

WINTER - 2021

LAND CARE NIAGARA

Official Newsletter

Message from the Stewardship Director

I hope this message finds all of you well!

The beginning of this year has continued to challenge us all but with the New Year came many good opportunities.

Winter months provided the time to seek and apply for the funding we need in order to provide the resources for existing and new projects within Land Care Niagara's organization. We have created new partnerships, friendships and provided stewardship to many in Niagara which will go a long way in creating positive change in the environment.

Over the past few months, we have welcomed new Board Members and have created a new Wildlife Technician position! Working through the global pandemic we have continued implementing our core programs and projects while keeping our team and community safe. We are busy working with local landowners and Forests Ontario to plan for our 2022 Rural Tree Planting Program. We encourage you all to continue becoming actively involved in the environment to make a positive change in your community.

Please share this e-newsletter with friends and family and stay tuned on our social media platforms for regular news and updates! Land Care Niagara Council and Staff would like to take this opportunity to say thank you, take care, and wish you the very best heading into the spring of 2021!

Warmest wishes,

Barry Porter



THIS ISSUE

Message from the Stewardship
Director

PAGE 01

Welcome New Members

PAGE 02

Community News: Human
Health & the Environment

PAGE 04

Special Feature:
Hibernation

PAGE 05

Project Updates

PAGE 06

Announcements, Events, and
Updates

PAGE 10

Welcome New Members

We are very excited to welcome Alexa Disher & Megan Punter to our Board of Directors!



Alexa was born and raised in the Niagara Region and currently resides in St. Catharines. She graduated in 2018 from the Environment, Resources and Sustainability program at the University of Waterloo where she also obtained a diploma in Environmental Assessment.

During her time at the University of Waterloo, she served on the Executive team of UW Climate Students and was a member of the UW Sustainability Leadership Network. For the last year and a half Alexa has been working in the private sector as a Terrestrial Ecologist. Alexa is excited to join Land Care Niagara as a council member and looks forward to working on environmental stewardship projects in her community. In her spare time, Alexa enjoys hiking, cooking, and spending time with her dog Reuben.

World Wetlands Day: February 02

This year's theme:

Wetlands and water:
"Inseparable for life in our community."

World Wetlands Day is a day to raise awareness globally about the importance of wetlands in our lives and for the planet as a whole. This year's theme draws attention to the growing freshwater crisis the planet faces and the role wetlands play as a key source of freshwater.

Importantly, wetlands support us in many different ways, including being a source of clean water, keeping us fed through aquaculture, providing species habitat, and protection from floods and storms. Unfortunately, the growing pressure on our wetlands due to population growth, urbanization and increased consumption has resulted in increasingly polluted waters as well as the loss of some wetlands entirely. This not only threatens access to safe drinking water, but also endangers many other species who call these wetlands home.

Visit: www.worldwetlandsday.org to learn more!



Welcome New Members



Megan was born in the Niagara Region and currently resides in Niagara-on-the-Lake. She graduated from the University of Guelph in 2019 with a Bachelor of Environmental Sciences. In 2020, she completed a post-graduate certificate in Environmental Management and Assessment at Niagara College. She is currently completing a certificate in Geographic Information Systems at Durham College. During the past year, Megan has been working on the project, Secure the Food Mississauga, partnered with the City of Mississauga, to help address food insecurity and climate change within the city. In her spare time, Megan loves hiking and gardening. Megan feels fortunate for the opportunity to contribute her skills and time to Land Care Niagara's mission and sustainability initiatives within her community.

International Day of Forests: March 21

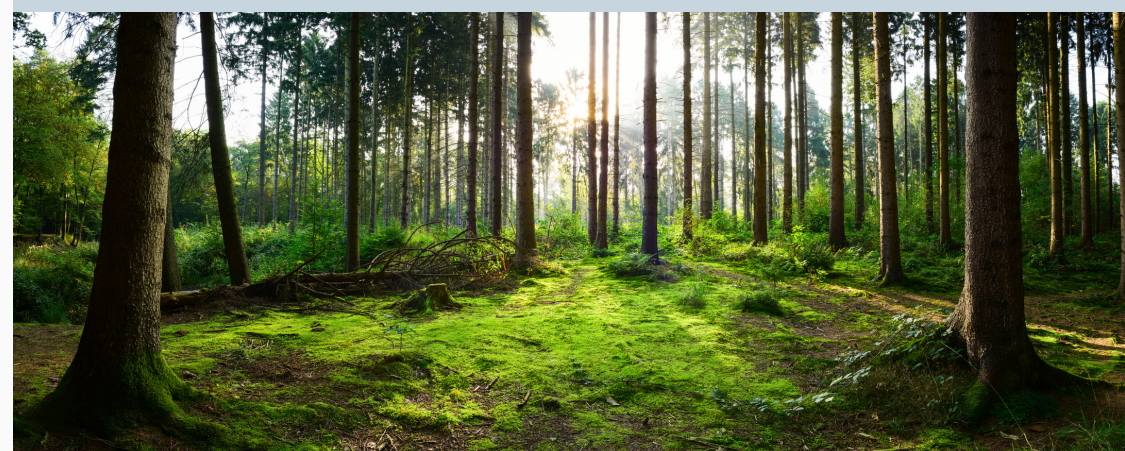
This year's theme:

Forest Restoration:
"A Path to Recovery and Well-Being"

Together, we need to restore forests on a global scale and promote sustainable management practices of forest ecosystems as a means to strengthen our resilience to climate change and increase native biodiversity.

This day serves as a reminder of the value forests provide to society, the economy, and ecological health across the globe. Trees provide us with clean air to breathe, a habitat for a diversity of wildlife, and a place to enjoy our favorite outdoor activities. We use tree products in our day-to-day lives, such as toilet paper, furniture, food, medicine, cosmetics, lumber, and more. Trees are the second-largest carbon sink in the world, helping to reduce one of the largest contributors to climate change. Our watersheds rely on trees to prevent erosion, keep waters clean and cool, and reduce flood risk.

Help by sharing this message, or by participating in our Tree Planting Programs to increase forest cover & biodiversity on your own property. Reach out to us for more details!



Community News: Human Health & The Environment

Our Chair, Catherine Reining, and her colleagues at Wilfrid Laurier University, have recently published an article on the link between restorative human health outcomes to protected area ecosystems. Read the abstract below!

Human health and well-being benefits have increasingly been associated with contact with nature. However, limited research has focused on the influence of ecosystem type and quality on these outcomes. This paper reports on the results of an in-situ survey of 467 visitors to an Ontario protected area. Results revealed high overall restorative outcomes across all ecosystem types, with greater benefits reported for women than men. Perceived ecosystem quality, including species richness, naturalness, and ecological integrity, had the greatest impact on restorative outcomes, while the type of ecosystem and time spent had surprisingly little influence. Greater restorative outcomes for women were also associated with specific ecosystem types. The study advances our limited understanding of the nuanced relationship between human health and well-being outcomes and exposure to diverse ecosystems, and by extension the unique aspects of biodiversity and ecosystem condition that Canada's protected areas exhibit.

Read the full article at the following link

www.tandfonline.com/doi/full/10.1080/09640568.2020.1857227

Or read the review at: www.ontarioparks.com/parksblog/restorative-health-benefits-protected-areas



Special Feature: Hibernation

As we begin to come out of the winter season, many of our four-legged friends are also beginning to come out of hibernation. But what exactly does that mean? If you're someone who has always thought hibernation is just a four-month-long nap, you're not alone - you may be surprised to find out many species that hibernate don't actually sleep as much as you'd think through the winter months!



Interestingly, species that hibernate are actually slowing down their metabolism far below the normal rate. This is achieved by cooling down the body temperature up to 10 degrees lower than normal. As a result, many of the animal's physiological functions are either slowed or stopped entirely, including their heart rate and breathing! This differs from sleeping significantly, especially since many of the usual functions that are performed while in an unconscious state do not occur during hibernation.

Notably, there are three different types of hibernation: true hibernation, which is commonly performed by Groundhogs; brumation, which is performed by cold-blooded species such as the Blanding's Turtle and Northern Leopard Frogs, and; torpor, which is a light hibernation performed by most other species in Canada including Grizzly Bears, Eastern Chipmunks, and Striped Skunks!

So why do animals do this? During the winter in Canada, food sources become more scarce and the temperature drops significantly - in order to combat this, animals will hibernate to conserve their energy throughout the colder months. Interestingly, animals that live in tropical climates may also enter a state of hibernation in order to deal with the heat!

Once animals emerge from their state of hibernation, the first thing they will do is begin looking for food to restore their body fat. As we move into spring, be sure to keep an eye out for some of our hibernators as they come out to say hello!

Project Updates: Species-at-Risk

We are thrilled to begin the field portion for our Species-at-Risk Bats and Gray Ratsnake project!

This project seeks to fill knowledge gaps for four species of bats: Little Brown Myotis, Northern Myotis, Eastern Small-footed Myotis, Tricoloured Myotis, as well as for the Gray Ratsnake.

What is the biggest threat to these species?

Ontario's bat species have faced substantial population declines as a result of White-Nose Syndrome (WNS) which serves as the greatest threat to their survival and recovery. WNS is caused by the fungus *Pseudogymnoascus destructans*, an invasive species in Canada. The fungus was first detected in Canada in 2010 and grows in the same microclimate conditions found in hibernacula sites. It can remain viable in hibernacula sites even in the absence of bats, growing in soil, guano (bat poop), and on the walls of hibernacula for decades. The fungus colonizes bat's skin causing damage to the sweat and oil-producing glands, muscles, connective tissues, blood vessels, and hair follicles. White and grey blotches appear on the wings and ears, and their muzzle may turn fuzzy white.



Gray ratsnake (*Pantherophis spiloides*)

Carolinian Popoulation: Endangered
Frontenac Axis Population: Threatened



Little brown bat: (*Myotis lucifugus*)

Endangered



Tricoloured Bat: (*Perimyotis subflavus*)

Endangered

Project Updates: Species-at-Risk

How does White-Nose Syndrome affect bats?

Bats infected with WNS express elevated metabolic rates, forcing them to emerge from hibernation early in search of food and water. As the infection worsens, they experience more severe skin lesions, water loss, and energy, and eventually death. Eastern Small-Footed Myotis are the least susceptible to WNS because they prefer to hibernate in the cooler, drier parts of caves and mines where the fungus is less likely to develop. At known hibernacula sites in Eastern Canada, the number of hibernating Little Brown Myotis and Northern Myotis has suffered a 94% population decline, while Tricoloured bats populations declined by 75%. In Ontario, bat populations at over 75% of hibernacula sites are at high risk of disappearing. More data on known bat hibernacula sites are required to help understand the impacts that threaten these species.



Little brown bat: (*Myotis lucifugus*)
Endangered

What is LCN doing to help?

In partnership with graduate students from Niagara College, we have been carrying out a landscape-level analysis, to map out potential hibernacula, and swarming sites for these bat species. Our team will be heading out into the field to perform acoustic monitoring surveys for bats to confirm their presence at these sites. This work will provide opportunities to study other important threats to these bat species, and reduce impacts on their populations in the future. We will help to improve the habitat through forest restoration efforts in areas that will increase habitat availability and connectivity. We will also install nesting boxes for Gray Ratsnake to increase nesting habitat and monitor them to understand the range of the species better.

Questions?

Have questions? Message us and we'd be happy to provide more information! Follow us on Facebook. Instagram and Twitter for regular project updates, fun facts, and trivia, related to SAR bats, Gray-Ratsnake and more!

Project Updates: Seed Grant

Our "Data Gap Analysis of Fragmented Forest Parcels in the Niagara Region" has kept us busy over the last few months!

We have acquired the help of dedicated volunteers from the Ecosystem Restoration program at Niagara College, who have been instrumental in working with us on gathering and consolidating data into maps using ArcGIS. We are gaining an understanding of the state of forest cover and size in Niagara, and locating the areas that should be prioritized for tree planting to reconnect fragmented forests.

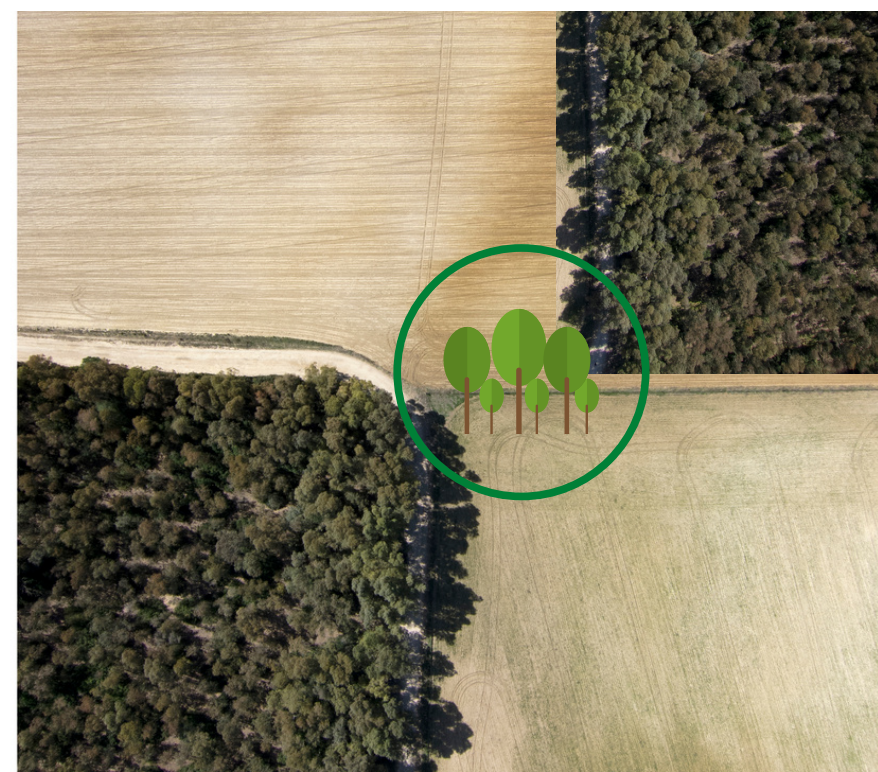
Site visits are being conducted for our second pilot planting site on suitable properties as part of the tree planting portion of this project. We will be planting over 7000 native trees on the successfully chosen site!

For those of you interested in participating in our tree planting initiatives, we will have many volunteer opportunities this Spring!

Would you like to register as a volunteer? Email us at info@landcareniagara.com and you'll be first to hear about new opportunities!



Snapshot of our first planting site completed in Fall 2020



An example of fragmented forested areas, and where tree planting could be targeted to reconnect these parcels.



An agency of the Government of Ontario
Un organisme du gouvernement de l'Ontario

Project Updates: Rural Tree Planting Program

We have been busy over the last few months gearing up for the Spring 2021 tree planting season! We look forward to working alongside 11 landowners to plant 32,150 trees across 16 hectares of private land in the Niagara Region. We will be planting a diversity of native, locally sourced tree species, including white pine, white spruce, white oak, white cedar, red oak, bur oak, swamp white oak, yellow birch, and silver maple.

Over the last few years, it has been tough for our newly planted seedlings, as they experienced long periods of drought making it much harder for them to establish. As a result, on properties that experienced significant mortality, we will be refilling those sites with 8700 new trees that are more drought-tolerant, such as white pine, white spruce, red oak, bur oak, and white cedar. Additionally, another common problem post-planting is animal browse, mainly from deer and rodents. Mowing between rows and installing predator guards during the first few years of planting can help minimize animal browse impacts on trees.

If you are a landowner interested in being a part of the tree planting program visit the Forests Ontario website to register, or contact us at info@landcareniagara.com for more information. We will be conducting site visits for Spring 2022 plantings this summer!



 **FORESTS ONTARIO**



Announcements - Events - Updates

LCN Swag Coming Soon!

New and improved LCN T-shirts will be for sale soon! T-shirts will be used as a fundraising initiative, with all funds being used to support the continued delivery of our programs. If you would like to place an order, please let us know and we will put your name on our order list!



Wildlife Habitat Structures

Would you like to enhance wildlife habitat in your backyard? We have LCN-made habitat structures available for purchase, with all proceeds going back into our woodworking for nature program!

Are you handy? Volunteer with us at our woodworking shop to build structures, and learn about the diverse wildlife in Niagara! Please contact us for more information!



Friends of LCN

Applications for our Friends of LCN volunteer group are now available! We're looking for a core group of enthusiastic volunteers who want to work with LCN staff and the Board of Directors to gain in-depth experience planning and leading outreach events and assisting LCN with project delivery. If this sounds like you, contact us for an application today!

