crown land to slow the spread of the insect and to reduce its impact.

By the early 1990s, this program was cancelled for financial reasons and due to the success of the natural controls in shortening the lengths of outbreaks. Controlling Gypsy Moth is now the responsibility of the individual property owner.

On the sunnier side of things, many of the woodlots that were hit the hardest this past summer are becoming green once again. Deciduous trees have the amazing ability to flush out a second set of leaves following an event such as a Gypsy Moth infestation. As well, many of the affected areas have received good levels of precipitation, which has helped in this regreening and may be helping some of the natural controls.



*Gypsy Moth adults emerge in late July to mate and lay eggs. (Photo by Linda Tucker, MNR)*



*A Gypsy Moth infestation can lead to the complete defoliation of trees. (Photo by Linda Tucker, MNR)*

# Give Something Warm & Fuzzy this year...

2006 Holiday Season Carolinian Canada Gift Packages  
**Think Big this holiday.**  
**Make a Difference with your Gift List.**



*Bird's-foot Violet (Photo by Ron Gould)*

Each person on your CC gift list will receive a handsome gift package with a natural heritage notecard set, gift certificate for products and special events, CCC membership & newsletter subscription. Order by November 15 for December mailing. Choose from a selection of Gift Packages:

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The Coalition has made funding applications to several foundations/organizations to support the Report Card Project, and we are hopeful that support will be found to conduct a Report Card Pilot Study for two or three sample areas in Carolinian Canada over the next two years. If this is successful, then the Coalition would expect to undertake long-term monitoring through Report Cards for the entire region. Many Conservation Authorities have developed report cards for their watershed/subwatersheds that could be used as a model for Carolinian Canada's efforts.

The Coalition has also decided to undertake opportunistic monitoring and assessment as promising occasions to do this arise or can be arranged with partners. For example, in spring 2005 the

Coalition cooperated with the Parks Research Forum of Ontario (PRFO) in a meeting on Species and Ecosystems at Risk. The proceedings of this conference have been published by PRFO ([www.prfo.ca](http://www.prfo.ca)) and contain a number of papers on fish, woodland, and other species and systems in the Carolinian zone. The papers contain information on the status of such species and systems that can be used by the Coalition to keep track of progress and challenges in the Carolinian zone. Such sharing of effort with partners as opportunities arise contributes to the monitoring and other missions of the Coalition and other groups.

## GREENING CAROLINIAN CANADA

### Knowledge and Action

By Maria Naccarato, Project Coordinator, ACER

ACER, an educational charitable organization that focuses on the environment, is pleased to announce that we have received a substantial grant from the Ontario Trillium Foundation to implement our new program, Our School Yard - Measuring Our Resources, with schools in the Peel/Halton region. Our School Yard explores the relationship between trees on school grounds and global climate change through hands-on outdoor learning.

Participants engage in field study to collect data, which is then incorporated into ACER's database to be shared. The school community has the opportunity to address real-world solutions to what is quickly becoming our globe's most critical environmental problem.

ACER will also be providing workshops for any interested educators. The training kit includes a copy of the entire program, measuring equipment, and a resource base to support educators in launching the program.

For more information on this and other ACER programs, please visit [www.acer-acre.org](http://www.acer-acre.org) or e-mail [ourschoolyard@acer-acre.org](mailto:ourschoolyard@acer-acre.org).



*Butter flyweed (Photo by Gerry Clements)*

### Protecting Norfolk County's Crown Jewel

By Bernie Solymár, Fundraising Coordinator, Backus Woods Enhancement Campaign

In the heart of Norfolk County lies a unique 422-hectare tract of mature Carolinian forest called Backus Woods, often referred to as Norfolk's crown jewel. Backus Woods was sold by John C. Backus to the Long Point Region Conservation Authority (LPRCA) in 1956. Since then, Backus Woods has been protected under a long-term management plan and is, today, considered one of the best examples of remaining Carolinian forest in Canada. In addition to its forests of beech, maple, oak, and pine, Backus is home to rare Tulip-trees, Black Gum, Sweet Chestnut, Eastern Flowering Dogwood, and other "southern" tree species not found in most of Ontario. There are sand ridges, cattail-rich wet meadows and bottomlands, shrub thickets, swamps, and streams adding to its charm. Backus Woods is designated as an "area of natural scientific interest" (ANSI -LS) by the provincial Ministry of Natural Resources, and, together with the adjacent Backus Heritage Conservation Area, is visited by thousands of naturalists, birders, hikers, school children, and other outdoor enthusiasts every year. Backus Woods has also been the focus of numerous research projects over the years, and ecological monitoring by the Environmental Monitoring Assessment Network is ongoing.

On October 1st, 2005, the Long Point Foundation for Conservation (LPF), a registered charity, launched the Backus Woods Enhancement Campaign with the goal of raising a minimum of \$500,000. The funds will go towards strengthening the Backus Woods Trust Fund, conducting a major ecological inventory of plant and animal species found in Backus, and purchasing additional adjacent lands to increase the buffer zone around Backus Woods and provide connectivity to other significant forest tracts.

Backus Woods is a magnificent part of our natural heritage. Your financial support will ensure the on-going sustainable management of Backus, assist in continued trail maintenance and repairs, and further our knowledge of the biodiversity of species

making Backus Woods their home. All donations will be entered in our donor book. Donations of \$1,000 or more will be recognized in a permanent display in the Backus Woods Conservation Area interpretive centre. Charitable tax receipts are also available on request.

For further information or to make a donation, contact the Backus Woods Enhancement Campaign's fundraising coordinator, Bernie Solymár, at 519-426-7124.



*Backus Woods is Norfolk County's "crown jewel". (Photo by Studio One, Simcoe, courtesy of Long Point Region Conservation Authority)*

## Greening the Way: London's Friends of the Coves

By Vanessa Kinsley, Naturalization Project Manager,  
Friends of the Coves

John and Betty Miszczyk's London property backs onto a former meander of the Thames River known as the Coves. Their property has at least ten species of trees representative of Carolinian forests, such as Hackberry, Black Walnut, and Sugar Maple. Unfortunately, invasive plants such as buckthorn, periwinkle, and Manitoba Maple are taking over the shoreline of this ecological refuge in the heart of London.

Last fall, the Miszczyks participated in a backyard greening project spearheaded by the London non-profit organization Friends of the Cove. The Go Green In Your Garden Program engages residents, businesses, all levels of government, community groups, and schools in protecting the Coves Environmentally Significant Area (ESA).

Friends of the Coves volunteers visited the Miszczyks' property and removed shoreline invasive species and replaced them with native plants such as Bur Oak and Chokeberry. They planted a variety of native plants to create more diverse food and habitat conditions to support wildlife. Woodpeckers and Wood Ducks eat Bur Oak acorns, while Chokeberry, contrary to its name, is a tasty winter treat for Chickadees and Cedar Waxwings. By participating in the Go Green In Your Garden Program, the Miszczyks helped rehabilitate the Coves while bringing nature to their own backyard.

In the fall of 2005, more than forty residents and businesses of

the Coves area signed stewardship agreements to demonstrate their commitment to adopting ecologically friendly practices in their homes and yards. With this commitment, Friends of the Coves offered free natural landscaping consultations and planted four hundred native trees and shrubs in backyards and in naturalized areas of the Coves Subwatershed. The Go Green in Your Garden Program also offers resources to control erosion, protect shorelines, conserve water, enhance biodiversity, and conserve energy, and helps residents maintain a pesticide-free yard in preparation for the 2008 City ban on the use of cosmetic pesticides.

For information about Friends of the Coves and the Go Green In Your Garden Program, see [www.thecoves.ca](http://www.thecoves.ca) or phone (519) 640-5397.

### Facts about the Coves

- ◆ The Coves is a former meander of the Thames River. It is now a series of three oxbow ponds, which are known to be areas of high biodiversity.
- ◆ The Coves provide important habitat for turtles.
- ◆ One of the Coves ponds is connected to the Thames River via an underground pipe. The ponds perform a water-retention function.
- ◆ Excessive phosphorus causes algae blooms in the Coves ponds and depletes oxygen needed by aquatic vegetation and wildlife. When homeowners in the Coves Subwatershed apply chemical fertilizers to their lawns, phosphorus finds its way to the Coves through the storm drains.
- ◆ The Coves is a part of the Carolinian greenway and provides a natural link along the Thames River corridor.
- ◆ Birds such as the Great Crested Flycatcher rely on forest areas such as the Coves for habitat.



*Three high-school students help remove buckthorn from the Miszczyks' backyard. (Photo courtesy Friends of the Coves)*



# Getting Better

Until recently, Windsor and Essex County had the dubious distinction of harbouring the lowest forest cover in all of Ontario. According to Matthew Child of the Essex Region Conservation Authority (ERCA), "The bad news is we are near the bottom of the list, but the good news is we are seeing an increase in forest cover, unlike many parts of the province."

With 7.5 percent natural area cover (5 percent tree cover, up from 3.6 percent in 1992, and 2.5 percent wetland cover), Windsor-Essex is more than halfway towards ERCA's goal of 12 percent in order to ensure future sustainability. Says Child, "We've seen a net increase of some 5,500 acres of woodlot in our region since 1992, so we are making progress. We obviously need to accelerate that." In the spring of 2006, ERCA planted and distributed more than 200,000 trees.



*Restoration Biologist Mike Nelson inspects a Tulip-tree at an Essex County restoration site. (Photo courtesy ERCA)*



*Raj Bejankiwar, Water Quality Specialist, undertakes benthic sampling in the Turkey Creek watershed. (Photo courtesy ERCA)*

Along with its evaluation of natural area cover, ERCA recently released a "Watershed Report Card" for the region. "Most watersheds received a grade of D or D- for overall health," says Ray Renaud, Chair of ERCA. "Only two watersheds—Big Creek and Cedar Creek—received a C and C-."

However, Child points out that, looking into the future, trends are more positive. "Groundwater quality conditions are good, and with proper management strategies being developed, these resources should continue to be protected for the future. While surface water quality is generally poor, conditions are steady or improving for the majority of sampling locations in the region."

The Watershed Report Card is available online at [www.erca.org](http://www.erca.org) or by contacting ERCA at (519) 776-5209, ext. 398.

## Oakville's Oak

It's a tall order—all in aid of a tall, ancient tree. Concerned Oakville citizens are hoping to raise \$343,000 by December 15 in order to save a magnificent, 250-year-old White Oak that is currently threatened by the planned expansion of Bronte Road. Halton Regional Council voted in June in favour of widening the road around the tree, but only if citizens pay the added costs of the diversion. The Woodlands Oak Tree Preservation Committee, co-chaired by Joyce Burnell and Jim Young, has spearheaded the community effort to raise funds. Along with donations and pledges from individuals, a local brewer, Trafalgar Brewery, is donating 50 cents from the sale of every bottle of its White Oak Weissbier to the cause.

To help save this living landmark, visit [www.halton.ca/savethetree/](http://www.halton.ca/savethetree/) to make an online donation or call 1-866-442-5866. Tax receipts will be issued after December 15, 2006, for donations over \$25.



*Oakville citizens are fundraising to save this heritage White Oak, which is threatened by the expansion of Bronte Road. (Photo by Paul O'Hara)*



## Island Protection

The Western Lake Erie Islands (WLEI) is an archipelago of 22 islands crossing the Ontario-Ohio border. Nine of the Islands are in Canada, and they support globally significant biodiversity and important ecological functions. Globally rare shoreline, alvar, and forest communities and species occur on most of the Islands, providing critical stopover habitat for migratory land and water birds, and breeding sites for colonial nesting waterbirds.

In January 2006, the Nature Conservancy of Canada (NCC) completed its Natural Area Conservation Plan for the Western Lake Erie Islands, setting a 10-year, \$6.4-million framework to conserve and steward the key natural sites and global biodiversity values within the WLEI. So far, NCC has raised and invested more than \$1.5 million towards the implementation of the Plan, acquired 299 acres of priority land, started comprehensive biological inventories on NCC lands, received an initial gift towards the Stewardship Endowment, and created positive working relationships with all the major landowners and stakeholders within the WLEI. For more information, please contact [james.duncan@natureconservancy.ca](mailto:james.duncan@natureconservancy.ca).

## NEWS & EVENTS

### From Forum to Forest City

Following the Carolinian Canada Coalition Forum in Ingersoll on October 20 (for details, see [www.carolinian.org](http://www.carolinian.org)), head into London to hear celebrated author and “renegade scientist” Diana Beresford-Kroeger (author of *Arboretum America: A Philosophy of the Forest*) speak about trees. This free event, at 7:30 pm at the London Public Library, is hosted by the Thames Talbot Land Trust. To reserve a seat, visit [www.tlft.ca](http://www.tlft.ca).

### Mapping Norfolk

The Norfolk County State of the Environment Map offers a wealth of information about Norfolk County, from local wetlands and parks to agricultural and industrial lands. The accompanying text features interesting facts about Norfolk's economy, ecology, water and groundwater, and flora and fauna. Available for \$5 (free of charge to schools), contact (519) 875-4465, ext. 234 or [Scott.Peck@norfolkcounty.on.ca](mailto:Scott.Peck@norfolkcounty.on.ca) for copies.

### Attention Shutterbugs

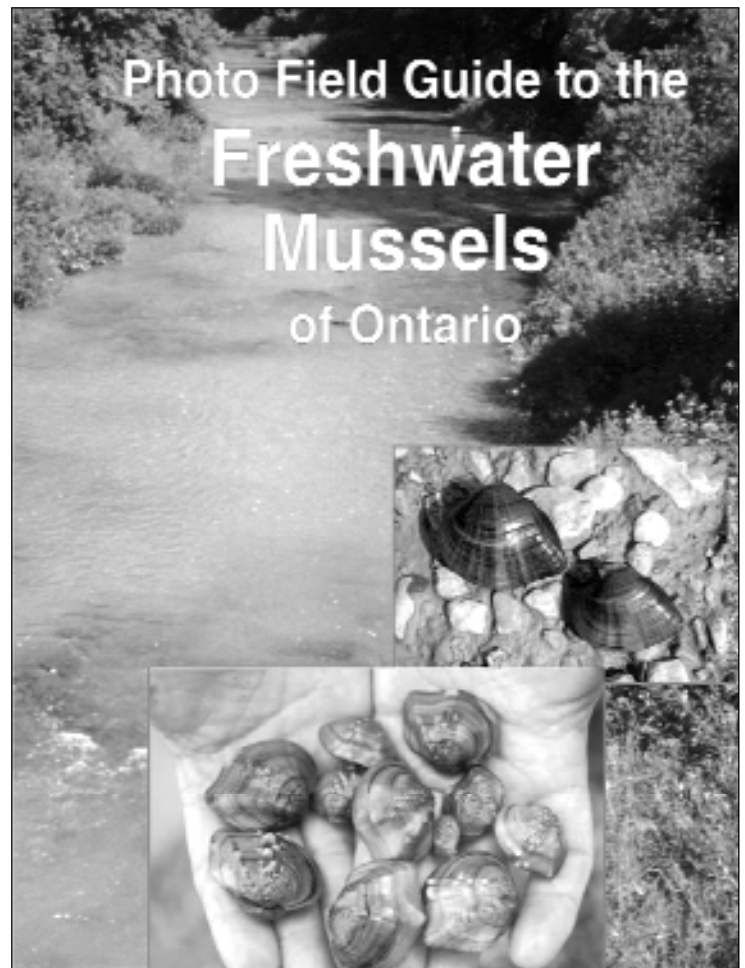
Amateur photographers are invited to submit images for the Toronto Bay Photo Contest. The theme for the competition is “Celebrating the unique character, beauty, and revitalization of the Toronto Bay,” and the deadline is October 26. For information and contest rules, visit [www.torontobay.net](http://www.torontobay.net).

## Finding Funds

The Canadian Subsidy Directory 2006 contains information about more than 3,000 direct and indirect financial subsidies, grants, and loans offered by government departments and agencies, foundations, associations, and organizations. Newly revised, it is available (\$69.95 for CD-ROM; \$149.95 for printed version) by contacting 1-866-322-3376 or [canpub@email.com](mailto:canpub@email.com).

## Mussel Guide

Mussels could use a publicity agent. On the charisma scale, they barely register for the general public, and it's safe to say that most people know little about them. The St. Thomas Field Naturalists are hoping to change all that, with the publication of their *Photo Field Guide to the Freshwater Mussels of Ontario*. This identification guide (one in a series of pocket-sized and info-packed reference books) is full of high-quality colour images, live specimen photos, life history information, and conservation data on all 41 of Ontario's mussel species. Written by Janice Metcalfe-Smith, Alistair MacKenzie, Ian Carmichael, and Daryl McGoldrick, the guide is just \$10 and is available from the St. Thomas Field Naturalists (P.O. Box 23009, St. Thomas, Ontario N5R 6A3; (519) 773-8768). All proceeds from sales will be dedicated to the development of additional guides in this outstanding series.



# COALITION NEWS

## At the Tipping Point

On a sunny and hot July 1, the Carolinian Canada Coalition (CCC) celebrated its Signature Sites program at the southernmost tip of mainland Canada. A crowd of more than 70 visitors and supporters gathered to pay tribute to the unique natural heritage of this region and celebrate conservation success at an event hosted by Point Pelee National Park.

Thanks to the actions of many supporters, Point Pelee National Park now protects Middle Island, a Carolinian Canada Signature Site and Canada's southernmost land mass located a few miles from the U.S.–Canada border. With a rich cultural and natural history, Middle Island holds many treasures that are unique to Canada. It was identified in 1984 by the CCC as a critical unprotected site. In 2000, a national partnership of government and non-government groups led by the Nature Conservancy of Canada worked together to purchase and protect the island and its heritage forever.



Visitors celebrate the Middle Island heritage plaque.



THE ONTARIO  
TRILLIUM  
FOUNDATION

## Leaders of Our Time Carolinian Canada Awards to be Conferred

On October 20th, Carolinian Canada will celebrate the work of eight exceptional individuals and groups who have devoted countless hours to the conservation of unique natural habitat in their communities and beyond. These people are dedicated to improving or saving their local natural areas, and, in their work, they have led by example, protecting and restoring natural heritage. Nominees are from the counties of Essex, Huron, Norfolk,



Marilyn Crawford

Chatham-Kent, Lambton, Wellington, and Frontenac.

This year's conservation heroes have made their marks in many different ways. Their accomplishments have ranged from donating land to protect valuable habitat, to on-the-ground planting of native trees and shrubs, to public education and political advocacy.

Take, for example, Henry Kock, who devoted his life to the conservation and restoration of native plants. Henry spent long hours in the field collecting and planting seed, and equal amounts of time leading workshops and lecturing about the importance of using indigenous species.

And then there is Marilyn Crawford, who has spent the bulk of her retirement years educating the public about the needless damage done to natural areas through inappropriate mining activities. Marilyn has also spent many hours advocating for better prospecting practices.

Consider also Jim and Georgina Sheldon, who have donated 100 acres of Carolinian swamp forest and farmland for restoration to the Nature Conservancy of Canada. Or Don Hector, who has spent much of his professional career and private life promoting and executing the restoration of natural habitat. Dan Bissonnette, Brenda Lorenz, and Dolf and Anne Wynia have all acted as leaders in their communities promoting the planting of naturalized gardens and native trees, and the conservation of natural landscapes. Finally, there is the Ausable Bayfield Conservation Authority, which has been promoting and practising watershed stewardship for 60 years.

Each year Carolinian Canada presents awards for conservation and education efforts related to the special natural heritage of the Carolinian zone by recognizing outstanding contributions by individuals, corporations, non-profit organizations, and government organizations. Nomination forms for 2007 will be posted on the CCC website in February.

## GROWING SUSTAINABLE CONNECTIONS

### Working Together To Protect Our Unique Nature in Southwestern Ontario

#### Are we protecting what makes our communities unique?

Major shifts are taking place in conservation programs across Carolinian Canada. On October 20, the Carolinian Canada Coalition Forum 2006 explores how these changes will affect our communities and how we can work together. Major conservation allies will be called upon to highlight their programs and future plans in this ecoregion. Invited speakers will reveal the impacts of nature on our economy, health, landscapes, and way of life. Speakers and participants will discuss: How can we (government and non-government groups and the Coalition) work together more effectively to achieve conservation and sustainable landscapes in the Carolinian life zone?

#### Who is doing what in Carolinian Canada?

Speakers from all levels of government and major conservation groups will join the discussion at Forum 2006. The changing face of conservation in this region is due to many new initiatives. Carolinian Canada Coalition is reorganizing around a move to incorporate and implement a new strategic plan. Parks Canada and related agencies of the federal government are involved in emerging new programs involving ecological integrity, species and ecosystems at risk, marine conservation, and biodiversity. The Ministry of Natural Resources, Ontario Parks, and related agencies are implementing a new *Parks Act* and a new stewardship approach. First Nations communities are facing increasing pressures on traditional natural heritage areas. Agriculture is increasingly concerned with nature conservation as part of sustainable land use in Ontario's countryside. Conservation Authorities focus on landowner programs and source water protection in Ontario's watersheds. The Nature Conservancy of Canada and other non-government organizations are increasingly involved in innovative community landscape initiatives. Municipalities are creatively applying an array of new legislative, provincial policy, and other tools at the urban - rural interface. New opportunities for heritage landscapes and other innovative approaches are growing. Society is progressively recognizing the value of nature and its critical role in many facets of healthy and sustainable communities.

#### Will current programs and initiatives work together to efficiently conserve the unique heritage of Carolinian Canada communities?

Carolinian Canada Coalition Forum 2006 will bring together community leaders, conservationists, farmers, planners, managers, politicians, educators, researchers, and citizens to examine new opportunities, identify challenges, highlight innovative approaches, and grow sustainable connections between major conservation initiatives across southwestern Ontario. A special invitation has been extended to municipal leaders across Carolinian Canada to gain insights into the conservation tools available to their communities. Proceedings produced from this forum will be a useful reference for decision-makers and community leaders. Carolinian Canada Coalition gratefully acknowledges the support of the Ontario Trillium Foundation and the contributions of our speakers and volunteers.

#### Get "the latest" about CCC

The CCC annual report will be presented at the AGM on October 20th and posted on the website. Some highlights:

- ◆ We welcome Bruce Duncan to the board as the representative of Conservation Ontario. Jim Oliver, long-time committee member, will continue as an "Individual" (a category in our new structure).
- ◆ Elections have been postponed to the next AGM (spring 2007) after final incorporation papers have been received. Nominations for the CCC Board should be sent in writing to the CCC Organizational Development Committee.
- ◆ Over the fall and winter, CCC will shift to the new organizational structure. If you are interested in participating in our committees or programs, please call Michelle Kanter at (519) 433-7077.

*Ironweed (Photo by Gerry Clements)*





## A Taste of CCC Forum 2006 GROWING SUSTAINABLE CONNECTIONS

*Watch for proceedings this winter*

Conserving Nature in Carolinian Canada: A Strategy For The Future  
Michelle Kanter, Carolinian Canada Coalition

Ecological Integrity: The federal role  
Chip Bird, Parks Canada

Sustainable landscapes: The Provincial role  
Ray Bonenberg, Ministry of Natural Resources

Green Communities: The First Nations role  
Dr. Dean Jacobs, Walpole Island Ecosystem Recovery Strategy

Rural - Urban Common Ground: The County role  
Michael Harding, Oxford County Councillor,  
City of Woodstock Mayor

Nature Counts research: The economic value of nature in our communities

Amy Handyside, Natural Spaces

Strategic conservation: The role of NGO groups  
James Duncan, Nature Conservancy of Canada

Agriculture Allies: The role of agriculture policy and farm stewardship  
Paul Smith, Ministry of Agriculture

Planning for the future: The role of urban areas  
Brian McHattie, City of Hamilton

Landowner Links in Land and Water: The Conservation Authority  
Don Pearson, Conservation Ontario

## Carolinian Canada Coalition Monitoring Work

By Gordon Nelson, Chair, Carolinian Canada Coalition

For the past 18 months, the Management Committee has been working on a possible program of monitoring land-use changes and their impacts on biodiversity and related aspects of the environment in Carolinian Canada. Approximately five meetings have been devoted to a discussion of various options and to hearing presentations on ongoing projects such as SOLRIS. SOLRIS is an Ontario Ministry of Natural Resources effort to map land-use and land-cover changes through satellite image analysis and GIS. The project includes the Carolinian life zone and the results are of interest to us. The fact that the OMNR is doing this work means that the Coalition does not need to take up an independent initiative along these lines ourselves. We will monitor developments of the provincial SOLRIS system in terms of its applicability to the Carolinian life zone and take further action as it is perceived to be necessary by the Management Committee.

Another major reason why the Coalition has decided not to pursue its own satellite image analysis project on a large scale is the experience gained by work at the local regional level, for example in Middlesex County. Tara Tchir, who has worked with satellite imagery for monitoring purposes, gave a presentation to the Monitoring Subcommittee which outlined some of the major challenges in achieving a consistently high level of accuracy in measuring land-use and land-cover changes using satellite image analysis at the local or field level. These challenges include:

1. Lack of information about the scale of the original maps (for example, boundaries of features are less refined at broader scales than at finer scales);
2. Differences in the timing of the images over the years (for example, features will appear different depending on the season or year of the image, which may affect boundary delineation or the interpretation of various types of vegetation);
3. Differences in technology used to develop the base source of information for the maps (for example, information collected by the various technologies such as infra-red imagery, orthoimagery, panchromatic satellite imagery, and air photography are not immediately comparable).



*Jewelweed (Photo by Gerry Clements)*

Recent advances in technology have made it possible to refine and improve our ability to delineate features on the landscape. However, caution must be exercised when using these tools to monitor change, since the technologies available today are not often comparable with the methods originally used to describe the landcover, making it impossible to monitor change.

On this basis the Monitoring Subcommittee has recommended that the Coalition concentrate on two types of monitoring. The first is a Report Card to assess the progress of conservation in the Carolinian life zone and the effectiveness of the conservation community and its allies. The Report Card would include information on aspects of conservation progress such as the incorporation of the Big Picture in planning documents; the state of monitoring of natural cover in each municipality; the amount of protection and restoration that is going on in each municipality and watershed; and the changes in natural cover and biodiversity in each jurisdiction.