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SUMMER 2019

LANDSCRIPT

PROTECTING the WILDERNESS of our UNIQUE ARCHIPELAGO

A 5,000+ acre sanctuary for nature

A guide to
Georgian Bay's
mushrooms

Filling the knowledge
gap: Nighthawks and
Whip-poor-wills

The Perseid meteor
shower, and how to
watch it

Photo: Bill Longhead

Tadenac Conservation Initiative: a 5,000+ acre sanctuary for nature

by Georgian Bay Land Trust staff



One of Georgian Bay's largest undisturbed natural areas now has a Conservation Easement at its heart. The Tadenac Conservation Initiative protects 5,000+ acres of pristine terrestrial and aquatic wilderness south of Twelve Mile Bay, in an area known for its exceptional biodiversity. Made possible through support by Canada's Nature Fund, this project secures a critical link in a coastal habitat corridor and lays the groundwork for ongoing conservation research.

The importance of the Tadenac Conservation Initiative is best demonstrated by the incredibly diverse and valuable habitat it protects. The area contains 70 distinct habitat types—more than double the amount of the GBLT's next-largest property, Sandy Island—including older-growth forest, two Provincially Significant Wetlands, and pristine examples of several smaller, rare wetland types. Among its 495 inventoried plant species, 15 are classified as provincially rare. As John Riley, former Chief Science Officer of the Nature Conservancy of Canada and a key player in early inventories of the property sums up, "The Tadenac property and surrounding land is one of the exemplary natural areas of Georgian Bay due to the high concentration of unique features and the extremely high quality condition of a diverse assemblage of terrestrial and aquatic communities."

This property's rich mosaic provides habitat for too many species at risk to list: 32 species of reptiles, mammals, birds, and fish including the Blanding's Turtle, Bald Eagle, and Little Brown Bat. Endangered Lake Sturgeon use the wetlands for

spawning and nursery sites, alongside nesting waterfowl. At least 28 species of fish are present in the waters. The biodiversity even extends in unexpected directions: 20 dragonfly species have been identified on the property, including hundreds of the rare Elfin Skimmer, North America's smallest dragonfly.

The size of this protected area, and its situation within an even greater undisturbed area (18,000 hectares without roads, the second largest such area on Georgian Bay's eastern coast), adds to its ecological value. Large mammals including Moose and Algonquin Wolf are still found here, while they have abandoned many other places more fragmented and disturbed by humans. Many of the property's at-risk species have viability (survival expectancy) rankings of good to excellent, an uncommon rating for these species which demonstrates the importance of large-scale intact habitat. The lack of roads and

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"The work of the Georgian Bay Land Trust and its partners is a great example of the leadership and collaboration needed to protect more of Canada's nature. By working together, we can double the amount of nature we're protecting from coast to coast to coast."

Catherine McKenna
Minister of the Environment and Climate Change
.....



Algonquin Wolf by M.W.P. Runtz

other human disturbance has also kept the threat of invasive plants remarkably low: only 6% of the area's flora is non-native.

The property's large, contiguous forests are more resilient to climate change than fragmented or altered tracts, and they're also more likely to support a diverse array of breeding birds. While habitat generalists like Crows and Blue Jays do well on the edges of forests, there are a number of birds that have evolved to inhabit the sheltered interior. As forests become smaller and more broken up by roads and settlement, these birds are increasingly vulnerable to predation and competition from forest-edge species. A good indication of the Tadenac forests' remarkable condition is demonstrated by the fact that Chimney Swifts were observed here nesting in a hollow tree. This type of natural nest is quite rare in today's world, where Chimney Swifts nest almost exclusively in the man-made structures for which they are named.

Beyond its own characteristics, this project is significant for the role it plays in establishing a larger protected habitat corridor along the eastern Georgian Bay coast. Substantial portions of the coast to the north and south of this property are protected as conservation reserves and provincial parks, and to a lesser degree as crown land. This project adds an important missing link to that network. Keeping coastal habitat corridors open and wild is imperative for the survival of numerous animals that must roam and migrate seasonally throughout their lifecycles, and this becomes particularly important in the face of climate change. There is evidence that our coastal habitats will be affected more slowly than inland ones by climate change, making them a very valuable place for slow-adapting species to gradually shift their ranges. One of the core focuses of the Georgian Bay Land Trust is to continue to protect links along this corridor, to establish as much as possible an unbroken stretch of protected habitat from Port Severn to Parry Sound, while acknowledging that there will always be some natural and man-made breaks.

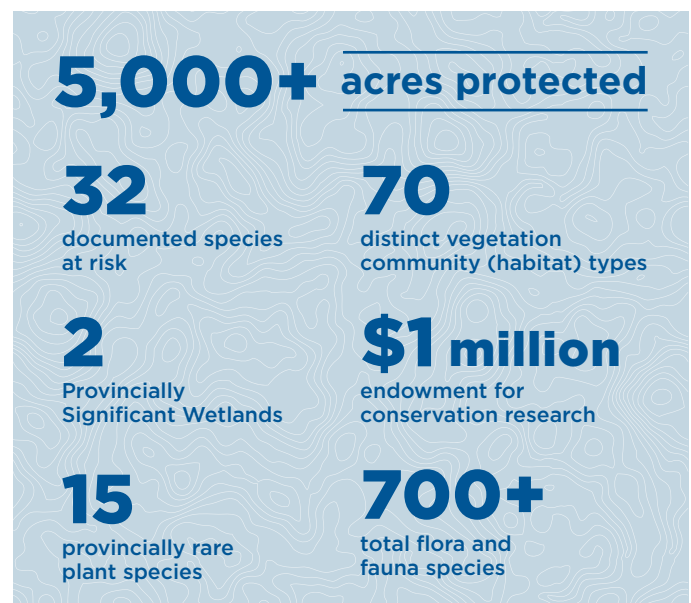
The land and lakebed included in the Tadenac Conservation Initiative is protected by a Conservation Easement and remains privately owned, with regular ecological monitoring to be undertaken by the Georgian Bay Land Trust. The Initiative's primary purpose is to provide a sanctuary for biodiversity

that will also provide opportunities for conservation-focused research. To this end, the landowners have established a \$1 million endowment to support ongoing scientific research in this remarkable area—an incredible legacy for conservation knowledge and its application to species health.

The Georgian Bay Land Trust is extremely grateful to Environment and Climate Change Canada, without whose support this project would not have been possible. \$967,000 in funding for the project came from Canada's Nature Fund, a \$500 million initiative set up by the federal government in 2018 to fulfill Canada's commitment to protect 17% of our land and inland waters by 2020. We were honoured to have this project selected during the initial round of "Quickstart" funding, a choice that speaks to both the value of the Tadenac habitats and the national significance of the Georgian Bay region. We also want to thank the Echo Foundation and the McLean Foundation who provided additional funding for the project.

The protection of this property is the result of more than ten years of collaborative work between the Georgian Bay Land Trust and the Nature Conservancy of Canada (NCC). Extensive initial field work was done by some accomplished naturalists, chief among them John Riley, Jarmo Jalava, and Wendy Cooper; the species and habitats that they documented during this time laid the foundation for the present conservation success. Going forward, the area will be monitored using a Property Management Plan co-developed by the GBLT, NCC, and the landowner, and both the GBLT and NCC will play a role in guiding the landowner regarding research projects directed by the newly-established endowment.

We send our utmost thanks to the landowners whose commitment to preserving our coast deserves all our praise. They are fantastic partners in conservation, whose actions have protected an incredible place—one that provides ecological benefits to everyone and everything that resides on our coastline. Thank you also to the many passionate individuals and organizations that were involved in making this happen.



Filling the knowledge gap:

Tracking Common Nighthawks and Eastern Whip-poor-wills

by Elora Grahame, Ph.D. candidate, Norris Lab, University of Guelph



Eastern Whip-poor-will nestlings

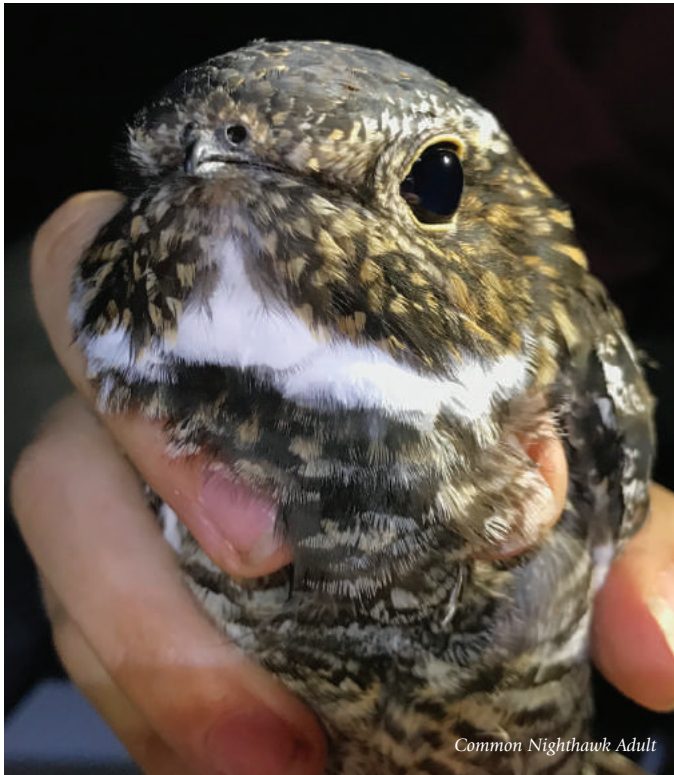
It takes a certain tenacity to willingly subject oneself to clouds of mosquitoes so thick that accidentally inhaling one of these pests becomes a regular inconvenience. Enduring swarms of biting insects often coincides with studying insectivorous species like Common Nighthawks and Eastern Whip-poor-wills. If you could choose any study organism for your Ph.D. research, why on earth would you opt to study birds that live in what are, at times, downright miserable fieldwork conditions? I sometimes chuckle to myself and muse over this question while sitting comfortably in my office at the University of Guelph.

For one thing, Common Nighthawks and Eastern Whip-poor-wills are really cool. They are both enigmatic species, and their stealthy dispositions have long shrouded them in mystery. Both are members of the nightjar family, a group of large-mouthed, cryptically-coloured birds named for their jarring nocturnal calls. They are somewhat owl-like in appearance—so much so that they are occasionally mistaken for owls by mobs of irate chickadees and affiliated warblers. The scientific name Caprimulgidae stems from the Latin for “goatsucker,” a term steeped in myth. Nightjar species around the world are often spotted in agricultural fields, and it was once thought that these peculiar birds coveted milk from the udders of domestic goats. In truth, open areas such as pastures provide

an optimal setting for nightjars to hunt aerial insects, but the name “goatsucker” is still used commonly today.

Nightjars are particularly intriguing in that their secretive natures have inhibited researchers from answering basic questions about their natural history. Unlike most birds, nighthawks and whip-poor-wills do not build nests but instead lay a clutch of two eggs on bare ground or leaf litter. Once hatched, their chicks are relatively mobile and can hop short distances. This allows them to hide beneath nearby vegetation should a predator disturb their brooding mother, and as the chicks continue to grow, the nest site can move a considerable distance from its original location. Though fascinating, this unusual reproductive strategy has limited our understanding of breeding ecology for these species. For instance, how much time do nighthawk or whip-poor-will parents invest in raising a pair of young? What kinds of habitat do they require to successfully raise their chicks? How often do their nesting attempts fail due to predators, inclement weather, or human encroachment?

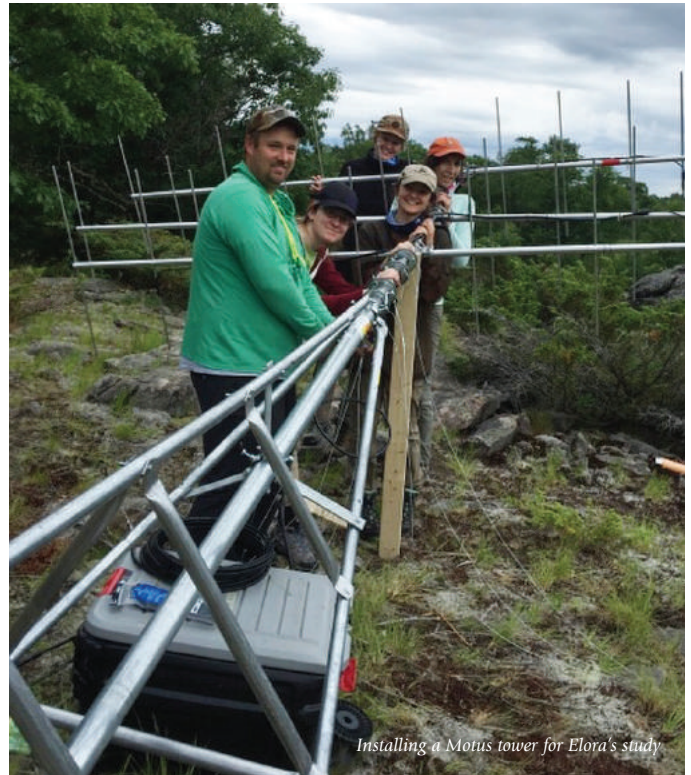
The knowledge gaps regarding nightjar ecology contribute to an especially compelling reason to study Common Nighthawks and Eastern Whip-poor-wills. Like all of North America’s aerial insectivores—a group including bats,



Common Nighthawk Adult

swallows, swifts, and other nightjars—these charismatic birds are in trouble. Over the past half-century, both species have faced steep population declines across their respective ranges. Nighthawks and whip-poor-wills have all but vanished from their historic breeding grounds in southern Ontario, and it is perhaps the urgency of their predicament that inspires me to brave unacceptably buggy evenings in the field. After all, how do you conserve species when you aren't quite sure what resources they require in order to recover?

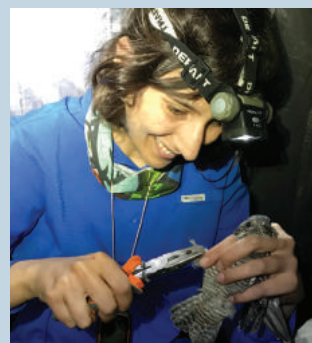
In an effort to piece together the puzzle behind the declines of Ontario's migratory nightjars, my research focuses on unravelling the veil of secrecy surrounding their respective annual cycles. By using radio-transmitters in the form of tiny bird-sized backpacks, I am able to follow a mother bird as her chicks hop from one area to the next, providing an opportunity to monitor the growth and survival of nestlings and fledglings. As an added bonus, the transmitters allow me to study the migration of tagged birds by using the Motus Wildlife Tracking System, a collaborative international effort between Bird Studies Canada and numerous research institutions to understand animal movement through the use of automated receiving towers. Each Motus station automatically records a transmitter's signal as a bird flies within the tower's range, offering a glimpse into the routes used by these species as they make their way south to their respective wintering grounds. At present, these data must be downloaded manually by visiting Motus stations and subsequently uploading the detections to an online database, and as such, obtaining this information is not instantaneous. But as winter drags on, I receive periodic updates of where my birds have been, and the excitement of learning that nighthawks have been detected in Panama and Colombia



Installing a Motus tower for Elora's study

is something like getting a postcard from a good friend travelling abroad.

By mid to late May, Common Nighthawks and Eastern Whip-poor-wills will have completed their return journeys to Ontario, and while I certainly don't miss the blackflies and mosquitoes, I find myself counting the days until I head back to the field. It turns out that the tribulations of working in horridly buggy conditions are offset by my unwavering fondness for Canada's eastern nightjars. As difficult as they are to study, it is imperative that researchers solve the mystery behind their continuing declines, and I am one of the few who have eagerly accepted that challenge.



Elora Grahame is a Ph.D. student in the Norris Lab at the University of Guelph who is studying the effects of roads on the breeding success of Common Nighthawks and Eastern Whip-poor-wills, two birds for whom Georgian Bay provides important habitat. The Georgian Bay Land

Trust is supporting her work by providing two Motus wildlife tracking stations for her study area, which allow Elora to follow the movements of adult and juvenile birds over a wide range of habitats. In addition, these Motus stations allow her to infer the exact date that a bird departs for fall migration. Elora has just wrapped up year one of her multi-year project, and we look forward to following her research as it progresses.

? Georgian Bay **QUERY:**

***What are the shooting stars we see on Georgian Bay every summer?
When is the best time to watch them?***



Perseid meteor shower, by John Getchel

Answered by Cliff Harding, amateur astronomer

If you have been lucky enough to be outside under dark, clear skies around the 12th of August, you have likely seen one or more of the Perseid meteors or shooting stars.

The Perseid meteor shower comes around every year on August 12th or 13th, or I should say that 'we' come around each August. The Perseid shower occurs as the Earth passes through the orbit of the comet Swift-Tuttle. The comet last came by in 1992 and the next pass is in 2126.

The shower actually starts around July 23rd and goes until August 20th, but peak viewing is mid-August. Over thousands of years, the comet has left a trail of debris in its orbit that burns up in the Earth's atmosphere causing the meteors we see. Most of the meteoroids (meteoroids when in space, meteors when they burn up, and meteorites if they reach the ground) range in size from a grain of sand up to a small pebble, and are travelling at about 60 km/sec or 215,000 km/h. These shooters are fast! In general, meteors range in speed from 10 km/sec up to 72 km/sec, so these are at the speedy end of the scale. They typically burn up between 70 km and 100 km altitude and Perseids rarely reach the ground on Earth.

Meteor showers are named for the constellation in the part of the sky where they appear to radiate, in this case, the constellation Perseus. Perseus is about 30° above the horizon in the northeast at around midnight. If you were to mark on a sky map the direction of all the meteors you see in an evening, they will all appear to radiate from a central point. This is caused by the direction of the Earth's orbit as we pass through the dust

cloud. The visual effect is similar to driving in a snow storm at night. If you are watching the shower and see a meteor that crosses the usual paths, it is called a rogue meteor and is not part of the actual shower.

The nice thing about watching a meteor shower is that there is no equipment required, other than maybe a blanket and a lawn chair. Try to find a place where you can get a wide view of dark sky (on a dock, for example). If you can, it is best to look 30° to 40° away from the radiant. That way the meteors will cross your view and be easier to see. Just after sunset or pre-dawn are the best times for viewing, because the meteors are just grazing the atmosphere and will have longer tails. In ideal viewing conditions, you could see around 40 meteors per hour or more. Many of them can be very dim and will be very fast. It takes about 30 minutes for your eyes to become completely adjusted to the dark, so the more time you have the better. Remember though, it only takes a few seconds of white light to undo your 30 minutes of dark adjustment, so avoid flashlights if you can.

Unfortunately, this year the moon is near full around the peak nights. That will wash things out a bit, but you will still see the brighter meteors if you are patient and lucky. Those nights you can also see Jupiter (very bright) in the southwest and Saturn (pale yellow and not as bright) in the south. All of this obviously assumes a clear sky, of course.

Let's hope for clear skies those nights, but if not, remember to keep watching for several days before and after August 12th. If you don't see anything, remember that we'll be back around in another year. Good luck and dark skies!

Georgian Bay Land Trust Visitor's Guide

The Georgian Bay Land Trust's Communications Committee has developed a **Visitor's Guide** containing friendly instructions for guests to our open GREEN properties. Printed cards are available in the "Guest Boxes" located on five GBLT properties: Friend Island, Little McCoy Island, Umbrella Island, American Camp Island, and the Southeast Wooded Pine Island. These are the properties that receive the highest human traffic, and so are also the properties most vulnerable to human impact. Although only five properties offer printed copies of the guide, our hope is that visitors to all GBLT properties will observe and honour these humble requests:



Georgian Bay Land Trust Visitor's Guide

Thank you for visiting one of the Georgian Bay Land Trust's protected properties!

These places have been set aside for the conservation of nature, and our public-access community properties welcome visitors for low-impact daytime use. The following are a few simple rules to follow to help keep these special places safe for people and healthy for the wild species inhabiting them.

When visiting a Georgian Bay Land Trust property, please always:

Remove all trash – if you brought it in, take it out. This includes all biodegradable materials, and especially human and pet waste.

Leave it as you found it – please don't pick the flowers or collect the rocks. With many people visiting the properties, the less impact we each make, the longer we will enjoy what we have.

Keep wildlife wild – Respect wildlife by observing it from a distance and leaving it in peace. Avoid any conflict, and don't feed the animals.

Manage your dog – Keep your dog nearby and under control and pay attention to signage. Ask others before allowing your dog to say hello, and always pick up after your dog.

Keep it small and short – To reduce the impact of visits, please keep your group small and only stay for a couple of hours so that others can enjoy a visit too. Read the signs about access and recognize that a red flag means a property is at capacity.

Eat cold, not hot – Please never use portable stoves or BBQs, and never light fires on GBLT properties. Even small fires damage rocks.

Keep it light – Georgian Bay Land Trust properties are great for low-impact daytime activities like picnicking, swimming, taking photographs, hiking and birdwatching. Prohibited activities are camping overnight, lighting fires, leaving garbage, damaging or removing natural materials, making loud noise and using motorized vehicles.

Spread the word – Please share this guide with others in the Georgian Bay community so they can help too.

Public access to this property, and the conservation work of the Georgian Bay Land Trust has been made possible by the generosity of our supporters. Please consider joining us by making a donation. Together we can leave a lasting legacy for future generations so that they can enjoy and appreciate the natural beauty of this globally unique area.

Clearly there cannot always be Stewards, GBLT Summer Students or Pointe au Baril Islanders' Association Marine Patrollers on our properties, so we hope that the Visitor's Guide will deliver the low-impact use message when our volunteers and staff can't be there to do so.

The three most common issues that we encounter on GBLT properties have to do with waste, motorized vehicles, and campfires. Visitors need to be prepared to take everything (and this does mean everything) away with them when they leave. To be clear—there is currently no plan to install any form of privy on any GBLT properties.

There have been past incursions on a couple of properties by ATVs, and unfortunately we appear to be receiving at least one visit per year from helicopters to outer island properties. The downwash from a helicopter's rotors causes a major disturbance, not only

to any plants, birds, and wildlife within a couple of hundred yards radius, but also to any other visitors to the property.

Campfires are unfortunately a fairly common issue on visitor properties. The reasons that fires are prohibited are several: a fire's extreme heat is destructive to the rock barrens; there is a tendency to try to burn material that won't burn, and also that shouldn't be burnt; and finally there is the very real risk of fire spreading and scorching an entire property. Or worse.

We are so incredibly lucky to have Georgian Bay properties to look after. Their remoteness and the short seasonal accessibility means that they are still largely unspoiled and remain in their proper wild state. We are also incredibly lucky that there is the respect for nature and love of natural beauty from the shore communities that mean these conditions can continue.

Thank you Georgian Bayers!

The Fascinating World of Mushrooms

by Sarah Sandor, MSc candidate, and Jianping Xu, Associate Chair, Department of Biology, McMaster University

Look around: fungi are everywhere, from the tiny microscopic spores that fill the air, to the large macroscopic mushrooms scattered on the forest floor. Ecologically, economically and medically, fungi are an incredibly important group of microorganisms.

As arguably the most beautiful fungi, mushrooms truly are incredible organisms. In the late spring, summer, and early fall months, forests and grassy areas are littered sporadically with these fungi displaying a wide range of shapes, sizes, and colours. Mushrooms are sexual reproductive structures, analogous to the fruit produced by trees, which form for a short period of time when environmental conditions are optimal to allow the fungus to produce spores, disperse and germinate. However, the bulk of these organisms actually exists as a mass of thread-like roots, called mycelia, beneath the soil.

Mushrooms play a crucial role in maintaining the health of forest ecosystems. Broadly, there are two main types of mushrooms: saprophytic and ectomycorrhizal. Saprophytic mushrooms feed on dead organic matter, such as rotting wood or plant refuse. Their metabolisms aide in nutrient recycling within a range of ecosystems. Mushrooms from this diverse group, which includes puffballs, chicken of the woods, and ink caps, can be found growing on fallen trees and stumps or right out of the soil. Ectomycorrhizal mushrooms are unique in that they form symbiotic partnerships with plant species, often trees. The mycelial networks of these mushrooms intertwine with roots of their partner trees underground, facilitating the exchange of nutrients between these two organisms. The fungi receive sugars in exchange for providing the plants with water and nutrients like nitrogen and phosphorus. Interestingly, these fungal mycelia networks facilitate communication between neighbouring trees, allowing trees to 'talk' to each other by transmitting signals from one to another. Ectomycorrhizal mushrooms include species of milk caps, Boletes, Russula and Chanterelles and are typically found growing in the vicinity of their tree partners.

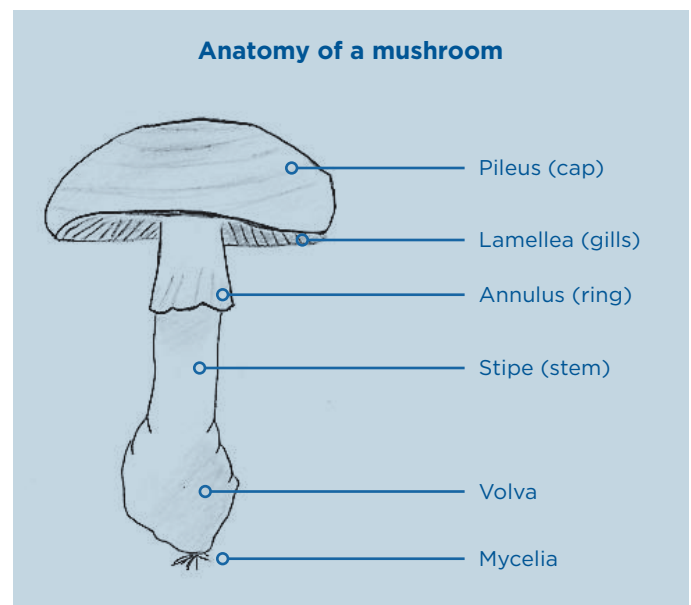
Closely examining each physical feature is important, as they are key to identifying mushroom species. The presence or absence of gills, characteristics of the cap (e.g. bell-shaped, cylindrical, convex, conical), the shape of the stem (e.g. tapered, club-shaped), colour, texture, and odour all give clues about the species of mushroom. In addition to macroscopic characteristics, mycologists use many microscopic features, such as spore size, shape and colour, to identify and classify mushrooms.

While insects and small animals readily consume mushrooms for food, these critters are not the only ones who enjoy the taste of fresh mushrooms. Mushrooms are a popular food choice for us humans as they are a rich source of protein, fibre and antioxidants. While the common white button and portobello

mushrooms sold in grocery stores are grown on commercial mushroom farms, specialty mushrooms, such as truffles, morels, and boletes are only foraged from the wild. Impressively, these delicacies can cost over \$5,000 Canadian dollars per kilogram.

Mushroom hunting is a popular livelihood and recreational activity worldwide. However, caution must be taken when collecting wild mushrooms as it is often difficult to distinguish between poisonous and edible mushrooms based solely on physical characteristics. Contrary to popular belief, most lethal mushrooms have plain colouring, rather than bright vibrant colours, and look similar to edible mushrooms, making it extremely important to ensure proper mushroom identification before consuming collected mushrooms. For example, 'Destroying Angel' (a term which includes *Amanita bisporigera*) refers to several closely related lethal mushroom species. These mushrooms are generally white in colour with few other visual cues to warn of their extreme toxicity. While many poisonous mushrooms may only cause a temporarily upset stomach, these lethal Amanitas produce deadly toxins, such as the amatoxin alpha amanitin. A single mushroom can contain a lethal dose of these toxins, which cause rapid liver failure by binding to enzymes in human cells and preventing the production of proteins, ultimately leading to death. What is particularly intriguing about this group of mushrooms is that it is not known why these mushrooms have evolved to produce such deadly toxins. This is a mystery that has puzzled mycologists for years.

Fascinating and exquisite, mushrooms are a beautiful and ecologically important component of all forest ecosystems. The next time you take a walk in the woods, keep your eyes peeled for these amazing organisms all around. The diversity of mushrooms that you can find may surprise you.



Sketch: Sarah Sandor

Field Guide to the Mushrooms of Georgian Bay

Puffballs

Saprophytic, edible

Giant Puffball

Calvatia gigantea



Common Puffball

Lycoperdon perlatum



Chanterelles



Ectomycorrhizal,
edible

False Chanterelle

Hygrophoropsis aurantiaca



May cause upset
stomach if consumed

NOT TO BE
CONFUSED
WITH

Chicken of the Woods

Laetiporus sulphureus



Saprophytic, edible

NOT TO BE
CONFUSED
WITH

Jack-O-Lantern Mushroom

Omphalotus olearius



poisonous

Oyster Mushroom

Pleurotus ostreatus



edible

Ink Cap Mushroom



Saprophytic, edible

Agaricus species



Saprophytic,
many edible

Milk Caps

(Lactarius species)



Ectomycorrhizal,
edible

Amanita species

Ectomycorrhizal, many poisonous

Destroying Angel

Amanita bisporigera



Fly Agaric

Amanita muscaria



Boletes



Ectomycorrhizal,
many edible

Russula



Ectomycorrhizal,
many edible

Note: This guide is intended to provide introductory information only. Never eat a wild mushroom unless it has been identified by an expert.

2019 King Family Bursary winners

Congratulations to the 2019 winners of the King Family Bursary: Art Tent and Elora Grahame! We're excited to follow their projects as they promote knowledge and appreciation of the Georgian Bay environment.

Thank you to Wally and Marilyn King for making these projects possible through their funding of the King Family Bursary. We'd also like to thank our volunteer jurors for contributing their time and insights, and all the wonderful applicants who made our choice extremely difficult!



Elora Grahame

Elora Grahame is a Ph.D. student at the University of Guelph whose research is driven by her passion for migratory birds. Though she spent her childhood exploring the natural landscapes of Massachusetts, her ornithological fieldwork brought her to Georgian Bay in the spring and summer of 2018. She

quickly became enthralled by the unique combination of open forests, wetlands, and rock barrens characteristic of the region.

This year, Elora is continuing her research project on Common Nighthawks and Eastern Whip-poor-wills, two nocturnal migratory birds that breed in Georgian Bay. These insect-eating species have mostly vanished from southern Ontario, and given their secretive natures, the causes behind their staggering range-wide declines remain unknown. With support from the Georgian Bay Land Trust, Elora is unravelling mysteries about nest success and migration for these charismatic nightjars with the goal of improving strategies for their conservation. Read more about Elora's research on pages 4 and 5.

"I'm incredibly honoured to receive the King Family Bursary in support of my research on Canada's eastern nightjars, and I look forward to sharing my passion for these species with the Georgian Bay community. It is my hope that studying Common Nighthawks and Eastern Whip-poor-wills on their breeding grounds will shed light on the causes behind their diminishing numbers, allowing us to remedy their declines and ensure the continued presence of these charming birds in Georgian Bay for generations to come." – Elora Grahame



Art Tent – Jesse Matas & Kyle Scheurmann

Art Tent, formed by musician Jesse Matas and painter Kyle Scheurmann, began with a shared curiosity and passion for creatively documenting the Canadian woods. In the last three years, it has grown into an extended collaborative research project, spanning multiple continents and

exhibitions. Art Tent's main initiative is to develop a shared understanding of ecological knowledge, translated across disciplines, bridging visual art, science, music, poetry, and storytelling. This is done by initiating collaboration between these modes of thinking, enabling hybrid research to be shared in each discipline. Through this process, Art Tent seeks to create new collective knowledge about the environment.

The Georgian Bay iteration of Art Tent will include two trips to the region in order to record a wider range of ecological information, influenced by the change in season. Together, Jesse and Kyle will create a new series of field studies: research taking the form of watercolour paintings, poems, and guitar riffs. This work will document the lived experience of Georgian Bay's most remote and diverse natural areas, providing creative fuel for studio oil paintings and songs.

"As we move into new cultural and environmental realities outside what has historically been considered normal for our earth, it is more important now than ever to reflect on and to document the discourse happening between the environment and humans. It is an incredible honour to receive the support and encouragement of the Georgian Bay Land Trust in creating new paintings and songs about this unique region. The opportunity ahead of us holds a great responsibility to the residents and ecology of the area, as we set out to showcase the land with all of its majesty in full colour and sound. We are excited to present our research to the community, and look forward to sharing a generative dialogue about creativity and the environment." – Art Tent

Rose Quartz

by Kate Marshall Flaherty

Veins of Canadian Shield
cut through sedimentary rock—
blushing against
storm-cloud grey—

streaks of sparkle
in a ridge of rock.

The white pines hold their ground;
their tenacious roots grip coastal crags

as gulls lift their piercing cries
above branch-brooms
whisking away cirrus clouds.

Pink quartz, not white
as chickadee bib or bulrush pulp,

but a flush in a harsh landscape,
a bit of rose in rock's hard history.

Poet Kate Marshall Flaherty was a recipient of the 2018 King Family Bursary, through which she wrote and filmed a series of poems in response to the Georgian Bay environment.

Spiders

by Bob Suter, retired Professor of Biology, Vassar College

Spiders get a bad rap! I curse them when I'm the first to walk along a trail in the early morning and get a face-full of sticky silk from an orb web, and I'm creeped out when one lands on my pillow late at night. But the rest of the time I find spiders to be endlessly fascinating and I appreciate them for the services they provide.



Orb-web spinners, such as the one shown here, are the most likely owners of the webs or silk lines that you run into, literally, as you walk on forest

trails. These are females (the males, once they are adults, stop building webs and spend the rest of their lives searching for, courting, and inseminating females). Typically, the orb-weavers (family: Araneidae) make their webs early in the evening and consequently feed mostly on nocturnal flying insects like mayflies, moths, mosquitoes, and gnats.



We get to watch all of this happening, close up, just outside our cookhouse windows—the females attach their bridge lines to the window frames,

build their orb webs in a plane parallel to the window glass, ensnare insects which they then wrap and suck dry, get courted by males of their species and occasionally submit to a male, and then often lay their eggs right up against the glass. This last action gives us an inside view of the developing eggs and the new hatchlings.

Most of Georgian Bay's orb-weaving spiders limit their parental care to laying their eggs in an appropriate location and covering them with multiple layers of silk—the silken layers not only protect the eggs from weather and from desiccation but also conceal the eggs from the hungry eyes of predators.



For some spiders in our area, parental care is much more intense. Fishing spiders (family: Pisauridae), known locally as "dock spiders"

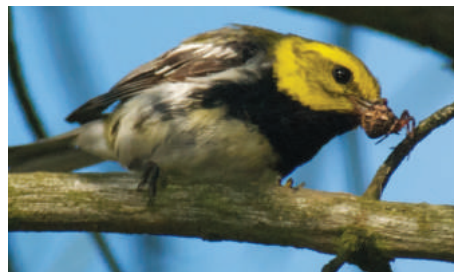
and very generally as "nursery-web spiders," are common large, swift spiders that never build prey-capture webs but do use silk

both to enclose their eggs and to construct a nursery of silk and leaves, like the one shown here; once the female has installed her progeny in the nursery, she stands guard there for a week or more until the spiderlings are ready to disperse. These are the same spiders, incidentally, that can both row and gallop across the water surface without getting wet, supported there by the water's surface tension. They mostly feed on insects but, given the opportunity, they also capture small fish and frogs.



Leaf-bending spiders (family: Clubionidae) are nocturnal wandering spiders that are common in our area but rarely seen—this is because the most conspicuous

evidence of their presence is the tight capsule that females construct when they are ready to lay eggs. The capsule shown here was made by bending a grass blade in two places to form a three-sided chamber, stitched together with silk at each of its seams. Inside is the female spider guarding her clutch of orange eggs wrapped in a diaphanous layer of silk. These capsules protect the eggs well, but not from every danger. Deer mice, when they find a capsule, tear into it with ease and devour both the spider and her brood.



It is true that many spider species provide valuable services to humans, for which we should be grateful. The orb-weaving spiders, for

example, consume mosquitoes, moths, and biting flies, others capture cockroaches, and still others kill agricultural pests in large numbers. Most do not directly benefit us, but all are integral parts of the ecosystems they inhabit and in those myriad roles they indirectly make our lives better. Birders, for example, appreciate the fact that spiders are second only to insects in providing food for the nestlings of forest and meadow birds. Shown here is a Black-throated Green Warbler carrying an orb-weaver, soon to be fodder for the bird's hungry nestlings.



Do you have a species you'd like to see spotlighted in an upcoming issue? Send us your suggestion at info@gblt.org.

Dattels Reserve

Completion of a Gift of Conservation

by Brooks Greer, Land Protection Program Manager, GBLT



In mid-December 2018, the GBLT added 5.4 acres to the existing Dattels Reserve in Pointe au Baril. The Reserve now covers an entire beautiful 10 acre island in Hemlock Channel.

The first half of the Dattels Reserve came to be in 2009, when neighbouring conservationist Jennifer Dattels purchased the eastern side of the undeveloped island and donated it to the GBLT. After waiting for nearly a decade, says Jennifer, “my dreams were realized last year when the western half of the island came up for sale, allowing for a further purchase and donation to the GBLT. This made the Dattels Reserve complete at last. It is my pleasure to have protected the island from development, and to have preserved the natural beauty of Hemlock Channel.”

The Dattels Reserve is home to at least five species at risk: Eastern Musk Turtle, Midland Painted Turtle, Eastern Milksnake, Eastern Whip-poor-will and Eastern Massasauga. The first three of these species were sighted during a recent property inventory visit in June 2018. It is very likely that other species at risk, in addition to many non-threatened species, also make use of the island’s habitat, which includes rock barrens, dense mixed coniferous-deciduous forest, and a healthy coastal meadow marsh at the island’s east end.

Hemlock Channel connects Oberlin Bay on the south side of Ojibway Island with open Georgian Bay to the west. Although it is a seasonally busy water thoroughfare, the shore and islands of the Channel itself are only moderately developed and are in close proximity to other protected tracts, most notably the Shawanaga Island White Pine Forest (“C127”) comprising the whole of Shawanaga Island at 2,523 acres. This huge land mass forms the entire south shore of Hemlock Channel. According to the Parry Sound office of the Ontario Ministry of Natural Resources and Forestry, C127 is a “recommended Conservation Reserve” and there are ongoing discussions with Shawanaga First Nation about its ultimate designation. For the time being, Shawanaga Island remains a crownland reserve. Existing nearby GBLT properties are the Loudon Reserve immediately north in Ugo Igo Channel, Friend Island at the western end of Hemlock, and the more remote St. Davids Island at the bottom of Shawanaga Inlet and Little McCoy out at the north end of the Mink Islands. Dattels is in good conservation company.

Situated in an area that includes both cottage development and neighbouring protected spaces, the Dattels Reserve is an important link in Pointe au Baril’s network of conserved habitats for its many native species. Thank you so much to donor Jennifer Dattels for your generosity, vision, and commitment!

Conservation in Canada:

What the planet needs, and how we can help

On March 19th, leading environmental advocate and negotiator Janet Sumner joined a group of GBLT supporters to talk conservation. Ms. Sumner spoke about the global importance of Canadian habitats and the opportunity our country has to make a valuable contribution to what the planet needs.

Janet Sumner has had a 25+ year career in the environmental field, serving as Communications Director at the climate-focused Pembina Institute before stepping into her current role as Executive Director of the Canadian Parks and Wilderness Society's Wildlands League in 2003. During this time, she has worked on numerous environmental negotiations and legislative reforms. In 2017, Sumner was asked to co-chair the National Advisory Panel on Canada's Pathway to Biodiversity Target 1. This panel was tasked with providing recommendations to the federal government to meet Canada's commitment to protect 17% of our lands and inland waters by 2020. Sumner has continued to serve as a key advisor on conservation issues to Minister Catherine McKenna.

"The two great environmental challenges of our time are biodiversity loss and climate change." This quote, taken from the 2018 National Advisory Panel report that Janet co-authored, set the stage for Janet's presentation and introduced the two core passions that have guided her career.

The deep climate crisis that humanity has inflicted upon itself and the planet is by now well established, but perhaps less well known is the concurrent biodiversity crisis that we face. Species are currently going extinct at a rate comparable to past mass extinctions brought on by asteroids and volcanic eruptions. We are on the brink of the sixth known mass extinction on planet Earth, and the first one caused by human activity. In addition to losing entire species, we are dramatically losing individual specimen volume almost across the board. Studies indicate we have lost about 60% of the planet's overall wildlife since the mid-20th century, with trends only predicted to worsen.

Climate change and biodiversity loss are interconnected. The more we expand the over-consumptive lifestyles that are fuelling climate change, the more habitat is destroyed and polluted. And the more habitat we destroy, the more carbon we put into the atmosphere. Luckily, the flipside of this connection is that we can take steps that will begin to address both of these problems together. Sumner's career change from climate communications to conservation was inspired by the realization that protecting the carbon stored in natural systems is a critical component in halting the rise in greenhouse gas emissions.

Canada is in the fortunate position of still having many intact natural areas, especially in the northern part of the country. Maintaining the ecological integrity and functionality of these areas is not only an important goal for ourselves, but a way we can contribute to global efforts to save the Earth's systems. For Sumner, one of the main priorities is the Boreal, a massive Northern Hemisphere region of forest, bog, and tundra

stretching in Canada from the Yukon to Labrador. The Boreal's trees and bogs store over 3,000 tonnes of carbon per hectare, and the region provides nesting habitat for over 3 billion birds each year. And yet, in Sumner's words, "it will not mean anything if we protect the Boreal, and we don't have anything along the flight path". Adequate protection of all Canada's ecoregions, with corridors of habitat connectivity between them, is essential to maintaining a well-functioning ecosystem.

In southern Canada, this means protecting and restoring privately-owned land. Sumner believes that land trusts have an essential role to play in this. "Canada is actually counting on folks like the Georgian Bay Land Trust, because we can't just magically roll back time and all of a sudden create big protected areas in this landscape," she said. "But what we can do is use the innovation and energy of the land trust movement in the south, and say 'how do we start to build some of this connectivity and these corridors back?'"

To encourage people across different sectors to start taking action on these goals, Sumner and her fellow members of the National Advisory Panel recommended that Canada create a Nature Fund. This fund, which was indeed established in the 2018 federal budget, provides a variety of funding opportunities for conservation groups, First Nations, industry, municipal and provincial governments, and others to take action to protect land and species. The GBLT's Tadénac Conservation Initiative was made possible through funding received during the initial "Quickstart" phase of the Nature Fund.

Sumner concluded by reminding us that our ultimate goal should not be simply to achieve the 17% target, but to truly make sure all our ecoregions are healthy and capable of supporting life. This means going beyond percentages and taking more significant steps to change our relationship to the Earth and each other. In addition to conserving landscapes, we need to stop burning fossil fuels if we want to envision a future without catastrophic climate change. We should encourage a deeper connection between people and nature, understanding that the more people know and care about the natural world, the more likely they are to try to live in harmony with it. And finally, we must recognize the Indigenous people who have lived on these lands for thousands of years, and whose worldviews deserve an equal place in the conversation about how to move forward.

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To read the 2018 report and recommendations to the government issued by Sumner and her colleagues visit www.conservation2020canada.ca/resources, and click on the second item: "Canada's Conservation Vision: A Report of the National Advisory Panel".
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Grenville Volunteer Award winner: Laura Sunderland

by GBLT staff, with thanks to Jeff Cooper



Since 2015, and to date over the publication of 9 issues of our LandScript newsletter, GBLT staff has enjoyed the highly skilled editing services of Laura Sunderland. Laura's creative vision, positive approach, and commitment to quality have made her a joy to work with and the ideal person to guide the development of our most important publication.

Laura's connection to Georgian Bay started when she was quite young - 7 or 8 years old - when she would spend time during the summer at her cousins' cottage in Honey Harbour. Laura later started going up regularly to the Jim and Maureen Cooper "Blarney Castle" cottage in Cognashene when she became close friends with their daughter Jane in high school. Now married to son Jeff Cooper, Blarney Castle remains the Georgian Bay home base for Laura, Jeff, and their kids Evie, 6, and Simon, 4.

Laura has worked as a senior researcher for the G8/G7 Research Group, and spent several years working for the Canadian International Council where she served as vice president of programs. She was also the unofficial school assignment editor for her three siblings throughout their university years. Says husband Jeff, "I think it's during this time that Laura really honed her editing skills."

It is clear that Laura genuinely enjoys volunteer work, and her commitments extend beyond the GBLT. She often volunteers at her children's elementary school, including as a tutor in the Everybody Reads program.

Laura is a very effective collaborator and will engage friends and family in brainstorming sessions to generate new ideas for the LandScript. She is endlessly imaginative and creative with LandScript content, and has contributed countless invaluable suggestions and innovations. We have received a lot of positive feedback for our recent issues, and credit goes largely to Laura's input.

Thank you and congratulations Laura Sunderland, recipient of the Grenville Volunteer Award for 2019.

Welcome Summer Conservation Interns, Sarah Bowman and Sofia Vermeulen!



Sarah Bowman is currently completing the first year of her Juris Doctor at the University of Western Ontario, with which she hopes to pursue a career in animal law or environmental law. Sarah has been a cottager her entire life, recently moving from a cottage on Lake Couchiching to the beautiful Wah Wah Taysee area

of Georgian Bay. Sarah is very excited to be working as a conservation intern for the GBLT. She is eager learn more about the region, and to work to preserve and protect the habitat of endangered species.



Sofia Vermeulen graduated from University of California Santa Cruz with a Bachelor of Arts in Anthropology. She is pursuing an art freelance career on the side. Sofia has spent every summer in Georgian Bay and continues to fall more and more in love with the landscape as well as the wonderful communities in the

area. Sofia is anticipating an exciting summer as a conservation intern for GBLT, and hopes to provide another year of meaningful work that will help maintain a healthy balance between the environment and the communities within it.

Our Victoria Day Bird Survey continues!

After last year's success, we are making the May long weekend bird count an annual event. Wherever you are on Georgian Bay, keep track of the birds you see over the weekend, and submit your checklist to gblt.org/birds for a chance to win some bird-related prizes! If you'd like to brush up on your species first, visit the same website for information on some of Georgian Bay's most characteristic birds.



Photo: Thea Boyd

Georgian Bay Snapshot

Doubletop Overlay
by Sean Tamblyn



A recipient of the King family bursary for 2018, photographer Sean Tamblyn has been hard at work visiting and documenting the lighthouses on the Eastern shore from Doubletop to the Bustards. In addition to summer trips, over-winter cameras were installed to document the changing lighthouse environment year-round. Sean's project ultimately aims to raise awareness of the status of Georgian Bay's lighthouses, and create a physical record before they are lost forever.



Tribute GIFTS

Received from November 21st 2018 – April 12th 2019

In Honour

Clair Balfour	Geordie, Louisa,
Alice Barton	Marigold & George
John & Jenn Bate	DalGLISH & Swith Bell
Fred Beck & Susan	Gary French
Woods	Tom Kazmierowski
Kerry & Brenda	Wally & Marilyn King
Benson	Stoney, Bill, Joey &
Cathy Bongard	Bubba Lougheed
Keith Carruthers	LaRea Moody
Barb & Loren Crabtree	Adam Beddoe Morrison

In Memory

E.J. Betsy Hegnauer	Joyce & Oscar Kofman	Jerry Norton
Angelakos	Pat Lawson	Robert Pinkney
John Birnbaum	Dorothy Leonard	Dr. H.C. Ratz
John de Pencier	Dr. Gordon K. Martin	Patricia Tomlinson
John W. Duncanson	John G. Matthew	Beverley Anne (France)
George C. Heintzman	Ruth & Jack McCuaig	Weiss
Bill & Marion Holton	Rob Moore	Charles Wilde
John Paul "JP" Jeffrey	Warren Moysey	Walter & Stella Yusko
David Keenleyside	Douglas Ross Norris	

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SUMMER 2019

SUMMEREVENTS

PROTECTING the WILDERNESS of our UNIQUE ARCHIPELAGO



LANDMARK Speaker Series

Learn from speakers on leading conservation topics in communities around Georgian Bay.

Pointe au Baril (July 28): Conservation and Climate Change with Dan Kraus
Sans Souci (Aug 11): Migratory bird research with Dr. Chris Guglielmo
Cognashene (Aug 22): Migratory bird research with Dr. Ryan Norris
 Visit gbt.org/landmark for details about each event.



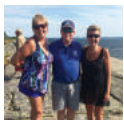
Birding Wreck Island – May 25th, 8:30 am, Sans Souci. Join passionate birder Peter Wood for a tour of this island's breeding and migratory bird life.



GBLT by Paddle – Join us for a water-based tour of the shorelines and wetlands of these beautiful properties. Bring your own canoe, kayak, SUP, etc!
Thomson Reserve (Nares Inlet): July 7th, 10 am
Holton Reserve & Harris Easement (Wah Wah Taysee): July 15th, 10 am



Yoga on the Rocks – Four dates: July 10th & 14th, August 7th & 18th, 10-11:15 am – American Camp Island, Wah Wah Taysee. Begin your day with invigorating yoga led by Angela Granziera. No experience required. \$10 per participant.



Cocktails on the Lizard – July 12th, 3-5 pm, Cognashene. Bring your afternoon cocktails to the Lizard, and spend a few hours enjoying this beloved island with friends.



For more information about any of these events please visit gbt.org/events.



Rock Walks

Join "rock star" geologist Dr. Nick Eyles for a fascinating tour of the geological secrets seen in the rocks beneath our feet.

Long Island (Go Home Bay): July 24th (rain date July 31st), 12 pm picnic, 1 pm walk
Painted Rocks (Charles Inlet): July 25th (rain date August 1st), 12 pm picnic, 1 pm walk



Kids' Conservation Quest – Kids ages 8–12 will love learning about Georgian Bay flora and fauna and how to be a good steward of this precious environment. Bring a lunch and drinking water.
Sans Souci Schoolhouse: July 25th, 11 am–1:30 pm
American Camp Island (Wah Wah Taysee): August 8th, 10 am–1 pm



Art Day at Friend Island – August 6th, 12-4 pm, Pointe au Baril. Bring your art supplies and join us for a picnic and painting afternoon at this beautiful island. Artist Patricia Peacock-Evans will lead a plein air painting demonstration.



Phragmites Removal – Help us remove this invasive reed from Georgian Bay's shorelines and wetlands!
Giant's Tomb: August 14th & 15th, 11 am
Sandy & Ingersoll Islands: August 16th, 10 am

SAVE THE DATE!

Walking for Wilderness

Saturday, September 28th, 2019
 Beausoleil Island, Honey Harbour

Bayscapes Art Auction

Friday, November 22nd, 2019
 Artscape Wychwood Barns, Toronto



Georgian Bay Land Trust
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gbt.org | info@gbt.org | 416.440.1519

The Georgian Bay Land Trust acts to preserve the wilderness lands of eastern Georgian Bay and the North Channel through strategic conservation planning, land securement, stewardship, conservation research, and education.

We are a registered Canadian charity (#13195 8811 RR0001)



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