The rare review

SPRING 2015

Spring ephemerals: here today, gone tomorrow

By Carleigh Pope

Every year I look forward to the start of spring, not only because of the warmer temperatures and longer days, but for the brief appearance of spring ephemerals dotting the landscape. Growing up, I would eagerly await the first appearance of my mother's tulips poking up throughout the garden. Working at the ***rare*** **Charitable Research Reserve** I am fortunate enough to see an array of spring ephemerals come to life with the changing of winter to spring.

The term spring ephemeral is given to the early blooming flowers because they are only in flower for a short period of time ranging from a few weeks to only a few days. Typically spring ephemerals are found in forested areas which can be densely shaded later on in the spring and summer. The early emergence of spring ephemerals allows them to take advantage of light penetrating to the forest floor before the trees have grown their foliage. It is no surprise then that the spring ephemerals at ***rare*** can most easily be spotted along the many forested trails.

One of the first flowers you will see at the start of spring is Harbinger-of-Spring (*Erigenia bulbosa*) which can bloom as early as February. It may be too late this year but is certainly worth a mention since it is such a prize find. Its small stature and modest flowers can make it easy to miss. Another name for this flower is Salt-and-Pepper because of its contrasting white petals with dark accents.

Another early bloomer is Bloodroot (*Sanguinaria canadensis*). Its delicate white blooms emerge as early as March but are only present for a few days following pollination, making it truly special to spot this native species. Even after the petals have fallen, Bloodroot can be easily spotted by its distinctly lobed leaves. As the name suggests, when cut, Bloodroot exudes a dark red dye that was traditionally used by Native groups to dye leather, clothing, and textiles.

Flowering Bloodroot at ***rare***.
Photo by J. Quinn

continued on page 3....

Cover photography by C. Stacey

Inside this issue

CANADA POST POSTES CANADA
Postage paid Port payé
Addressed Admail Médiaposte avec adresse
7217211

Ask a Researcher

You've asked, and we've answered! In 2014, Morgan's research was undertaken in the Blair Flats tallgrass prairie which had been planted in 2010 by Dr. Andrew MacDougall from the University of Guelph. Below, Morgan shares the details of her work for those enquiring minds who want to know. The charity received several calls from the public asking about the shelters. Some good citizens even called us as they were concerned people were camping on the property. If you ever see something on the property that concerns you, or leaves you wondering, please don't hesitate to get in touch with us. We welcome your calls and emails to 519-650-9336 or rare@raresites.org. See the article in this newsletter about the controlled burn of this same field.

Photo by M. Randall

Q: What study was taking place in Blair Flats involving structures with roofs?

Answer:

By Morgan Randall, University of Guelph, M.Sc Candidate

The structures that could be seen from Blair road were wooden "rainout" shelters with removable plastic roofs covering the top and sides. The shelters were designed to keep rainfall from reaching the plants below and minimize the amount of water that seeped in from the sides. Each of the 32 shelters created miniature droughts from June to August last summer. But why would anyone want to intentionally stress plants by keeping out the rain?

As a result of activities like high-intensity agriculture and fossil fuel combustion, we are rapidly changing our environment. Two of the major changes that affect plants are increased occurrences of severe droughts and increased inputs of nitrogen. When we think of drought, it often evokes memories of the Dust Bowl in the 30s, when farms were plagued by locust outbreaks and agricultural production was brought to its knees. Insects prefer nitrogen-rich food, so plants higher in nitrogen are more attractive to insects. Scientists speculated that the drought increased the amount of nitrogen in plant tissue, which made the plants more appealing to insects. What is concerning is that in addition to drought, high inputs of nitrogen from the atmosphere also increase the amount of nitrogen in plant tissues. Combined, drought and increased nitrogen deposition could create perfect conditions for insect outbreaks.

To untangle these effects, I built rainout shelters and added nitrogen fertilizer to simulate drought and increased nitrogen deposition. Throughout the summer my research assistants and I monitored rainfall, soil moisture, and changes in the number and types of plants and insects. We used butterfly nets to capture insects under the rainout shelters to determine if drought caused any changes to insect populations.

I predicted that if drought and increased nitrogen inputs into plant communities both enhance plant quality for insects, then the highest number of insects would be found under the rainout shelters with added nitrogen. I am still in the process of analyzing the results from my study, but preliminary analysis suggests that insects did respond to drought and to added nitrogen. Now, the goal is to slowly unravel the story behind how and why the insects are responding, and see if the changes in insect populations are linked to changes in the plant tissues.

Photo by B. Pearce

Food for thought on your garden

By Dan Radoslav

The growing season is quickly approaching making now the time to start planning your food garden. If you don't already have a garden, evaluating your potential gardening space is the first step. All gardens have their own strengths and weaknesses and will perform best if you choose your site appropriately.

Raised four by four square foot garden beds at Springbank Gardens. Photo by N. Lightfoot

Raised beds are a good option in a small yard. These gardens are raised using walls - cedar makes a great wall material choice - and warm faster than in-ground gardens, giving them an earlier planting date at the start of the season. Your back will thank you for raising your garden and your veggies will be harder for pests to find. This method's disadvantages are the start-up cost and effort that comes with building the beds. If you are working with a balcony space, remember that container gardens are still a great way to supplement your groceries and make you look like a green thumb conquering the concrete jungle. No matter where your garden is, filling your bed with high quality soil is another first-year benefit.

When dealing with these types of smaller gardens you can maximize space and your harvest by employing the methods of square-foot gardening. The idea is to section off your garden into a grid using string, each section of the grid being one foot squared, or 12 by 12 inches. With the gridded garden you can use a square-foot planting guide found online to determine the number of the desired plants that will fit per square foot. This will beef up your vegetable output by fitting a lot more into your garden than traditional planting standards would allow.

Want your garden to stand out? Try creating a hugelkultur garden. Hugelkultur, pronounced hoo-gul-culture, means hill mound. Start by piling up wood of all sizes, covering them with compost at varying states of decomposition, and turning over any sod if you are converting lawn to garden space. Once this pile of wood filled with goodies is 3-6ft high, cover and fill in the gaps with finished compost and topsoil to plant seeds and seedlings into. The larger the pile the more water it will hold, a large hugelkultur garden may never need watering after the first year or two and as the wood decomposes nutrients are released into the garden for years. The garden will reach planting temperature earlier because it is raised and contains active decomposition, heating from the inside out. Angling the walls at 45 degrees will reduce compaction thus requiring no tilling. The height of the plants saves a lot of bending and kneeling. An added benefit is the use of often wasted vertical space, meaning a larger garden, not to mention something interesting to talk about.

Do you want to garden but don't have the space you need? Does your yard never see the sun? Feel free to give ***rare*** a call. The Springbank Gardens have plots for rent and are a great place to be among other experienced gardeners. Not an experienced gardener? No problem! We can try and pair you up with a mentor. We also offer classes throughout the year on various gardening topics so check out our events and sign up today. Visit the website, the gardens, and keep up to date with us on social media.

Spring ephemerals: here today, gone tomorrow *(continued from page 1)*

Photo by C. Stacey

Perhaps one of the most iconic spring ephemerals is the White Trillium (*Trillium grandiflorum*). While the White Trillium is most easily recognized as Ontario's provincial flower, other species in the Trillium genus are equally, if not more, striking. For example, the Red Trillium (*Trillium erectum*), also known as the Wake-Robin, has deep red petals. Another colouration that can be seen occasionally is what is called a Green Trillium, which in fact is simply a White Trillium that has been infected by a virus that creates a green stripe down the middle of the white petals.

The brief flowering of spring ephemerals has always seemed so romantic to me: here for only a moment and then gone until next year. Get out onto the ***rare*** trails this spring to catch a glimpse of these short-lived beauties before they're gone!

Snap a picture of your sighting and post on Instagram #rare_sites. You can also follow us on Facebook and Twitter.

If you miss the spring bloomers, remember that with each new season comes changes on the trails and something new and different to experience.

Creating south-side community access...

Later this spring, ***rare*** will submit an application to the Township of North Dumfries for permission to build a new parking lot – an access point along Blair Road to service the south-side of the property and in particular, the Springbank Farms community hub. This hub incorporates our vast and growing Community Gardens, the solar-powered research and education living laboratory, North House, and a growing network of trails which currently includes the Butterfly Loop and the historical laneway with access to Cruickston Creek.

Zon Engineering at new Cruickston Creek bridge after planting 215 trees and shrubs in the area. Photo by E. Sonser

We have a good problem. Community use of the Reserve lands and programs has grown considerably over the last 14 years. Awareness of ***rare*** and its importance in our community has grown too. Steadily, ***rare*** has been improving and creating infrastructure needed to support this access. Our head office was purchased in 2005 and became the administrative centre and public face for the organization. A few years later, with a School of Architecture student design, volunteers and gifts from the Kavelman-Fonn Foundation and the Cloverleaf Foundation, the Pavilion at Springbank was erected to provide sheltered space for gardener refuge and school group teachings in the gardens. Then, without a mortgage thanks to extensive positive community response, ***rare*** bought the Thompson Tract property, adding extensive trails and ecological support for adjacent natural features like remnant old-growth forest and the headwaters of a provincially significant cold-water stream. Next ***rare*** tackled and completed a major renovation and re-purposing of an 1840s farmhouse and stone slit barn, now called the ***rare*** ECO Centre, to serve as its central education and research facility and main hub for public programs.

If that wasn't enough, during the ECO Centre renovation, the charity had the unique, one-of-a-kind opportunity to resurrect North House at ***rare*** next to the vintage Springbank farmhouse and provide an incredible facility for ongoing research and knowledge-sharing in sustainable energy and design. This is just a sampling of our most visible capital investments.

Now, with the help of many – and still more needed – ***rare*** will undertake our next capital infrastructure project and fill a void for critical access.

The Ontario Trillium Foundation (OTF) has just provided the organization with an $83,000 grant as part of what's needed to build a 70-space, gravel, environmentally-conscious parking lot. The lot will provide access for school busses to provide safe drop off and pick up on the south side of Blair Road to service Springbank Farms and the entire ***rare*** property. The community at large will benefit from year-round access, a starting point for trails and the Community Gardens can continue to blossom in numbers with extra room to park, closer to the fields.

Ontario Trillium Foundation / Fondation Trillium de l'Ontario

Once in place, the *Every Child Outdoors* (ECO) program will be able to access the Community Gardens and North House for regular program which is currently restricted. TD Bank is helping us hire an educator to develop the ECO North House education programs. The Community Gardens can continue to grow, as is desired and indicated by the number of new gardeners coming each year, and our trail-building plans can move forward. For that, ***rare*** thanks IMBA Canada and Mark Schmidt for sharing their experience and talents in trail-planning.

For certain, OTF was in part convinced to help because of the other community partners who are also on board, beginning with ACI Surveyors Inc., who completed necessary surveys at no cost. MTE Consultants has donated parking lot design and service to manage the permit application inkind. Some members of the Waterloo Wellington Brant committee of the Ontario Stone Sand and Gravel Association have come on as new partners to assist with the consulting reports required to apply to the Township and to help us build the lot with inkind materials and construction services. The map on the opposite page generally shows the location and plans for the new lot. Trail connections will be created to provide easier access for people to North House, the Gardens or trails. The Moffat family, via the Moffat Family Fund at the Cambridge and North Dumfries Community Foundation recently provided a big boost with support to connect Springbank to another reach of the property via a pedestrian bridge over Cruickston Creek. Freure Homes has committed to helping with the next extension of that trail.

continued on next page....

...When a good plan comes together

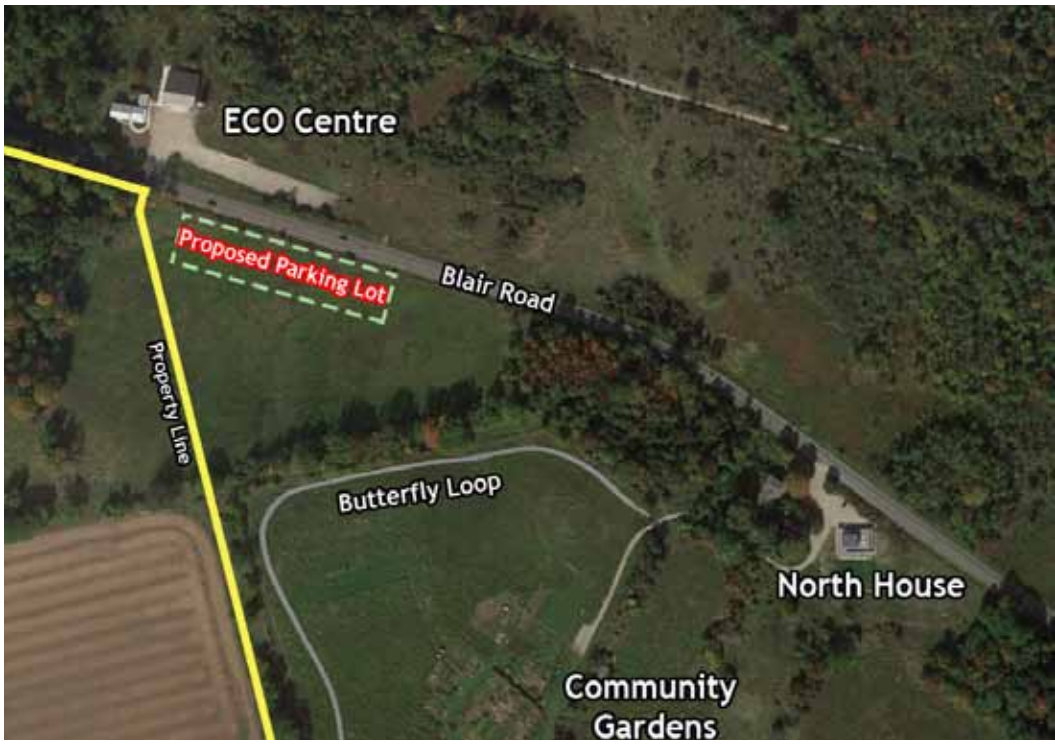
By Patti Leather

There are many moving parts, as they say, as you will have read in this commentary about the infrastructure plans for community access at ***rare***. It takes a lot of hard work, good planning and broad-base support. It's all part of a master plan fed by a strategic vision that sees the 900+ acres protected intact in perpetuity for the community – future generations in particular – for their ecological value and for what the environmental research taking place here can contribute to the global body of scientific knowledge.

As community involvement continues to grow at ***rare***, and as the organization continues to strive to meet its objectives and goals, ***rare*** will continue to need growing community support too. The charity will balance the risks of where and when to begin the capital demands of a successful urban land trust and leading environmental institute. Thank you to those who have and thanks in advance to those who will give one-time gifts to complete projects. Thank you to the others who do or might provide the critical annual or monthly support which is vital to keeping programs and operations going while we improve the property's public services.

To learn more about any of these projects or how you can help, please call me at 519-650-9336 x 118.

Top: ECO Camper exploring Springbank Gardens. Photo by A. Todd;
Bottom: Prof John Straube gives North House Tour. Photo by P. Kelly



To send in a donation, fill in form and cut here.

Yes – I can help!

Donor Name

Mailing Address with City and Postal Code

Telephone email

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 $_____

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

Charitable number 87761 5914 RR0001

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:

_____

Thank you for helping save *rare*!

NWSS15

The buzz on neonicotinoid insecticides

By Tom Woodcock

Sustainable and productive ecosystems provide us all with food, clean water, and clean air. The systems that support you run on uncountable small actions being taken by uncountable tiny animals, fueled by the energy captured from the sun by plants. Without healthy, self-perpetuating populations of plants and animals, the services we depend on begin to break down. Pollination is the process by which most plants reproduce, and for many, animals play a central role.

Honeybee foraging on Joe-Pye Weed at ***rare***. Photo by T. Woodcock

Although most of our calories come from the seeds of a few species of wind-pollinated grasses (corn, wheat, rice), most of the vitamins, nutrients, and variety in our diet comes from fruits and vegetables that require animal pollination. For much of modern agriculture, this means honey bees. It has been nearly ten years since honey bee losses began to be widely reported in the media. This loss is due to a mixture of several parasites and diseases, management stress, malnutrition, and the misuse of pesticides.

A pesticide is a substance that is used to control damage to the food that we grow, whether from a competing plant, a fungal disease, or a hungry insect. Pesticide use has been a contentious topic for decades. On one hand, they can harm plants and animals other than the targets, and also harm our health. On the other hand, as part of the toolbox of modern agriculture they have played a role in increasing crop yields and keeping food production ahead of increasing population. Pesticides should be used minimally to address real threats, and enter the environment only when required. However, using pesticides in a preventive fashion has become the norm. Many seeds, including virtually all corn and a significant percentage of soy in Ontario, are coated with insecticides and fungicides, and used whether or not there is an identified threat.

One of the main components of these seed coatings are insecticides called neonicotinoids. They can be present in pollen and nectar collected by pollinators, leading to decreased foraging, disorientation, and death. Spilled seed can be directly toxic to animals that eat it, and birds that eat insects can suffer due to reduction in available prey. Rigorous third-party research into all these issues has been slow, and the resulting technical information has not been available to regulators. Recent studies suggest that in most fields there is little or no effect on yield. Seeding an entire field with treated seed is therefore unnecessary. Pesticides should be used only when data demonstrates lack of harm, rather than interpreting an absence of data as evidence of safety to ecosystems and people.

The Province of Ontario has proposed new regulatory requirements to reduce the number of acres planted with neonicotinoid-treated corn and soybean seed by 80% by 2017. Public forums were held across the province to allow for citizen comment and input. If passed, Ontario will be the first jurisdiction in North America to adopt this pollinator powered legislation.

Check out the inserted events calendar or raresites.org to find some upcoming events on birds and pollinators at ***rare***.

Wheat field at ***rare***. Photo by P. Kelly

*Tom Woodcock is **rare's** Senior Planning Ecologist. Dr. Woodcock has conducted fundamental and applied research activities in a wide variety of North American ecosystems over the past 20 years. His focus has been on broad-scale ecological responses to a variety of stressors, including pollution and land use change. Previously, Tom held a position as research faculty at University of Guelph, on the Canadian Pollination Initiative, studying ecological aspects of pollination in diverse ecosystems, including leading a 3-year project at **rare**.*

DID YOU KNOW?

Porcupines are large rodents, easily recognized by the sharp quills covering their body. They are found throughout coniferous and mixed forests across North America, including southern Ontario, however they have not been confirmed at ***rare***. Porcupines rely on the tender bark of trees as an essential component of their diet, particularly in winter.

This stripped bark is thought to be a result of a resident porcupine's latest meal, based on its size and location up the tree! What do YOU think?

Photos by B. Amos and C. Pope (insert)

2015 Walk & Run for *rare*

SAVE THE DATE!

Sunday, September 27

Start putting your teams together!
Registration opens in **June**

Contact Erika, 519-650-9336 x 122, for more information or to become a corporate sponsor

Photo by D. Crowell

The National Bird Project - ***rare*** votes for the Osprey

We've gotten in on the action! Canadian Geographic is on the hunt to find our national bird. With over 450 species that call Canada home, what do you think our national bird should be?

Vote now: www.canadiangeographic.ca/nationalbird

SPOTTED: OSPREY NESTING ON THE NEW TOWER!

After several reports that Osprey had been seen getting comfortable on the new tower we put up in conjunction with Cambridge & North Dumfries Hydro last November, we were finally able to confirm it. We're happy to report that we have some new neighbours. Happy nesting!

Prescribing a restoration strategy through fire

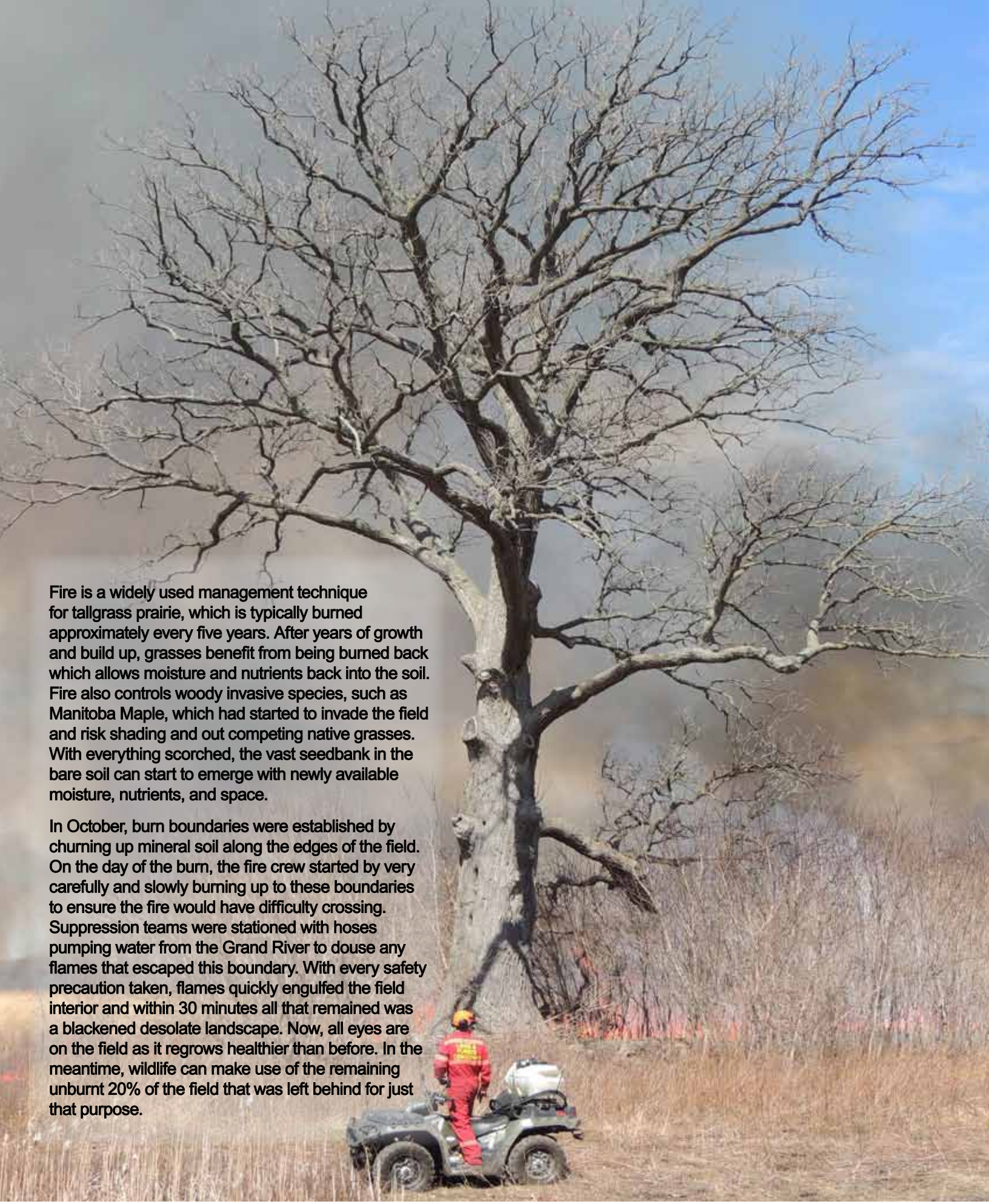
By Jenna Quinn

Tallgrass prairie in 2013. Photo by A.Reinert

Dr. MacDougall standing in the newly burned field. Photo by P. Kelly

A towering column of smoke nearly 8,000ft high rose above Cambridge on Thursday, April 16th, announcing to the whole community that something exciting was happening at ***rare***. After more than eight months of planning, ***rare*** successfully implemented a prescribed burn on the tallgrass prairie planted in the 18.5 hectare field between the Grand River and Blair Road. Planted in 2010 in partnership with the University of Guelph and lead researcher Dr. Andrew MacDougall, this field is the centre of a long term study investigating what makes a prairie restoration successful. Previously covering almost 100,000 hectares across southern Ontario, tallgrass prairie is a disappearing natural habitat with less than 5% of that remaining. A valuable habitat, especially for pollinators, learning what it takes to recreate these shrinking natural environments will be of global benefit.

Photos by J. Quinn and P.Kelly (insert)



Fire is a widely used management technique for tallgrass prairie, which is typically burned approximately every five years. After years of growth and build up, grasses benefit from being burned back which allows moisture and nutrients back into the soil. Fire also controls woody invasive species, such as Manitoba Maple, which had started to invade the field and risk shading and out competing native grasses. With everything scorched, the vast seedbank in the bare soil can start to emerge with newly available moisture, nutrients, and space.

In October, burn boundaries were established by churning up mineral soil along the edges of the field. On the day of the burn, the fire crew started by very carefully and slowly burning up to these boundaries to ensure the fire would have difficulty crossing. Suppression teams were stationed with hoses pumping water from the Grand River to douse any flames that escaped this boundary. With every safety precaution taken, flames quickly engulfed the field interior and within 30 minutes all that remained was a blackened desolate landscape. Now, all eyes are on the field as it regrows healthier than before. In the meantime, wildlife can make use of the remaining unburnt 20% of the field that was left behind for just that purpose.

This historic Bur Oak was carefully protected during the prescribed burn. Photo by J. Quinn

Nature Notes

By Bill Wilson

Several members of ***rare's*** bird monitoring team and members of Waterloo Region Nature provided coverage of the Cambridge Sector of the annual Hamilton Fall Bird Count on November 2. Jason Bracey covered portions of the Count lying within ***rare*** – about half the property – where he tallied seven species of raptors including MERLIN, ROUGH-LEGGED HAWK and NORTHERN HARRIER.

Mink is one of 6 mammal species observed along the ***rare*** shoreline of the Grand & Speed Rivers. Photo by D. Thomas

Lingering fall migrants at ***rare*** included two AMERICAN PIPITS observed by Ruth Kroft on November 27.

Dan Radoslav reported two GREAT HORNED OWLS "visiting" the Springbank Gardens on December 12.

Fourteen species of waterfowl were observed at and about the Confluence of the Grand and Speed Rivers during the winter of 2015. In mid-November, 19 TRUMPETER SWANS arrived and three were observed in mid-December at the Confluence by Jerry Guenther and Bill Wilson during the Kitchener Christmas Bird Count (CBC) – a first record for the 80-year-old Count. Between December 31 and January 10, as many as 18 Trumpeters sought the leads of open water along both the Speed and Grand Rivers. Freeze-up eliminated much, and eventually all, open water habitat for these swans although 1 MUTE SWAN remained until January 19. Waterfowl sightings included 1 CACKLING GOOSE on December 4 by Bill Wilson and, new for the Kitchener count, 1 RUDDY DUCK was recorded by Jerry Guenther and Bill Wilson.

Forty-six species were tallied at ***rare*** during the Cambridge and Kitchener CBCs held December 14 and December 20, respectively. High-lights for Jason Bracey and Todd Hagedorn included 59 WILD TURKEYS, 17 RED-BREASTED NUTHATCHES and one PEREGRINE FALCON.

Freeze-up of the Confluence provided little opportunity for gulls to roost this winter, although sightings of GLAUCOUS GULL and GREAT BLACK-BACKED GULL were made by Jerry Guenther on December 15.

Sightings of COMMON RAVEN continue to increase in Waterloo Region with one seen on January 19 by Bill Wilson -- a 4th reported sighting at ***rare*** -- and another on February 4 during a Waterloo Region Nature outing led by Don Thomas across the river on Linear Trail. Once a common and widespread permanent resident in southern Ontario, the Common Raven was extirpated during European settlement. In the last decade, numbers have been increasing; in 2013, Jim Burrell confirmed Waterloo Region's first successful nest. Nesting is confirmed this year as well.

Six species of mammal – all observed along river shorelines through ***rare*** during winter – included a RED FOX, two COYOTE, four WHITE-TAILED DEER and sightings of BEAVER, MUSKRAT and MINK during January by Don Thomas and Bill Wilson.

Did 49 severe-temperature-days reduce the number of birds or birders or both this past winter? Some notable reports however included NORTHERN SHRIKE in December by Bill Read, January 28 by Jerry Guenther, and seven SNOW BUNTINGS December 14 by Jason Bracey and Todd Hagedorn.

As expected, BALD EAGLE sightings were reported in and about ***rare*** throughout the period November to end of February by observers previously mentioned as well as Doug Snyder and Dave Stafford. Most sightings were of individuals or the resident pair occupying favoured perches along the Grand through ***rare***. Observations were made of an adult feeding on fish – Andy Kelly – and two in aerial display – Anna Muss and Claire Wehrle.

Nature Sightings: #rareMoment

"I photographed my first ever Blue Flag Iris (Iris versicolor) beside the river on Osprey Trail. Wow! A few minutes later a Giant Swallowtail butterfly (Papilio cresphontes) - another lifer and another wow! Good luck continued with the briefest glimpse of a Smooth Green Snake (Ophepdrys vernalis) as it fled from a sunning spot on the Alvar Trail. And a great wrap-up was a very trusting/ occupied Red-spotted Purple butterfly (Limenitis arthemis) along the Grand Trunk Trail. White Admiral is the subspecies I admired in Canada's prairies and I am pleased to find the Grand River valley is a great place to find its spectacular eastern counterpart."

*- Ross Dickson, **rare** Volunteer (June 12, 2014)*

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

Have some *rare* finds of your own?

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

Conservation: our shared experience

By Erika Kastner

A main focus of our work at ***rare*** is connectivity- connecting habitats via green corridors, for example by planting hedgerows between forest patches. For me, connectivity can also be expressed as shared responsibility – our shared responsibility as staff to ensure we are all supporting one another as we work towards our mission and vision at ***rare***; our shared responsibility with the community to protect these 900+ acres and provide the necessary outlets for education and discovery; and our shared responsibility with the rest of the world, and in particular, those that are fighting the same fight we are – advocacy and awareness for environmental conservation and all that it entails.

I think about The Plastic Cow project in India and their fight against plastic bags and the open garbage system as they work to eliminate them and educate others on the danger they possess to animals eating whatever they can find to survive. On a national level it reminds me of Canadian efforts to clean up our shores, but at ***rare***, I am reminded about the regular maintenance that occurs on our property and when we rally together for clean-ups, and encouraging others to recycle or use sustainable products.

I think about the Royal Canadian Geographic Society and their race to find Canada's national bird by engaging the country in the hunt. Our involvement is not only keeping us invested, but it is starting conversations about the many species of birds that call Canada home and educating a nation about their presence and protection. It reminds me of the many birds that call ***rare*** home. It reminds me of our efforts to protect the Bald Eagles that roost by the river, and it reminds me of the families, friends, and nature lovers alike, that walk the river trail with the hopes of catching a glimpse of Osprey.

Before I started to work at ***rare***, I spent two years in Scotland. I think about small-scale farmers that are providing fresh organic and local produce to city dwellers in Edinburgh and Glasgow, the two largest cities in a country that has the worst diet in the world. For a fee, of course, and albeit a small one, you can order a box full of seasonal goodies to be delivered to your doorstep once a month. For those that do not have the space, the time, or even the know-how to grow their own, it is an easy way to eat locally and sustainably. This movement is so much more than mere convenience – it is educating people on the benefits of eating locally, the healthy lifestyle it encourages and where your food is coming from. It reminds me of our efforts in the Community Garden. We provide a space for our community members to grow their own fresh and organic produce, provide a healthy supplement to our local food bank, and educate our youth on the importance of sustainability.

"We are not alone in our efforts and we are making a difference."

Kastner takes a seflie in Scotland, where she lived and worked for two years

It's not that hard to find similarities in efforts all around the world to what we are doing here at ***rare***. There are so many more examples that I could list, and that is encouraging. The environment is our shared responsibility. We are not alone in our efforts and we are making a difference. Everything that we do at ***rare*** ties back to education – and I am not just talking about our *Chain of Learning* – I am also talking about the stories we share in our newsletter, our community outreach, and what we put online for the world to see. A lack of knowledge and understanding teaches a lack of knowledge and understanding – education is the only way to break that cycle. The more we hold true to the value of our combined efforts and our shared responsibility, the more widespread education about the importance of the conservation of our environment and our connection to it will become. There's always something new to learn!

Photos by D. Crowell and E. Kastner (insert)

rare Leadership

BOARD OF DIRECTORS

Keith Ainsworth, Chair of the Board; Electrical Engineer; retired CEO, COM DEV International
Gerald Achtymichuk, Family Physician
Peter Krause, President, Krause Corporate Solutions
Brian McGee, Chartered Accountant; Partner, Zeifman & Company LLP
Angela Tsementzis, Architect; B.E.S. B.Arch, OAA, LEED AP

ENVIRONMENTAL ADVISORY COMMITTEE (EAC)

Chris Dalton, Avocational Archaeologist, Licensed by the Province of Ontario
Doug Larson, Professor Emeritus, College of Biological Sciences, University of Guelph
John MacDonald, Archaeologist
Stephen Murphy, Professor and Associate Chair, Undergraduate Studies, Environment and Resource Studies, University of Waterloo
Mark Pomeroy, Fisheries Biologist, Stantec Consulting Ltd.
Bill Wilson, retired Teacher; Naturalist; Bird Monitoring Coordinator, ***rare*** Charitable Research Reserve
Brett Woodman, Terrestrial and Wetland Biologist, Natural Resource Solutions Inc.
Tony Zammit, Aquatic and Terrestrial Ecologist, Grand River Conservation Authority

INTERNATIONAL AMBASSADORS

Ljubodrag Andric, Photographer; latest work Visible Cities
Michael Barnstijn, retired Partner, RIM; Philanthropist; Musagetes Foundation
David Buckland, Founder, Cape Farewell www.capefarewell.com; Director of Art from a Changing Arctic
Ed Burtynsky, OC; Photographer; Subject of award-winning documentary, *Manufactured Landscapes*
Geneviéve Caron, Award-winning Photographer
Severn Cullis-Suzuki, Environmental Activist; Speaker; Television host; Author
Ron Dembo, Founder, Zerofootprint www.zerofootprint.net
Louise MacCallum, retired Software Engineer; Philanthropist; Musagetes Foundation
R. Murray Schafer, Composer; Educator; Environmentalist
Sheila O'Donovan, Founder, Lisaard House
Jane Urquhart, OC; Author
Morden Yolles, Multi-award-winning Structural Engineer; Restaurateur; Photographer

RESEARCH ADVISORY COMMITTEE (RAC)

Doug Larson (See previous)
Stephen Murphy (See previous)
Rick Haldenby, Professor, Architecture, University of Waterloo
David Lieberman, Associate Professor, John H. Daniels Faculty of Architecture, Landscape and Design, University of Toronto
John Straube, Asociate Professor, Civil and Environmental Engineering, University of Waterloo

/raresites **@raresites** **@rare_sites**

EDUCATION ADVISORY COMMITTEE (EDAC)

Jason Bracey, Teacher, Department Head of Geography, Southwood Secondary School
Louise Dawe, retired Teacher; Community volunteer
Christopher Giesler, Teacher, Southwood Secondary School

CAMPAIGN AND COMMUNITY CABINET

Keith Ainsworth (See previous)
Sheila Ainsworth, Chair, Lisaard House
John K. Bell, Chairman, The Onbelay Group
Greg Buzbuzian, Owner, Knar Jewellery
Stewart Campbell, Sales Representative, Cushman & Wakefield; Partner, BlackTree Capital
John English, CM; FRSC; Director, Bill Graham Centre for Contemporary International History, Trinity College/Munk School of Global Affairs, University of Toronto
Valerie Hall, President, Stonefields Management Inc.
Ahmad Hammoud, Owner, Salon Butterfly
Jackie Hatherly-Martin, Chartered Accountant, HM Advisors
Keith Martin, Chartered Accountant, HM Advisors
Hulene Montgomery, retired; Consultant to philanthropic and community organizations; Community volunteer
Douglas McMullen, retired; Community volunteer
David Mitten, Executive Director, Siding and Window Dealers Association of Canada
Simon Poladian, Owner, Eagle Towing Equipment
Joy Roberts, retired; Consultant; Community volunteer
Paul Ross, Partner, KPMG
Irene Schmidt-Adeney, Writer, Ayr News
Hugh Thompson, President, Cambridge Towel; CEO, Thompson Centre for Art and Design

VOLUNTEER AND CONSULTING ADVISORS

Ken Dance President, Dance Environmental Inc.
Robert Heath, Vauntie
Joy Roberts (See previous)

CONTACT US - RARE@RARESITES.ORG

Address: 1679 Blair Road
Cambridge, ON N3H 4R8
Phone: 519-650-9336
Toll Free: 1-866-927-3866
Fax: 519-650-5923
raresites.org

STAFF

Stephanie Sobek-Swant, Executive Director
Roger Oei, Senior Operating Officer
Patti Leather, Director of Development & Community Relations
Tom Woodcock, Planning Ecologist
Gerrit Kamminga, Senior Educator
Erika Kastner, Development and Communications Officer
Stephanie Passarelli, Education Intern
Carleigh Pope, Junior Conservation Ecologist
Jenna Quinn, Program Scientist
Dan Radoslav, Property Maintenance and Gardens Coordinator
Kim Robichaud, Administrative Coordinator
Tim Skuse, Ecological Monitoring Intern
Erin Sonser, Conservation Ecologist Intern