



Signs of Autumn: Photo by C. Steacy

FEATURE

Tom Woodcock, *rare*'s Planning Ecologist, outlines the long-term forest management plan for intercropping species in *Restoring biodiversity in forest plantations*.



Photo by J. Dillon & J. Moser

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Restoring biodiversity in forest plantations

By Tom Woodcock, Planning Ecologist

In the 20th century, silviculture in southern Ontario was largely practiced on plantations, or “tree farms.” These stands consisted of one or two species, all the same size and age. Standing or fallen deadwood was virtually absent, and the habitat was simplified. While these plantations were efficient to manage and harvest, biodiversity declined and monocultures were more susceptible to pests and disease.

At *rare*, there are two areas of plantation that were acquired with the original property in 2001 and with the purchase of the Thompson Tract in 2010. These were planted in the 1980s, and little maintenance was performed by previous owners. Now our plantations require significant thinning, pruning and disease control. This will improve the quality and market value of the trees, remove threats such as Perennial Target Canker of walnut (also known as *Nectria* canker disease), and improve the habitat quality and biodiversity of our forests for the future. It is a goal of *rare* to naturalise and restore these plantations to increase the area of

healthy forest on the property. By the end of this century, we would expect the plantations to be indistinguishable from adjacent woods.

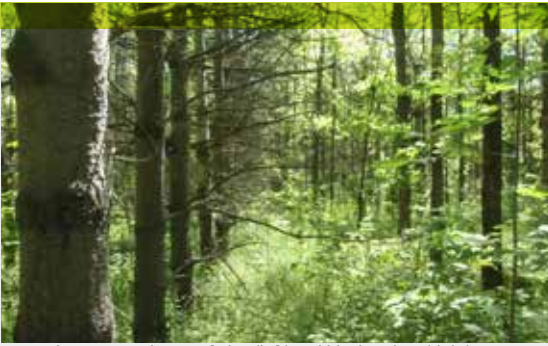
There are several plantations at *rare*, totalling approximately 55 acres. More than half of this area is planted with alternating rows of pine and Black Walnut, an approach known as intercropping. The pines are largely considered sacrificial trees, helping the valuable walnut grow straight and tall. Other plantation areas on the *rare* property include monocultures of pine or spruce, and small areas of pine-oak and spruce-walnut.

As a long-term plan for forest management, during the course of maintenance *rare* will thin the trees until the plantation species reach appropriate population densities for our local mixed forests. Healthy specimens may mature, and ultimately will become part of the forest community. As time goes on species such as walnut will give way to other hardwoods such as Sugar Maple, American Beech and various oaks.

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Restoring biodiversity in forest plantations

continued from cover



Intercropped rows of pine (left) and black walnut (right) at *rare*. The pines are largely dead, but the walnuts have grown tall and straight due to shading from the pines. Photo by T. Woodcock

Thinning the trees will open space and allow light to reach the understory, which bears a healthy population of saplings waiting for the chance to grow. Each canopy tree can produce many thousands of seeds over its lifetime, and of all seedlings that sprout in a mature forest very few will ever get the chance to join the canopy. Where desirable tree species are lacking, *rare* staff and volunteers will transplant seedlings from nearby forests or purchase from native nurseries. Increased light will also encourage wildflowers and ferns to grow in the understory. Ultimately,

the full diversity of tree species and tree sizes will return, together with various stages of decaying wood.

If you wish to learn more about our plans for the ecological future of *rare*, the *Environmental Management Plan (December 2014)* is available for viewing on our website under *Conservation*. Volunteers are always welcome to join land management projects that restore or improve the health of lands at *rare*, visit raresites.org for more information. ■■



Skunk cabbage. Photo by J. Quinn

Indigenous peoples exploring indigenous plants

By Cheyanne Richardson, Community Stewardship Coordinator

On a beautiful Thursday morning, the University of Waterloo Aboriginal Education Centre *Directions* program brought a group of 20 aboriginal youth from all over Ontario to explore the old growth forest at *rare*. The group was led by Traditional Teacher Kathy Absolon in search of healing plants on an educational medicine walk.

Kathy is Anishinaabe kwe from Flying Post First Nation (near Nipigon, Ontario) and

teaches Master of Social Work Aboriginal Field of Study at Wilfrid Laurier University. She has a background in Indigenous Studies and Aboriginal social work practice, and teaches indigenous holistic thought and healing practices.

Kathy welcomed the students by singing the Wildflower song. Singing to the medicinal plants, introducing yourself, laying down pieces of tobacco and thanking the earth and the plants for their good energy are some of the ways Kathy encouraged the group to create a balance between give and take with nature. “We need to take a minute and acknowledge their spirit – by giving them a piece of your good spirit, telling them your good intention or even giving them a piece of your hair or some of your water or simply a story, and in return the plants will bless you with their medicine.”

As we stopped to greet plants on our hike, Kathy referenced many of their medicinal uses and properties like Dandelions, Fern fiddleheads, Skunk Cabbage, Plantain, Mayapple and Cedar, and as we passed Bauman Creek, Kathy referred to one of

the most powerful medicines available, water – which is used in many Aboriginal ceremonies to acknowledge how water heals and sustains all people.

“Our medicine cabinet is in the natural environment”

It was inspiring to sense Kathy’s deep connection to the land and hear her share her understanding of the importance of honouring the spirit of all plants, trees and animals, and their place in indigenous Creation. “We can restore our relationship with the land by going and being present with Creation and giving thanks to Mother Earth for the life she gives to us, and for taking care of us with all her medicines.”

Thank you, Miigwetch, for your time and lessons, Kathy. ■■

Medicine walks hosted on the property are a cultural learning and sharing opportunity and we ask that you do not harvest or forage at rare without permission.



Eastern Grey Squirrel in a tree. Photo by P. Kelly

Wild residents: Animals adapting to city living

By Jenna Quinn, Program Scientist – Research Priorities, Partnerships & Monitoring

As nature lovers, we tend to escape the city to view wildlife. We have our favourite places within the city limits – parks or forest patches, small isolated green islands in a largely paved world. Critters that find a way to survive in an urban environment are often considered a nuisance and are tolerated as opposed to enjoyed – or they are just observed so often that the excitement has been lost. Regardless of how our perceptions of wildlife might change by their common nature or the cityscape around them, these species have accomplished something quite rare by adapting to the changing world around them.

The Eastern Grey Squirrel is one of the most successful mammals to adapt to city living. Listed by the *International Union for Conservation of Nature* (IUCN) as one of the world’s 100 worst invasive species, the adaptability of this critter is showcased by its almost worldwide distribution. Understanding how this species has succeeded has importance across disciplines from wildlife management to city planning and public health.

Enter Mason Stothart – an M.Sc. student from the University of Guelph. Mason is studying both physiological and ecological characteristics of squirrels to try to uncover the secret to their urban success. He was awarded this year’s **Ages Foundation**

Fellowship at the *rare* Charitable Research Reserve – a \$4,000 scholarship funded by the Cambridge & North Dumfries Community Foundation, Ages Foundation Fund. Mason is trapping Eastern Grey Squirrels at several sites including the *rare* reserve and the University of Guelph campus. Squirrels are marked with a colourful ear tag so they can be visually identified later, and Mason has called upon city residents to help him by reporting if they see a tagged squirrel.

By taking various measurements and collecting small amounts of blood and scat, Mason is comparing urban and rural squirrels in a variety of demographic, behavioural and physiological ways. Through this process he hopes to better understand the impact urbanisation has had on this species and apply that knowledge more broadly to all types of urban wildlife.

Next time you see just another squirrel, raccoon or pigeon, pause to appreciate how resilient these species have been to thrive among humans in our cities. Our wild neighbours are here to stay. ■■

To learn more about this research endeavor visit reresites.org or citisci.org.



WHAT DID YOU DISCOVER?

The *rare* BioBlitz was held on August 14. We invited the community, no matter their expertise, to survey for a variety of species on the more than 900+ acres of *rare* property.

Watch for a full article with results in our next issue, the **Winter 2017 rare review!**



Scholarship winner Mason Stothart. Photo by A. Newman



High school students removing Buckthorn. Photo by E. Sonser

Getting hands dirty with Hon. Liz Sandals

By Emily Leslie, Gill Ratcliffe Educator

It was one of the first true days of spring – the sun was glistening off the swamp as the sounds of laughter and teamwork echoed through the forest; high school students wearing chest waders were knee deep in the water and collecting sediment to bring back to their younger buddies; and with eager determination, the grade two/three's rolled up their sleeves to grab handfuls of mucky sediment to place into collection bottles – these samples were then taken back to the *rare* ECO Centre to discover what types of benthic invertebrates (small organisms dwelling at the bottom of rivers and creeks) are living there.

This was one of three mentorship sessions between Southwood Secondary School and Cedar Creek Public School – a program developed by Southwood Geography Department Head Jason Bracey. In this program, grade two/three students are paired with grade 12 students who lead their younger partners through the day of learning. For this session, the group took part in Benthic Invertebrate Mirrored Research – an *Every Child Outdoors* (ECO) program that fulfills *rare's* *Chain of Learning* initiative by participating in the same research techniques that scientists use in the field to determine ecosystem health.



Hon. Liz Sandals watching ECO participants in action. Photo by C. Richardson

Honourable Liz Sandals, former Minister of Education (current President of Treasury Board, MPP), and Honourable Kathryn McGarry, Minister of Natural Resources and Forestry, MPP, stopped by *rare* to pay a special visit. Sandals addressed everyone with her thoughts and praise for the hands-on learning opportunity this program ignites, and was enthused that the students were conducting the science themselves. During her remarks, she directly engaged with the students and joyfully exclaimed that they needed to immediately go and find out what was living in that mud! With that same enthusiasm, the students sorted through the sediment they collected, finding different benthic invertebrates which they viewed through microscopes.

Bracey's vision for this mentorship program is to ignite excitement and energy in learning, creating real connections to nature as well as a sense of community between the schools. Anyone participating in the day could agree that Bracey's vision was met, as the students from all grades took on the day with genuine wonder while getting their hands nice and dirty! ■■

2016 Boots and Bolo Barn Dance THANK YOU

On a warm evening on May 27, over 150 people pulled on their boots and kicked up their heels at a historic local landmark on a beautiful nature reserve. The Boots and Bolo Barn Dance at *rare*, hosted by a volunteer committee and spearheaded by Jackie Hatherly-Martin, hoped to help educate future generations about the importance of protecting our environment. The event raised over \$30,000 in support of *rare* Charitable Research Reserve and our *Every Child Outdoors* (ECO) environmental education initiative.

Thank you to everyone who participated, all of our sponsors (Zeifmans, Hammond Plumbing & Heating Inc, KPMG, Conestogo Electric, Latitude Properties Limited, Bohmers Hargest Block Ltd, Faisal Susiwala, 106.7 Country Radio), participating restaurants (Langdon Hall, Borealis, Black Shop, Easy Pour Wine Bar, The Cambridge Mill, Melville Cafe), the amazing band and line dancers and of course our Barn Dance committee for all their support!

Line dancing at the 2016 Boots and Bolo Barn Dance. Photo by J. Quinn



STUDENT GROUP VOLUNTEER DAYS AT *rare*

Stewarding 900+ acres is no easy feat, and *rare* is only able to do it through the support of volunteers. With the help of student volunteer groups over the years, we've been able to plant thousands of native trees and shrubs, manage invasive plant species across our property, and care for our community and food bank gardens.

Students who visit *rare* for a volunteer day get a unique field experience through education and hands-on conservation techniques. Be it pulling Common Buckthorn (*Rhamnus cathartica*) or transplanting trees to make way for a new trail, students get a taste of being conservation practitioners and have fun doing it!

If you are interested in bringing your class out for a one of a kind field trip experience, please contact us at 519-650-9336!



Laurier Field Naturalists on a *rare* owl prowl! Photo by E. Kastner

We want to say a massive THANK YOU to our friends the Laurier Field Naturalists, at Wilfrid Laurier University. The club joined us for an owl prowl in February and held a bake sale the next week on campus, donating funds raised to *rare* and Turning the Map Green. They saved 25 square meters of ecologically significant land!

Why we count butterflies

By Jenna Quinn, Program Scientist – Research Priorities, Partnerships & Monitoring

Butterflies are a great equalizer – young and old, boys and girls, nature lovers and couch potatoes, I've witnessed them all get excited by a passing butterfly and enjoy the thrill of the catch with a net in hand. Like many insects, butterflies are closely tied to their surrounding environment and can respond quickly to environmental change, making them an informative group to watch. Unlike many insects, people tend to view them with "oohs and aahs" rather than "eeks and ewws." Along with a general public interest and appreciation for butterflies, they are more easily distinguished by their bright colours and patterns than other insects that can often require more expertise or equipment for identification.

In 2006, there was national interest in developing a protocol to monitor changes in abundance and diversity of butterflies that would be suitable for both ecologists and citizen scientists. That protocol was developed here at *rare* by Jessica Linton – who had recently graduated from the University of Waterloo. That same year, Jessica began the Annual Butterfly Count at *rare* counting 38 different species including the Hickory Hairstreak and Little Yellow, two species which have not been observed again on the property since that first year. After ten years, two rain-outs and more than 60 species, with over 5000 individual butterflies counted, Jessica has passed the reins over to *rare* to keep the butterfly count going.

On July 16, 15 participants joined in on the fun as we counted butterflies across the *rare*

reserve. This year, 37 species were recorded including Common Sootywing, Mulberry Wing, Silver-bordered Fritillary and, new to the property, Aphrodite Fritillary. Nearly 500 counts take place across North America, with all data submitted to the North American Butterfly Association (NABA). The small \$3 fee to participate goes to NABA to support the publication of the collected data. The annual published report provides invaluable information on the distribution of butterflies across the continent as well as the sizes of species populations. Data can be compared year to year to assess changes in butterfly populations and study the impact severe weather or habitat changes may have on butterflies in North America. With goals to not only gather important data, but also raise awareness and provide opportunities for people with a passion for butterflies to meet and socialize, the event is great for amateur and experienced butterflyers alike!

At *rare*, butterfly monitoring plays an important role in our own research as we monitor the health of our ecosystems. Butterflies are great indicator species and recording their diversity and abundance helps us understand ecosystem health as well as threats to natural areas. In addition to the annual butterfly count, *rare* actively monitors butterflies every season – our Ecological Monitoring Intern records, tracks and analyzes what is found here by methodically visiting certain parts of the property at regular intervals. We also



Aphrodite Fritillary. Photo by J.Reid

teach butterfly monitoring practices and the importance and significance of their presence through our *Every Child Outdoor* (ECO) education programs, hoping to keep the "oohs and aahs" a part of their vocabulary for many years.

You can help! Join a citizen science program, like *rare*'s annual butterfly count or the Monarch Joint Venture, or support *rare*'s monitoring program by making a donation. Help keep important monitoring programs alive and keep chasing butterflies. ■■

Want to see monitoring trends over the years? Check out raresites.org for monitoring reports under Research.

To send in a donation fill in form and cut here



Yes – I support *rare*'s butterfly monitoring program!

Donor Name _____

Mailing Address with City and Postal Code _____

Telephone _____ email _____

Yes, I would like to receive email updates from *rare*.

I'll join *rare*'s Bedrock Club! I would like *rare* to receive my pre-authorized monthly donation of \$ _____, to be automatically withdrawn on the 15th of every month through:

My chequing account ("Void" cheque enclosed)

Credit Card

I am enclosing a one-time gift of:

\$250 \$100 \$50 \$20 or \$ _____

Payment Information :

Please send cheques payable to

rare Charitable Research Reserve

1679 Blair Road
Cambridge, ON N3H 4R8

OR

Please provide credit card information VISA M/C A/E

Name as it appears on the card _____

Card No. _____

Expires _____ Signature _____

You may also donate securely online through raresites.org/donate

Name to appear on Founding Donors list, to be displayed permanently at *rare* upon completion of the capital campaign:



Vermilion waxcap (*Hygrocybe miniata*) Photo by C. Hay



University of Western Ontario M.Sc. candidate Chris Hay. Photo provided by C. Hay

QUESTION

What function do mushrooms have in an ecosystem?

ANSWER Most people know that mushrooms are important in ecosystems as decomposers. Yes, absolutely! Most mushrooms are saprotrophs – they release enzymes to break down organic matter into nutrients usable by other organisms. They are believed to be perhaps the most important decomposer – even more so than bacteria, and are essential in breaking down tough plant materials like cellulose and lignin found in wood.

But there is so much more! The fungi are an astounding kingdom, interacting with plants, animals, algae and bacteria in every which way you can imagine. Often used interchangeably, mushroom and fungus are not synonymous. In the anatomy of a fungus, the mushroom itself is the fruiting body of the fungus and really is just the tip of the iceberg – the rest of it is a network of thread-like hyphae that are hidden in the substrate (e.g. soil or rotting wood).

Besides the decomposers (saprotrophs), many mushrooms are ectomycorrhizal. Their hyphae cover the fine root tips of trees, working together with the plant to trade water and nutrients for sugars, and exploit a greater area of soil than the plant's roots could reach alone. They form a network of plant-plant connections across the larger ecosystem, creating a sort of fungal internet – the “wood-wide web”.

Some mushroom-forming fungi are predatory or pathogenic, meaning they can infect like a virus and cause disease. Nematode-destroying

fungi use their hyphae to create loops and sticky traps or bear paralyzing toxin droplets to capture these little worm-like, soil-dwelling creatures. *Pleurotus ostreatus*, the well-known “oyster mushroom,” is both a nematode hunter and saprotroph. The genus *Cordyceps* infects insects as a pathogen, and then its mushrooms erupt from the insect's body – perhaps you've seen the popular footage of the “zombie ant fungus”.

Other mushrooms are associated with non-woody plants in ways that are not clearly understood. In my studies of Ontario prairies, I've encountered mushrooms from the genera *Arrhenia*, *Cotylidia*, and *Hygrocybe*, all of which are apparently associated with mosses – cool! Grasslands actually contain a great diversity of interesting fungi, and part of my research is simply to uncover this.

Mushrooms themselves are food for rodents, deer, insects (food/habitat), and of course humans. I have caught a deer munching on a patch of large bolete mushrooms. Once I found a mushroom sitting on top of a shrub, as though placed there. Later I read that squirrels often pick mushrooms and hang them out to dry so they can cache them for the winter. Curiosity is an important element of any biologist's toolbox. By asking questions about what we observe, we find opportunities to learn something new. ■■

By Chris Hay, M.Sc. Candidate at the University of Western Ontario

ASK A RESEARCHER

You've asked, and we've answered!

Chris Hay is a M.Sc. candidate at the University of Western Ontario in mycology – the scientific study of fungi. Chris began conducting research at *rare* in 2015 and has focused his attention on mushrooms found in tallgrass prairie habitat. Often of great interest to hikers on the *rare* trails, we asked Chris to shed some light on mysterious mushrooms.

If you ever see something on the property that leaves you wondering, don't hesitate to get in touch with us. We welcome your calls and emails to 519-650-9336 or rare@raresites.org.

The regal serpent: A collaborative approach to at-risk reptile research

By Jenna Quinn, Program Scientist – Research Priorities, Partnerships & Monitoring

Reptile scientists have a tough job. Unlike some other species groups, reptiles can be extremely difficult to find and it can often take hours of searching for just one individual. This is especially true for the Queensnake (*Regina septemvittata*), which is one of the least reported snake species in Ontario due to its rarity and cryptic behavior.

Native to southern Ontario, the Queensnake is endangered both nationally and provincially. This non-venomous, semi-aquatic snake spends most of its time in the water of its small home range. In 2015, a large-scale collaborative effort was launched to gather more information about this species across its entire range. The *rare* Charitable Research Reserve joined the collaboration including partners such as the Huron Stewardship Council, Ontario Nature, the Nature Conservancy of Canada, Blazing Star Environmental, Natural Resource Solutions Inc., SCC Ecological, Long Point Basin Land Trust, Upper Thames River Conservation Authority, Dr. Premek

Hamr (Upper Canada College), Ministry of Natural Resources and Forestry and researchers at the University of Toronto, Scarborough.

Surveys were carried out across the Queensnake's Ontario range, which includes the Grand River. Believed to feed exclusively on crayfish, there are a lot of unanswered questions about Queensnakes including size of populations, isolation between populations and habitat requirements. By using standardised methods and collecting high quality data on their habitat use, prey interactions and population genetics, conservation efforts will be better informed for this at-risk snake. The collaborative framework enables a significant province-wide effort, showing that a lot can be achieved by working together toward a collective conservation goal.

Funding for this collaborative project has been provided by the Government of Ontario's Species at Risk Stewardship Fund. Additional support for Grand River



Queensnake. Photo by J. Mullen

surveys performed by *rare* was provided by the Ontario Land Trust Alliance (OLTA). OLTA's Ontario Land Trust Assistance Program (OLTAP) helps eligible recipients with costs associated with land securement and management to help conserve Ontario's biodiversity. This project was undertaken with the financial support of the Government of Ontario. ■■

Information for this article was taken with permission from the Huron Stewardship Council publication "A Stewardship Guide for the Queensnake" and "Shaping the Future of Queensnake Conservation in Canada: A Collaborative Approach" by Allan Edelsparre and Jennifer McCarter, printed in *The Canadian Herpetologist* (Fall 2015).

MOVING INTO NORTH HOUSE: MEET EASTERN COMMA WRITERS-IN-RESIDENCE MARLENE CREATES & DON MCKAY

The Eastern Comma Writer-in-Residence program is very excited to announce Marlene Creates and Don McKay as our third and fourth writers-in-residence for 2016! In partnership with Musagetes, *rare* has welcomed a number of writers to live and work at North House and explore the natural landscape while creating one-of-a-kind work.

Marlene Creates is an artist, poet, community arts activist, environmentalist and educator. Her artistic practice has been an exploration of the relationship between human experience, memory, language and the land, and the impact they have on each other. Creates received the 1996 Artist of the Year Award from the Newfoundland & Labrador Arts Council. Her work has been presented at over 350 exhibitions and screenings, both across Canada and internationally, and is in many public collections, including the National Gallery of Canada.

Don McKay is the author of many books of poetry, including *Long Sault* (1975) and *Birding, or Desire* (1983). He has twice won the Governor General's Award – for *Night Field* (1991) and *Another Gravity* (2000). In 2008 he was made a Member of the Order of Canada for his contributions to Canadian literature as a nature poet and mentor of many emerging writers from coast to coast.

Marlene and Don will be living in *rare*'s solar powered home, North House, for two months this fall to explore *rare* and hopefully be inspired by the local natural landscape to create a truly *rare* piece of work.



2016 Eastern Comma Writers-in-Residence, Marlene Creates (above) and Don McKay (below). Photos provided by M. Creates and D. McKay





Michael Barnstijn & Louise MacCallum accepting the Waterloo Region Conservation Award. Photo by J. Gray

CONSERVATIONISTS AND FOUNDERS OF *rare* WIN WATERLOO REGION NATURE CONSERVATION AWARD

We are excited to share that Michael Barnstijn and Louise MacCallum were two of the recipients of this year's *Waterloo Region Nature Conservation Award* for their engagement as founding members of *rare* Charitable Research Reserve. Their vision to establish *rare* as a land trust and environmental institute was paramount to ensure that over 900 acres of land could be set aside for conservation, which so far is the largest contribution that has ever been made to land preservation in Waterloo Region by private individuals, for the community to enjoy. Thank you, Michael and Louise, for making this possible!

The awards are celebrated annually by the local nature club which is engaged in conservation activities about any aspect of nature for adults, youth and children. Previous recipients include community leaders such as Kevin Thomason, who was instrumental in the achievement of the Laurel Creek Headwaters ESL designation in 2006.

We also want to congratulate our very own Jenna Quinn, *rare*'s Program Scientist – Research Priorities, Partnerships & Monitoring, who won this year's YWCA Women of Distinction award; Science, Technology, Research & Environment, recognising her work supporting young women and girls. Congratulations, Jenna!

For the birds: *rare* to me, Rob Unruh

By Cheyanne Richardson, Community Stewardship Coordinator

On weekend mornings before many walkers and cyclists have hit the trails, you can find Rob Unruh at the *rare* ECO Centre – pair of binoculars and notebook in hand – eager to have his eyes on some local feathered friends.

Originally, Rob started supporting *rare* because he believed in the protection of a large area where wildlife could survive and thrive. Years later he thought it would be fun to explore the property personally and decided to join the volunteer bird monitors. Rob had been generously supporting *rare* for five years before becoming a volunteer in 2009. After seven years of bird monitoring, Rob has a record of spotting 68 of the 231 bird species that call *rare* home.

When talking to Rob about his volunteer experience at *rare*, he recalls one lovely weekend at the beginning of every May, before the trees are full of leaves, when the birds along the Grand Trunk Trail are particularly active. The bare branches offer a brief opportunity for great views of Warblers, Baltimore Orioles and Grosbeaks, and the quiet trail welcomes a symphony from these songbirds. "This moment of peak variety in numbers of birds, plus the chance to see them in the open, only seems to happen once a year – making it a pretty magical experience!" Rob says.

In addition to bird monitoring in the fall and spring, which is a significant weekly commitment, Rob also enters all of the

Rob Unruh. Photo by C. Richardson



Magnolia Warbler. Photo by R. Unruh

data from each monitor's weekly forms into a master excel spreadsheet – and he even compiled archived birding data! This information is crucial for the success of the birding program at *rare* and the data is extremely helpful for researchers on the property. It is also filtered through *rare*'s *Chain of Learning* into Summer ECO camp, "I think that it is great that *rare* is introducing the next generation to birds and other wildlife through ECO programs" says Rob. "If they get interested and develop a love for wildlife and wild areas now, they will grow up wanting to protect them."

"rare to me is a place where wildlife gets a chance to survive and thrive, and we are lucky enough to be able to observe them in an increasingly crowded southern Ontario"

Bill Wilson, who heads the bird monitoring program here at *rare*, works closely with Rob and the other bird monitors – "Rob exemplifies the ideal volunteer at *rare* with his enthusiasm and his long-term, dedicated commitment that ensures project completion both in his computer work as the *rare* bird-records' compiler and in his field work as a *rare* bird monitor."

We are so grateful to all of our volunteers and donors who are passionate about research that enhances the protection of the habitats and species that call *rare* home. Thank you to all of our bird monitors for their time and dedication to protecting the birds, and thank you, Rob! ■■



Harbinger-of-spring with honey bee. Photo by M. Weissmann

Nature notes

By Bill Wilson, Community Volunteer

Mike Weissmann photographed a bee on the regionally rare HARBINGER-OF-SPRING on March 27.

On March 30, *rare* educators, Emily Leslie and Gerrit Kamminga, observed two SANDHILL CRANES in South Field while on a tour of the property with a grade four class. Sightings were also made by *rare* monitors in April and May with three seen on May 18 and five on May 21.

COMMON RAVEN was reported – often two were seen – throughout April and May both on and over *rare* property.

Jason Bracey's *rare* owl prowls not only give participants the sounds and sightings of EASTERN SCREECH OWL but often "surprise" sightings. On the April 14 prowls, eight to ten AMERICAN WOODCOCKS were heard and seen in courtship. On March 23, the Ayr Brownies observed a COYOTE while they were checking out the Osprey platform in the Osprey Meadow.

While setting banding nets in place in April for the spring migration season, Ross Dickson and Kevin Grundy saw two EASTERN MEADOWLARKS in the Osprey Meadow.

A lengthy study of a perched, juvenile NORTHERN GOSHAWK on April 24 by Jerry Guenther and Bill Wilson was followed on April 30 by a sighting of one near Springbank Community Gardens by Kevin Grundy, and subsequently spotted soaring at height by others present at the Slit Barn Banding Station.

Several people reported a GREAT EGRET in Blair Flats wetland on May 5. PAINTED TURTLE and SNAPPING TURTLE were also seen.

SMOOTH GREEN SNAKE continues to be found in its habitat near the stone Slit

Barn. On May 5, this snake was observed during a *rare* Chain of Learning mentoring session led by Jason Bracey with his Grade twelve students from Southwood Secondary School and Grade two/three students from Cedar Creek Public School.

As usual, migrating warblers highlighted outing experiences at *rare* in May. Along the River Trail David Gascoigne and Miriam Bauman reported eight warbler species including three BLACKBURNIANS on May 15. On May 16, Jerry Guenther and Bill Wilson found NORTHERN PARULA, WILSON'S WARBLER AND TENNESSEE WARBLER while Ruth Kroft and Gerrie Grainge observed MAGNOLIA AND BLACK-THROATED GREEN WARBLERS at Springbank Community Gardens. A late migrant through *rare*, MOURNING WARBLER was heard along the Grand Trunk Trail by Bill Wilson on May 24. On May 28, Kevin Grundy heard, then saw, a BLUE-WINGED WARBLER near the ECO Centre Trail. This species was also spotted by Mike Weissmann. Looking for spring warblers at *rare*? Consider walking the *rare* trails in May next year! Maps available online at raresites.org/trails.

A regionally rare butterfly – SILVER-BORDERED FRITILLARY was spotted on May 22 by *rare*'s Ecological Monitoring Intern, Allie Abram, in the Thompson Tract.

Notable bird sightings at *rare* this spring include: one SHORT-BILLED DOWITCHER, sighted by Bill Wilson – a first report during spring in Waterloo Region; a male NASHVILLE WARBLER observed during monitoring by Donna and Marco DeBruin and Anna Muss – a fourth June record for Waterloo Region; on May 25, two CLAY-COLOURED SPARROWS were reported in the morning by Jerry Guenther, Doug Lockston, Donna and Marco DeBruin and Bill Wilson and, in the evening, Tony Zammit observed one in another location at *rare*. ■■

NATURE SIGHTINGS:

#rareMoment

"My most memorable sightings at *rare* were definitely while participating in a bird banding demonstration as part of a school program. Bird banding has always sounded interesting to me but to have been able to take part in such a unique form of volunteer science was unbelievable. Our group had managed to band some Baltimore Orioles, multiple Warblers and even a Cardinal. It was an amazing experience that my friends and I will always remember! Thanks *rare*!"

– Mac Iles, Southwood Secondary School Student, May 2016

Do you have a memorable nature sighting you wish to share? Tweet or Instagram using the hashtag #rareMoment or submit to rare@raresites.org with the subject line: *rare* Moment



Chestnut-sided warbler. Photo by M. Weissmann

HAVE SOME *rare* FINDS OF YOUR OWN?

Contact *rare* Nature Notes by emailing rare@raresites.org with "Nature Notes" in the subject line.

As rare turns

15...

By Joy Roberts, Community Volunteer

Hot off the press is *rare's* beautifully-illustrated *Conservation & Connectivity; Strategy and Plans 2015-2019*, the culmination of years of community meetings, consultation with experts in many fields and feedback from those who visit the property and participate in the programs. It provides evidence that both the past and the future are very much in mind as *rare* celebrates its 15th anniversary.

Lamb's Inn, named after John Lamb who operated a tavern and store there in the mid-1800s, is now *rare's* village hub property, purchased in 2005 and located in Blair, perhaps the oldest settlement in "Upper Canada." It's also thought to be the first stage coach inn. The restored 1840s limestone slit barn further down Blair Road is one of only a few left in Ontario. Artefacts found on the property go back more than 10,500 years and *rare* acknowledges the Chonnonton people "on whose traditional territory we live and work and offers respect to our Haudenosaunee, Anishinaabe, and Métis neighbours as we strengthen our relationships with them." And then in the dolomitic limestone cliffs along the River Trail and in the 420-million-year-old fossils

in the stone walls of the Slit Barn are yet other reminders of a very distant past.

There is something very forward-thinking about a respect for the past. Only because *rare* is set aside as a site for research and education, is the account of human occupancy and use of the landscape available to us, providing extremely interesting and important cultural history.

Learning about its history has always informed *rare's* future plans. The 2004 name change from "Cruickston" — William Ashton named it after the ship that brought him to Canada in 1853 — to "*rare*" acknowledged that the colonial past was but a moment in time on these special lands; archaeology policies and procedures are given primacy in any changes to the landscape; and learnings from the original 2001 species and habitat inventory of the property resulted in an Environmental Management Plan, since updated to meet national Environmental Land Classification standards and, beginning in 2015, further supplemented by the Centre for Biodiversity Genomics' intensive surveys of the property.

Learning from the past furthers a mindset that envisions a trajectory going equally far into the future. "Intact in perpetuity" describes *rare's* vision for the lands it stewards on behalf of the public. And the environmental institute vision described by *Conservation & Connectivity; Strategy and Plans 2015-2019* (which you can view on raresites.org under *About Us*) is truly inspiring. ■■

FINDING YOUR WAY AT THE *rare* CHARITABLE RESEARCH RESERVE

There are a few new additions to the trails at *rare*! Through support of Mountain Equipment Co-op's Access and Activity Fund, we've installed two new trail map signs in Indian Woods and Thompson Tract! These beautiful signs were designed and built by Conestoga College students in the Renovation Technician program and they are the home for our new south side trail maps.

We have also added in a connecting trail from our Springbank Farmhouse and North House facilities to our newest parking lot south of Blair Road. The trail was designed by *rare* and built by Conestoga College students in the Heavy Equipment Operator program. From the trail you can get a close-up look at one of the heritage stone walls lining Blair Road that dates back to the early 20th century.

Fall is a great time to visit the *rare* trails and watch the seasonal transformation of our unique habitats. Be sure to check out our trails page (raresites.org/trails) to see what activities are permitted on each trail. Adhering to our trail use guidelines helps to keep our 900+ acres clean and beautiful!

2016 WALK & RUN for *ra re*



September 25
Turn the Map
Green

Register today for the 2016 Walk & Run for *rare*. Join a predetermined team representing a part of the property that needs help turning green, and ensure the protection of the more than 3,300 species that call *rare* home.

Visit raresites.org for more details and to sign up today!



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Artefacts found on the property go back more than 10,500 years and the *rare* Charitable Research Reserve acknowledges the Chonnonton people ("people of the deer") on whose traditional territory we live and work, and we offer respect to our Haudenosaunee, Anishinaabe, and Métis neighbours as we strengthen our relationships with them.



You can
Turn the Map Green
 for as little as \$2

Symbolically adopt your favourite place at *rare*, for yourself or as a gift.

www.turnthemapgreen.ca

Photo by D. Crowell



FEATURE

Tom Woodcock, *rare*'s Planning Ecologist, outlines the long-term forest management plan for intercropping species in *Restoring biodiversity in forest plantations*.

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