

THE WOODLAND OBSERVER

MARCH 2021



NIPISSING NATURALISTS CLUB

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From the editor:

Anticipation

There should be a season between Winter and Spring where the promise of spring comes through despite the winter scenery. Perhaps that season should be called Anticipation. We anticipate the arrival of the Red-winged Blackbirds in mid-March. We anticipate seeing the first Common Grackle fly across our path, its distinctive tail distinguishing it from fly-by starlings and crows. We anticipate hearing new bird songs and calls that have been absent all winter. We anticipate hearing the fee-bee song of the Black-capped Chickadees that indicate they're starting to set up territories.

The plant kingdom also is telling us to anticipate spring. We anticipate seeing the red maple buds swell to provide a lovely contrast of red buds against a blue sky that appears washed clean of dirt. We anticipate seeing the disappearing snow expose the first green patches of lawns and gardens. We anticipate the running of the maple sap as warm blue-sky days alternate with frosty nights. And this week it seems we can anticipate quite a few warm days, spring-like rains, and even some sun.



Red maple flowers

In the theme of anticipation, this month's newsletter has several articles on some other anticipated guests: the bees. The bee articles were inspired by last month's Zoom speaker, Charlie Hendry, who talked about his adventures in beekeeping. He has kindly provided answers to some questions that people asked him. We also have an article on a new bee species for Canada. The discoverer has given us some tips on how to identify this species by sight so we can anticipate getting close-up pictures with our cameras. The new bee was found in the Ojibway Prairie Provincial Nature Reserve in the Windsor area; we now have an article on this remarkable biodiversity hotspot. As well, we have a report on a bee identification book that includes some concise bee-garden advice.

Of course, winter conditions will persist for a while; there will be snow storms that'll make us feel like we're back in the middle of winter. In that case, check the winter tracking article to see animals that have been active after the snowfall. Be sure to see Victoria Reimer's snowshoe hare article and submit your hare pictures to her, or on iNaturalist.

And as always, please send in photos you would like to share in the newsletter along with any articles or book reviews you wish to write. You can also send your thoughts on what you'd like to see included in the newsletter. If you come across a news article on-line that you think others would like to read, please send a link to those as well. We anticipate your photos, articles, and feedback.

Happy Anticipation Season.

Honeybees at cherry blossoms



A Novice's Adventure in Bee-Keeping

By Charlie Hendry

Our Zoom guest speaker, Charlie Hendry, has sent us more information on bees to answer questions people were asking after his beekeeping talk.

Honeybees have been part of human history since the appearance of the earliest humans. Today, honeybees play a significant role in the pollination of Canada's fruits and vegetables and are responsible for much of the fresh food Canadians eat. Maintaining colony health is the #1 challenge today in beekeeping. Habitat loss, pesticides as well as pests, diseases and other pathogens are taking their toll on honeybees.

Did you know that bees are considered livestock and beekeeping in Ontario is regulated under legislation, the Ontario Bees Act. Its main purpose is to protect the health of honeybees, particularly from pests and diseases. Beekeeping is a challenging yet very rewarding experience for the hobbyist and business operators. Beekeepers welcome the opportunity to share their experiences and knowledge with others, such as those who may be interested in learning more about beekeeping, but not necessarily keeping bees. For those wanting to learn more about beekeeping, the [Ontario Beekeeper's Association](#) has a wealth of informative materials. The University of [Guelph's Honeybee Research Centre](#) provides instructional videos for first-time and experienced beekeepers.



Bearding on a hive. Photo from C. Hendry

1. What is involved in setting up a beehive?

Not much really! It's a pretty straight-forward process. A firm, level base is needed that is airy and raised, will not hold water and will dry out in good time when it does get wet. The bees hive boxes are lightweight pine and given the modular design, easily stackable. However, the brood boxes can get heavy once full of honey and pollen, e.g., 50-80lbs! The ideal location would offer late afternoon shade, e.g., along a tree line on dry ground. In North Bay, shade may be less of an issue given the shorter growing season; full sun for most of the day would be okay. The hives should face southeast to capture the morning sun. Having water nearby is a definite bonus. Once the hive is set up, it is ready to receive its nuc (starter colony). This is usually done in early-mid June.

2. What are the maintenance requirements to keep the beehive going?

Maintaining a colony is always going to be a priority in every season of the year. Colony health will require regular monitoring for diseases and pests. I addressed much of your question in my presentation. I would direct you to the University of [Guelph Honeybee Research Centre's collection of videos](#) for additional information. The videos are short and informative. .

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3. Do you have to harvest the honey, and if you do or do not are you risking the hive?

The greatest risk to harming a hive is when the brood boxes are exposed for inspection and searching for the queen. The risk is when frames are being removed; the queen can get accidentally injured or killed... remember bee space! If there is 100+lbs of total weight (minimum) with the two brood boxes, that should be enough food to get the bees through the winter. The only honey you should be harvesting is what the bees put in the honey super.

The queen is not in that box because the queen excluder keeps her out, so she should be safe when removing the super and/or super frames. Now there will be a load of bees in the super, but I use a bee escape to get them out of there; it avoids having an angry hive of bees reluctant to part with the honey! If you do not want to harvest the honey, do not use a super. However, as the colony grows the demand for space increases and a mature colony with no space to grow could swarm. This is not an issue if you do not mind missing a month of honey production; the workers will typically produce a new queen. You can always add a third brood box to give a mature colony more space. Even if you do not want the honey, you would still need to manage for colony health.



Bee swarm. Photo from C. Hendry

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4. If you set up a hive in an area where there are already bees do, they challenge each other, and can this cause one of the hives to fail?

I ask these questions because I am interested in setting up a beehive on my property and I already have bees in the area. I am also wondering if this is something other members might like to be involved in. Perhaps on their properties or as a club project at appropriate locations. -- club member

The short answer is, yes that's possible but not typical. If you install a small nuc (starter colony) next to an established, stronger colony, the strong colony could start robbing food resources from the weaker hive. However, this could be avoided if done during a good honey flow period (late June – early August) because the stronger colony foragers would be out collecting pollen and nectar from the area and ignoring the younger colony because there is plenty of food.

I question whether wild bee colonies would survive North Bay area winters. They do survive around here in southeastern Ontario, but it would definitely be more of a challenge for wild bees in the North Bay area. There may be the odd situation where a wild colony will setup home in the walls of a heated house or other structure that offers temperatures above ambient in the winter. If you wanted to give it a try, I suggest that at a minimum, the wild beehive would need to be supported or relocated to warmer location for the winter months. As well, there would need to be sufficient food resources in it to keep the bees alive for 8 months vs about 7 months here. You would be advised to look into whether a wild honeybee colony could survive winters without human intervention.



Open bee hive. Photo from C. Hendry

I posed the question of unmanaged honeybee hives to the beekeeping community (Beekeepers of eastern Ontario and western Quebec). Most thought while the notion was well-intentioned, the actual success of doing so would be low due to the need for pest/disease management. i.e., human intervention would be required. Others expressed concern that an unmanaged hive could potentially harbor disease and pests that could be transferred to other adjacent managed colonies. Many suggested that keeping a bee-friendly garden as well as having hives/homes/habitat for other wild bee species, e.g., carpenter, bumblebees and even mason bees, would be more beneficial and successful for the local bee (not honeybee) community. I've copied what I thought was an informative Facebook response to my question:

"According to long time honeybee researcher Tom Seeley ([The Lives of Bees: The Untold Story of the Honey Bee in the Wild](#)) who studied bees in northern NY state, wild honeybee swarms have a 23% overwintering success rate in their first winter - but those that survive their 1st winter have an 80% overwintering success rate the following years. So, honeybees do manage to maintain long term colonies in the wild in our neck of the woods. But I agree, keeping a colony of honeybees under the misguided impression that you are "helping the bees" is misguided. While native bees might need some help, honeybees need as much help as do chickens. Fascinating book by the way: "

If you have access to Facebook, I would suggest you look at beekeepers responses to my post on this topic.

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An option to consider is having a honeybee hive/colony established in the location you want but have a local beekeeper manage it. The beekeeper would be responsible for care and management. I do this for a local resident who wants the honeybees for pollinating his vegetable garden, but does not want to manage the hives himself. The payback for the beekeeper could be the harvested honey or other things in exchange. In my case, I benefit from getting the use of his honey extractor. Give it some thought.



Pollen sacs on bee legs -- C. Hendry

Previous Zoom Talks

Introduction to Coral Reef Conservation - Chad Scott, March 9, 2021

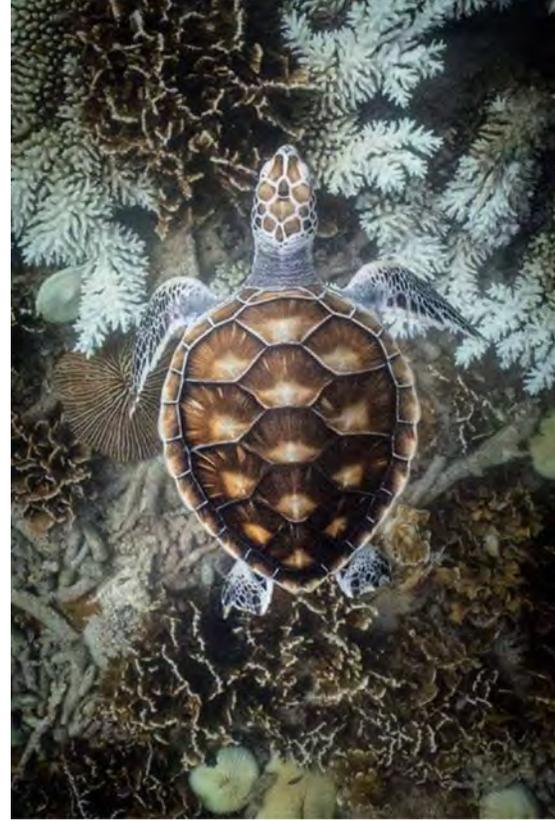
Chad Scott is an American Marine Ecologist and Conservationist. Although a native to the Rocky Mountains, he fell in love with the coral reef while doing an undergraduate thesis at university. From there, he started the New Heaven Reef Conservation Program in 2007. Although that first year he had only 2 students, 10 years later it grew to have 5 staff members and accepted hundreds of students each year. Last year that program was evaluated as one of the most successful long-term coral restoration programs in the world.

From there, Chad went on to found the non-profit, Conservation Diver, in 2014. Conservation Diver is a global training and educational organization that seeks to facilitate others in starting up their own marine resource management program, providing the educational materials, accreditation, funding, and mentorships. As such, he makes it a priority to spend much of his time sharing knowledge and empowering younger generations to find or create for themselves a career involving marine science, protection, and restoration.



Photos by Chad Scott

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Photos by Chad Scott

Conservation is a mixture of scientific research, protection, and restoration. It is how we take scientific observations and turn them into positive actions. Now more than ever, we need people going into the field of coral conservation, as reefs are the world's most threatened ecosystem due to climate change.

But it is not just marine biologists that are needed, it is people from all backgrounds, all skills, and all perspectives. If you have a skill you are great at, then there is probably a way to use that skill to contribute to the protection and conservation of our oceans.

- <https://conservationdiver.com/>
- <https://newheavenreefconservation.org/>
- <https://www.linkedin.com/in/chad-scott-09b0b245/>

Species at Risk in the Great Lakes -- Michelle Olsen, February 16, 2021

Great Lakes Program Outreach Technician

On Tuesday, February 16, 2021 I was pleased to give a virtual talk to the Nipissing Naturalists Club. I spoke as a representative of the Toronto Zoo's Great Lakes Program, on the topic of the Great Lakes. The Great Lakes Program is a FREE conservation education program available to teachers across Ontario, promoting an understanding and appreciation of conservation in the Great Lakes region.



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My presentation centered on the Lakes as an important source of freshwater, food and recreational activities, and as a unique ecosystem supporting a diverse array of plant and animal life. I highlighted a number of the aquatic species at risk in the Great Lakes, including the lake sturgeon, the redbreast sunfish, the American eel and the Atlantic salmon. I further discussed the unique conservation challenges at play in this region – habitat loss, manmade barriers, pollution and invasive species – and our role as individuals in protecting this vulnerable ecosystem.

Thank you to the Nipissing Naturalists Club for hosting the [GLP](#).

Biodiversity in the Great Lakes

Insects



Fishes



Crayfishes



Reptiles



Plants



Amphibians



Birds



Mammals



Mussels



Fungi



Upcoming Zoom Talks

Talk Description:

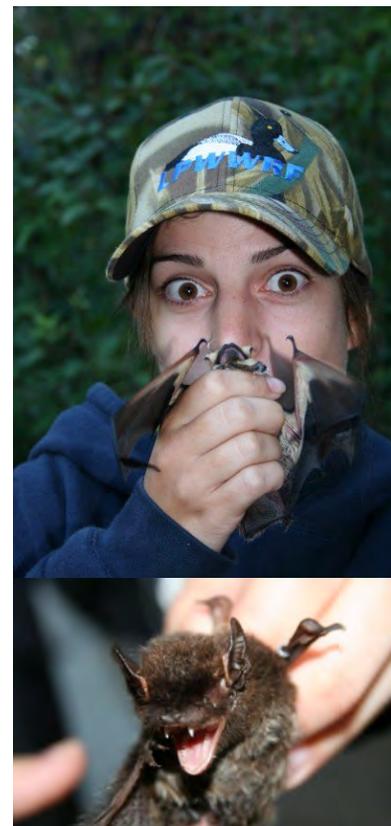
Bats, man!

The faint sound of bats in flight on a summer evening seems to be getting quieter. Bats are a crucial part of our local and global ecosystems, but most of us know very little (true facts) about them. Before that sound gets any quieter, join us for a look at the evolutionary history of bats, which species live among us here in Ontario, and how we can coexist a bit more harmoniously.

Presenter Bio:

Megan Bonenfant, a member and board member of Friends of Misery Bay, is a biologist with over a decade of experience working in provincial and municipal government. She has at various times in her career been paid to stay up all night hanging out with bats, track Blanding's turtles through neck-deep wetlands, paint Massasauga rattlesnakes' rattles, and wrangle an inconceivable amount of paperwork. An incurable nerd, Megan is passionate about evidence-based decision making in local government, good food, good books, natural heritage, and sustainable living in the modern era.

Megan admits to being an incurable nerd, and is simply batty about bats. Following along on a very recent presentation on bats, Megan is adding to our knowledge and interest on bats by doing another presentation on: Bats, man!



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Victoria Reimer gave a Zoom talk in February on snowshoe hares, and has written an article on her work for our newsletter.



Looking for Snowshoe Hares Throughout Ontario

Snowshoe hares are a common sight in boreal forests across much of Canada. They may not always be easy to spot because they blend in so well with their surroundings—their white coats camouflage with the snow in the winter, and their brown coats help them hide among the forest in summertime. When you do spot one, though, there's something quite charming about these little creatures and how perfectly they're suited to their environment.

Snowshoe hares are important herbivores in their habitats. They eat grass, leaves, and flowering plants when they are available in the summer, and mainly munch on twigs and other woody plant material when food is scarce. Breeding occurs in the summer, with female hares giving birth up to 4 litters each summer, with anywhere from 1 to 13 young hares—called leverets—in each litter. Snowshoe hares begin breeding in the summer after the one they were born in. Snowshoe hares only live for one year on average in the wild, so it is important for these animals to produce as many offspring as they can early on in life.

Snowshoe hares are preyed upon heavily by a variety of predators in their habitat. Some of these predators are specialized to hunt snowshoe hare, and rely on the hares almost exclusively as a food source. One specialized predator of snowshoe hares is the lynx.

There is a 10-year cycle in snowshoe hare populations, during which time population numbers increase, decrease, and stay low for a few years before increasing again. Because of their close association with snowshoe hares, lynx populations have a pattern of increases and decreases that match the pattern seen in snowshoe hare populations. There is a lag of a few years between changes in the snowshoe hare cycle and the matching change in the lynx cycle. Predation by lynxes helps cause this pattern directly, by killing members of the population, and indirectly, by causing stress to snowshoe hares.

During the declining stage of the snowshoe hare cycle, the stress caused by predation produces hormones that impede brain development of snowshoe hares and reduce the number of young they can produce. Through a phenomenon called the maternal effect, these hormones from a stressed female can be passed along to its offspring, who can also pass the hormones to their offspring. Due to the maternal effect, it takes several years for snowshoe hare populations to increase in size once they hit their low phase, even while populations of lynxes are low.

The 10-year cycle is synced up quite closely in snowshoe hare populations across North America, with around a year's difference between locations on one side of the continent and the other. Populations are currently in a declining stage of the cycle, near a population low.

Distinguishing snowshoe hares from other species can be difficult. In the winter, this is easier to do because snowshoe hares are white, and they develop thick pads on their large hind feet—these feet are

Thunder Bay, Snowshoe Hare - V. Reimer

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where the “snowshoe” part of their name comes from.

In the fall and spring, when the hares are transitioning from one colour to the other, they can be identified by their coat that has patches of white alongside patches of brown. In the summer, when their fur is brown, things get trickier. To tell them apart from eastern cottontail rabbits—the rabbits you are most likely to encounter in Ontario—you can look at the legs and ears. Snowshoe hares have longer front legs and longer ears. They are also overall slightly larger on average.

Have you seen any snowshoe hares recently? Did you get photos of the sighting? If so, I would love to see them! I am working on a project where I am

gathering snowshoe hare sightings on the citizen science platform iNaturalist, and using them to answer questions about the southern range of snowshoe hares, the timing of the coat-colour change, and the relationship between their coat-colour change and snowfall. There are concerns that warmer winters with later snowfall might cause a mismatch between the colour of snowshoe hares’ fur and their environment, which would make them much easier for predators to spot. Hopefully, my project will uncover more information about the situation facing snowshoe hares in Ontario.

To participate in my project, you can submit your photos of snowshoe hares to my iNaturalist project called “Ontario snowshoe hares”, either by searching for the project on the iNaturalist app, or by visiting <https://www.inaturalist.org/projects/ontario-snowshoe-hares>. You must have an iNaturalist account to contribute photos, but if you do not have one, it is easy to sign up. If you have questions about my project or about snowshoe hares in general, you can check [my website](#) or email me at victoriareimer@trentu.ca, and I will do my best to help you!



New Bee for Canada

The total number of bee species in Canada is now 927, thanks to University of Guelph grad student, Janean Sharkey. In 2018, she had collected 2,000 bees from her traps in Ojibway Prairie Provincial Nature Reserve (see the newsletter article on this biodiversity hotspot). In her collection were six bees she didn't recognize from within Canada. When she compared them to species known in North America, she discovered they were hibiscus bees (formally known as *Ptilothrix bombiformis*).



Janean Sharkey by J. Sharkey



After having her identification confirmed by Dr. Steve Paiero, curator of the [University of Guelph's insect collection](#), Sharkey published her scientific paper in the [Journal of the Entomological Society of Ontario](#) (journal article, scroll down to bottom, and click on pdf).

We usually envision bees in hives, or maybe hiding within tightly spaced sticks. Not so the hibiscus bee. It is a ground-nesting bee sometimes known as the chimney bee because it builds distinctive turrets at the opening to the nest. The nests are built in compacted soils such as roadsides and berms. The problem is that these soils are typically quite dry so it isn't possible to build a turret out of the soil. The bee, however, has a unique method to overcome this problem.

It can land on the water. Much like a water strider, the bee uses the surface tension of the water to keep itself dry while it collects water to carry back to land.

Once it has collected enough water it flies off to the potential nest site and uses the water to soften the soil so it can then form the necessary turret or chimney.

FIGURE 1. (A) Map of study area and collection locations of *Ptilothrix bombiformis* in Ojibway Prairie Provincial Nature Reserve, Windsor, Ontario, Canada. Landscape photos of trapping locations of specimen records from (B) naturalized area (north-east corner); (C) restored area (south-west corner).



A Ptilothrix nest. The small balls of mud surrounding the turret are distinctive among bee nests. As they excavate their nests, Ptilothrix will roll up the dirt and mud that they carry out. Photo by Thom Wilson



Hibiscus bee. Photo by Matthew O'Donnell, iNaturalist



Hibiscus bee nest. Photo by Melissa Simpson

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This is why the bee nests are usually found close to permanent standing water.

But why would a bee go through the trouble to build a turret in the first place? Why not just dig a hole like many other bees? There may be several reasons why a bee would build a chimney or turret.

One reason is that chimneys may make it harder for a parasitic fly to shoot an egg all the way down the tunnel; if the egg lands next to a larval bee, the egg hatches and the parasite crawls onto the bee and feeds off it. If the egg does not reach the larval bee, then the fly larva will likely die from starvation. As well, the chimneys allow the bee to warm up in the mornings before first flight. Bees have been observed sitting in their chimneys in the sun and will take flight before bees of the same species who don't build chimneys. This allows it to get to food sources before other bees.



Hibiscus bee on water. Photo by Lillie, iNaturalist



Hibiscus bee Photo by Eric Eaton, iNaturalist

The food sources it does use are pollen. In particular, this bee specializes on pollen from flowers with deep corollas (the collective term for petals of a flower) such as Hibiscus species. The only native Hibiscus species in Canada is the swamp rose-mallow, which is a Species of Special Concern under the Species at Risk Act. It is usually found in remnant wetlands of Southern Ontario, and, not surprisingly, has been recorded from Ojibway Prairie Complex and area.

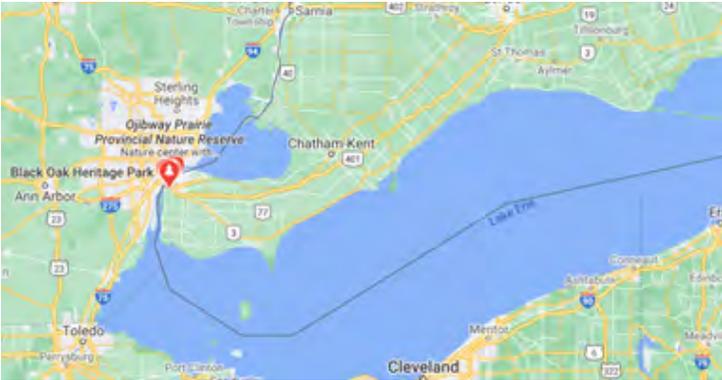
Other potential plants the bee may use include non-native Hibiscus species that naturalized in the wild, as well as horticultural species. The bees may also forage on morning glory species, both native (a critically endangered plant in Canada), and non-native species; and it has been observed visiting other flowers including thistle, ironweed, buttonbush, and vervain, all of which are found in Ojibway.

Previous surveys—including one conducted by former North Bay MNRF biologist and club member, Alyssa Sugar—have not detected the species in the oak savannah and tallgrass communities in Ontario, so it seems Sharkey's find represents a recent range expansion for the bee.

At the moment, it isn't known how much further into Canada the bee has spread. Sharkey and her co-authors recommend further investigations into nearby areas of suitable habitat around Lake St. Clair and the northern shore of Lake Erie, from Windsor to Fort Erie.

Once we can travel again, this sounds like a good opportunity for some community or citizen science. We could do a field trip to investigate potential range expansions (see *Identifying Hibiscus Bees Using Cameras and Binoculars* in this newsletter), visit rare ecosystems, photograph endangered plants, and see some different birds. Even if we don't spot Canada's newest bee species at least we'll come back with good photographs, and perhaps some new birds for the checklists.

Ojibway Prairie Provincial Nature Reserve: A Biodiversity Hotspot



Location of the reserve. Google Maps

In 1988, environmentalist Norman Myers proposed the idea of “biodiversity hotspots” where a place could be designated a hotspot if it had a large number of unique plants and the habitat was in danger of being lost through deforestation, agriculture and development: in 2000, a hotspot was defined as having 1,500 endemic plant species in an area where at least 70% of the original vegetation had been lost.

By 2010, there were about 35 hotspots, but because of the criteria that these spots should have at least 1,500 endemic plant species, all hotspots fell within tropical regions. This does a disservice to many other vital

ecosystems outside the tropics. Therefore, scientists listed non-tropical sites they felt should be included as biodiversity hotspots.

These included regions such as Africa’s Serengeti that had low plant diversity, but was a crucial ecosystem for so many iconic African mammals and birds, and their annual migrations. Canada was also included in these temperate zone hotspots with at least 10 geographically large hotspot designations (nicknamed “coldspots”). These regions were also places with major wildlife migrations such as the caribou migration, which covers thousands of kilometers every year; or the headwaters of major salmon rivers where wildlife gather in large numbers to feast on the salmon as they make their way upstream to spawn.

People also started listing smaller regions they felt deserved the biodiversity hotspot title. These would be sites that have a high level of rare species within small remnant habitats, such as Ojibway Prairie Provincial Nature Reserve.



Aerial photo of park area. Photo retrieved from ojibway.ca/complex.htm

Established in 1977, Ojibway is a “65-hectare provincial park and one of the largest remnants of oak savannah in Canada. The nature reserve is one part of the 350-hectare Ojibway Prairie Complex and, along with municipally operated Ojibway Park, Tallgrass Prairie Heritage Park, Spring Garden Natural Area, and Black Oak Heritage Park, is designated as an Area of Natural and Scientific Interest and a Carolinian Canada site of importance. The complex is a biodiversity hotspot where many rare plants and insects occur” (Sharkey et al. 2020).

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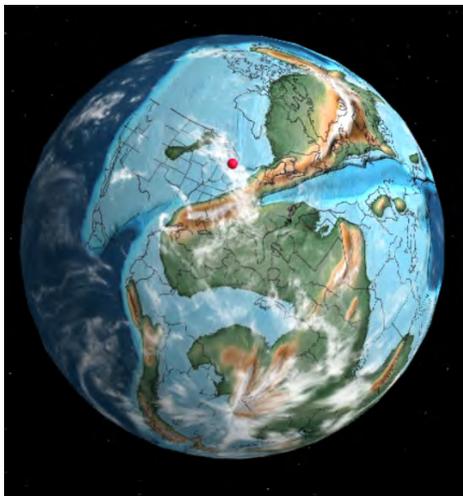
Ojibway doesn't have the official hotspot designation yet, but it needs to be a priority for conservation. It has "a suite of other species of insects and larger animals and plants that are endangered and can only be found in these communities", said Sharkey. There is only about 3% of the original tallgrass prairie left in southern Ontario and some of it can be found in Ojibway, still in relatively pristine condition. Here, the tallgrass growth can be two meters high.

The area contains more than 533 flowering plants, 60 of them prairie and western-affinity species, and with some 18% of the plants considered to be rare in Ontario. Some of the wildlife is also rare for the area which includes Butler's gartersnake, eastern foxsnake, Massasauga rattlesnake, Bobwhite and Yellow-breasted Chat.

Prairie plants grow well here because the land is a flat sandy plain about 7 to 9 meters above the Detroit River. The surface sands are about a meter deep and were deposited during a short-lived post-glacial lake. Beneath that is a thick layer of clay till and a thin layer of sandy till deposited during the Wisconsin glaciation period (75,000-11,000 years ago).

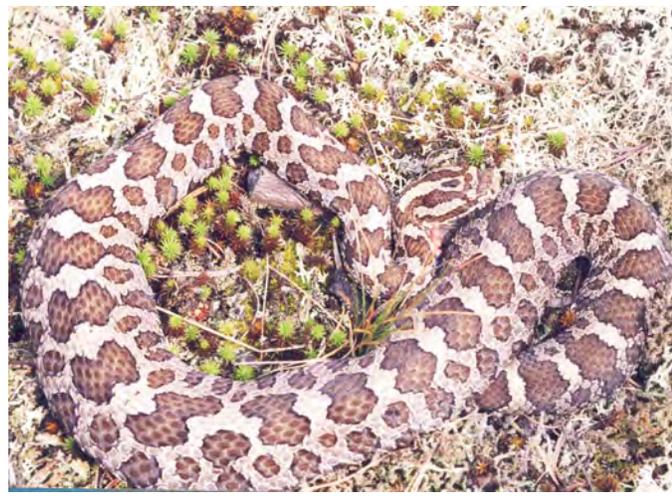
Thirty meters below that is limestone bedrock, the Dundee Formation, laid down in the middle Devonian period (the age of fish) about 386-390 million years ago when vast areas were under a shallow sea, and when fish were first crawling onto land and developing lungs. If you wondered what the Dundee Formation looks like, you can find the light-brown outcrops near Essex County, Port Dover, and St. Mary's where it is quarried for crushed stone and for cement.

The Earth was quite different in the middle Devonian. Over a century of scientific detective work tell us CO2 levels were about 5x what they are today, the Earth's average global temperature was about 6° C higher, and there were no ice caps. At that time, the supercontinent of Pangea was still 100 million years from forming, and Ojibway would have been a literal hotspot situated near the equator.



Next time you're in the area admiring the species—and looking for bees—imagine the shifting continents, shallow seas, shifting glaciers, and glacial lake that all helped develop the landscape that led to this area becoming first a literal hotspot, and then a biodiversity hotspot.

Red dot indicates Windsor, Ontario. Globe picture is a screenshot from [Ian Windsor's excellent interactive website](#) showing what the Earth looked like 375 million years ago. In the website type in the name of a city, and then jump through time to see where that city was located at any point in Earth's first 750 million years. Windsor would have been under a shallow sea and the accumulating sediments would eventually become the Dundee Formation.



Massasauga Rattlesnakes. Photos by K. Cowcill

Identifying Hibiscus Bees with Binoculars and Camera

Once you've made your way to southern Ontario and the Ojibway region, how do you go about identifying hibiscus bees? The best ways to identify them are using wing venation and the lack of a circular footpad between the toes, according to Sharkey. Unless you have a magnifying glass and a sedated or dead bee in your hands, you're not going to get a good look at wings or toes—holding a live angry bee isn't recommended either. I asked Janean if she had any tips on how to identify live bees using just binoculars or a camera with a good zoom lens.

Good news is that, yes, you can identify them based on sight and on photographs; indeed, iNaturalist has a number of Hibiscus bee identifications based on photos.

First, check the size. In size, the Hibiscus bee is about the same size as a small bumblebee. Next, check the colour pattern: the head and thorax may appear yellow to light brown at times, and it has a dark to black abdomen. The hairs are short fuzzy yellow hairs, and may even look downy.

If you can, focus on the hind leg hairs, which will be long and black. There is another species that looks similar to a hibiscus bee, but it has hind leg hairs that are yellow. The hibiscus bee's head itself is round, and if you get a good head-on view, you will see the top of the head is convex—that is, rounded on top rather than flattened or only slightly curved.

Take as many photos as you can from several different angles. The more detail the better, of course, but even generic photos may help you identify the bee. Best of all, we don't need to go down to Windsor to practice photographing and identifying bees. We can start practicing here when spring arrives. We can develop a good eye for detail and learn what to look for in a bee, similar to how a good birder can identify a bird with just a glance because they know what salient features to use for identification. We may even record a bee that hasn't been seen here before.

Learning bees, though, is harder than learning birds. However, a good place to start learning is the book, **The Bees in your Backyard**, which is the next article.



Top Photo by Matthew Beziat, iNaturalist
Middle Photo by Sam Kieschnick, iNaturalist
Left Photo by Janean Sharkey

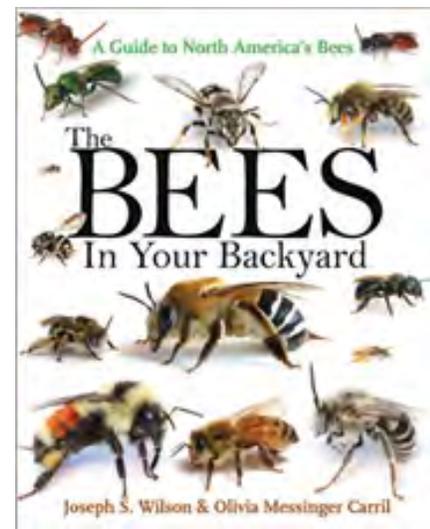
Bees in your Backyard

The book, **The Bees in your Backyard**, tell us there are about four times more species of bees than birds north of the Mexico-US border. That's more than 4,000 species of bees, six times more kinds of bees than butterflies, and about 10 times as many bee species as mammal species.

Worldwide, there are over 20,000 species identified, and like the lichens (Feb. 2021 newsletter) there are more species being discovered on a regular basis. Yet most of us would be hard-pressed to name more than half-a-dozen bee species. We'd get bumblebee, honeybee, carpenter bee, solitary bee, sweat bee, mason bee, but then start slowing down after that.

Bees come in a variety of sizes (right picture, middle), and many bees don't look like the type of bees we envision; they can be difficult to tell apart from some wasps and some flies (right picture, bottom). The charts below can help you distinguish bees from wasps and flies.

Do not rely on just one characteristic though. For example, bees are usually thick-bodied, but some bee species are thin-bodied. Match as many characteristics as possible before determining if it is a bee, wasp, or fly. If you still aren't sure, don't feel too bad because even the experts who have been classifying and reclassifying bees and their relatives many times in the last 300 years sometimes misidentify them.



The short and the long of it

The smallest bee in the world measures only 0.08 inch and is found in South America (*Trigona minima*). The largest bee in the world lives in Malaysia (*Megachile pluto*); it is 1.5 inches long.

The largest and smallest kinds of bees found in North America, a *Peralta* (left), and a *Xylocopa* (right).

Bee vs. wasp (physical differences)		Bee vs. fly (physical differences)	
Bee	Wasp	Bee	Fly
usually thick-bodied	skinny body with narrow waist	long slender antennae	short antennae
no silver hair on face	often with silver hair on face	four wings	two wings
often very hairy	generally hairless	distinctly separated thorax and abdomen	"thick waist" where thorax connects to abdomen
pollen-collecting hair on legs or belly of females	no pollen-collecting hairs	pollen-collecting hair on legs or belly	no pollen-collecting hairs
stout legs with relatively few spines	long thin legs with spines	eyes on sides of head	eyes large, often forward facing, sometimes touching on top of head

To learn bee identification there is a scientific paper on the [bee genera of eastern Canada](#). It has keys, lots of pictures, but is a dense read. Then there is the **Bumblees of Algonquin Park**, but it is mainly limited to the bumblebees. A more inclusive, and more friendly read, is the previously mentioned [The Bees in Your Backyard](#) by Joseph Wilson and Olivia Carril. The first six pages of the 288 page book is available on-line for free, with the full-book being sold in both hard and electronic copy from numerous booksellers.



All images and charts from The Bees in your Backyard

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It's written in accessible language for the novice without dumbing down the information. It's more than identification. It outlines life cycles, eating and pollination habits, bee anatomy, bee predators, and various bee nests you can make. There's also find a list of bee-friendly plants listed by colour and by region along with blooming time. We're listed as Region 5.

Region 5 (Northeast)

Flower color	Scientific name	Common name	Family	Habit
APRIL				
○	<i>Salix</i>	Willow	Salicaceae (<i>Willows</i>)	S/T
○	<i>Amelanchier</i>	Serviceberry	Rosaceae (<i>Roses</i>)	S
MAY				
●	<i>Hydrophyllum</i>	Waterleaf	Boraginaceae (<i>Forget-me-nots</i>)	H
○	<i>Vaccinium</i>	Blueberry, Cranberry	Ericaceae (<i>Heathes</i>)	S
JUNE				
○	<i>Monarda</i>	Bee balm, Firecrackers	Lamiaceae (<i>Mints</i>)	H
○	<i>Lupinus</i>	Lupine	Fabaceae (<i>Peas</i>)	S
○	<i>Eupatorium</i>	Boneset	Asteraceae (<i>Sunflowers</i>)	H
○	<i>Asclepias</i>	Milkweed	Apocynaceae (<i>Dogbanes</i>)	H
○	<i>Penstemon</i>	Beardtongue	Plantaginaceae (<i>Plantains</i>)	H
JULY				
●	<i>Liatris</i>	Blazing star, Gayfeather	Asteraceae (<i>Sunflowers</i>)	H
●	<i>Solidago</i>	Goldenrod	Asteraceae (<i>Sunflowers</i>)	S
AUGUST				
○	<i>Erigeron</i>	Rebane	Asteraceae (<i>Sunflowers</i>)	H
●	<i>Helianthus</i>	Sunflower	Asteraceae (<i>Sunflowers</i>)	H
○	<i>Symphoricarichum and Aster</i>	Aster	Asteraceae (<i>Sunflowers</i>)	H

It also covers some of the bee parasites, some of whose life-cycles are notable for weirdness. You may—or may not—want to read about the twisted-wing insect life cycle, which is slightly less horrible than some of the parasitoid wasp life-cycles, but makes up for that by being more bizarre.

A big pest, discussed by Charlie Hendry in his beekeeping talk last month, is the Varroa mite. It is considered one of the biggest decimators of western honeybee populations around the world. It's probably

native to Russia; those honeybees developed a resistance to it. However, when the Russian honeybee was exported, the mite came with it and infected other honeybee species that lacked the resistance to the mite, never having encountered it before.

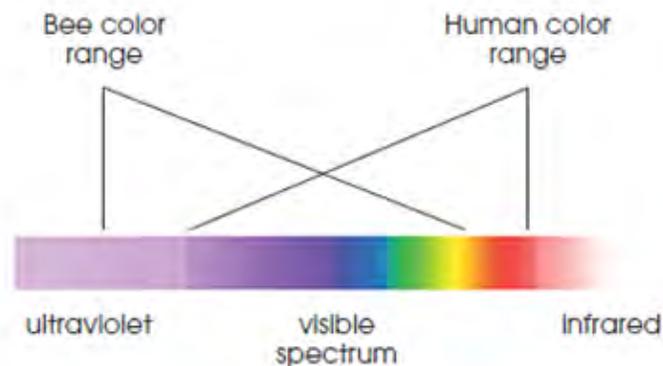
Infected bee colonies made it from Russia, to Asia, to Europe and finally to the US in the 1980s. Mites can, as Hendry told us, destroy a colony. Recently, scientists noticed that Asian honeybees were removing infected pupae to limit the spread of the mite through the colony.

This trait is being deliberately crossbred into European honeybees with some success; those crossbred honeybees are starting to remove infected larva too. This method of pest control keeps the mites at a low enough level that the colony doesn't fail for lack of healthy bees. If this behaviour proves viable in the long-term then crossbreeding may be used on the North American species to help control the mite.

BACKYARD BEES OF NORTH AMERICA



Bees are good at sensing movement as they can process the images about 15 times faster than we can. To them, fluorescent lights flicker while to most of us they give off a steady glow. A side-effect of this processing is that it makes rounded objects hard to see while sharp edges and points are more easily recognizable. That's why bee-pollinated flowers often have many pointed petals; flowers also tend to be shades of purple, yellow, or orange rather than shades of crimson or burgundy because bees don't see solid red colours easily.



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Bees do see into the ultraviolet spectrum better—many flowers that seem solid colours to our eyes appear patterned in UV light to bees; some flowers even have nectar guides ("landing strips") that guide the bee into the flower for pollination.

The book has some condensed advice to make it easier for beginners to start a bee-garden. Once beginners are familiar with a bee-garden they can add more to it based on other books that carry more detailed information.

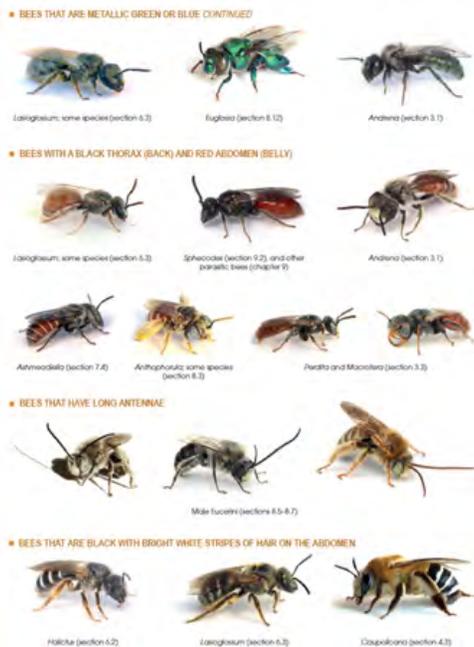


The evening primrose flower appears yellow to our eyes, but ultraviolet photography brings out the nectar guides only insects can see. Photo by Bjorn Roslett



*Marsh marigolds in visible colour and ultraviolet colour
Pictures retrieved from ultravioletphotography.com.*

Dandelion half-and-half



The book's photographs are clear, and the picture guides (see left picture) point out which features to check to narrow down the bee to a smaller group. This is a feature many bird guides use when explaining how to distinguish a falcon from a buteo.

For those who want to learn to identify bees as well as understand their lives and the challenges they face, then this book is a good start. It has enough information to keep readers coming back to reread and learn more, but it doesn't overwhelm the reader with too much detail.

If people are interested in learning about bees in general, there are several recommended non-fiction books. If anyone wishes to write a review about one of those books, we'll include that review in the newsletter. We'll also include your bee (or any other insect) pictures as well.

A Sting in the Tale by Dave Goulson. One man's quest to save the bees.

Buzz: The Nature and Necessity of Bees by Thor Hanson. His book, **Feathers**, is another good read.

The Lives of Bees: The Untold Story of the Honeybees in the Wild by Thomas D. Seeley (see Charlie Hendry's response to a question in his A Novice's Adventure in Beekeeping).

The Bee-friendly Garden: Design an Abundant, Flower-filled Yard that Nurtures Bees and Supports Biodiversity by KatieFrey, Gretchen LeBuhn, and Leslie Lindell.

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Stories in the Snow

Winter. Fewer birds. No flowering plants. No leaves on trees. No bees. Cold. No wonder many people stay more indoors, or head to warmer climates during the winter. Yet, winter offers a benefit that no other season can offer—tracks in the snow. In the snowless months, there may hardly be a sign of any wildlife in the bush. In the winter, tracks criss-cross everywhere as animals go about their business looking for food and trying not to become food. No-one needs to be an expert tracker to read the stories in snow either. Once an observer can recognize who made the tracks, the stories start to unfold.



Biologist checking lynx tracks. Note how deep the snow is yet the lynx's large feet kept it from sinking in like the biologist.

Many tracks and trails are easily recognizable by knowing the behaviour of the animals. Otters will slide their bodies along the snow, pushing with their back feet. If there are slide marks, especially around wetlands, then that's likely an otter. They seem to like sliding down hills, but their trails can be found going long distances across flat fields.

Another example are the owls. They'll dive into snow to catch the small mammals under the snow, or the ones who run across the top of the snow. In the photos below, the owl landed wings out to get a rodent, then jumped a few times to become airborne again.



Otter slide along the snow.



Owl pouncing on something that was at the base of the shrub. Based on pattern of wings and tail, the owl was a Great Horned Owl. A Great Grey Owl often dives headfirst into the snow, which displays a different pattern.



Owl taking off with a couple of jumps as legs dragged before it became airborne.

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Grouse also leave distinctive prints with wing marks. Their tracks are quickly found because they meander around the woods on foot. At night or in bad weather they often hide under the snow. Next day, their overnight nesting holes can be found when they emerge and fly off next day.

For those living further north where Sharp-tailed Grouse are, their lekking areas may be found in March. These are places where the grouse gather for mating displays. They drum their feet, flap their wings, run back and forth and can pack the snow down so firmly you can stand on top of it without snowshoes. This behavior continues into the summer where the birds will trample the moss and make runways.



Sharp-tailed Grouse Lekking area in Ontario's Far North along a winter road.

When it comes to mammals, a few guidelines help here at well. Most of the time remembering track details about number of toes, shape of toe pads aren't necessary. In the snow, tracks often don't get such detail. Most of the time it'll be the pattern of the tracks that'll either indicate what the animal is, or narrow it down to a couple of possibilities.

For example, members of the weasel family often leave a pattern of two prints when they're traveling from point A to point B. The tracks will be unevenly spaced, sometimes close together, sometimes further apart as they leap longer distances. Smaller members—the ones we think of as weasels, ermine, or stoats—usually have the feet more side by side, and if you follow their tracks, you'll find them more inclined to jump on the base of trees, or run up fallen logs and branches.

The larger members of the weasel family—the marten and the fisher—often have their tracks slightly off-set. The largest member, the wolverine (see picture next page) don't usually have the neat tracks of martens and fishers. They seem to shamble, then stop and look around, then angle off in another direction.

Keep in mind these are generalities. Fisher will sometimes amble, especially when looking for food or keeping an eye on something. The story in the fisher tracks on the next page says it was keeping an eye on us as we conducted our track surveys.



Grouse erupting out of hole where it buried itself during a snowstorm.



Grouse interactions. This may be Sharp-tailed Grouse.



A marten showing slightly off-set tracks

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Off-set tracks of a fisher



Above: Fisher tracks showing offset



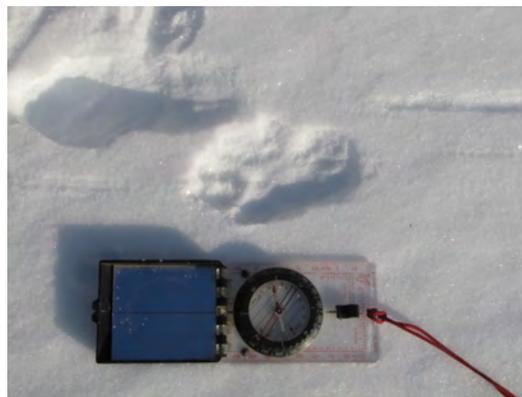
Right: Wolverine tracks shambling, and marten tracks in the upper left of picture

In the picture below (right) the light prints on the top right side are its front feet on a slight mound of snow as it watched us follow its tracks. It had circled around a clump of trees to watch us, then ran off towards the upper left (deeper prints) once we'd gone behind the clump of trees.

As we followed the tracks we saw it had circled the clump and we knew it had doubled back to look at us. We continued following the tracks and found its vantage point where it spied on us. Clever animal.



Fisher ambling (coin for scale)



Off-set tracks of a fisher in harder packed snow



Front feet (light prints) as fisher raised its upper body and head to watch us; pivoted to the left (deeper prints), and moved away.

When the snow is deep and several animals have traveled the trail, or one animal traveled it several times, it can be tricky to identify the species unless you follow it to note patterns of behaviour. These animals (right picture) came out into an open area where the sun and wind had made the snow harder; the track details showed up beautifully. It was a wolf pack. And their pads and claw marks showed in the tracks.



Left photo: Lek runways in the sphagnum moss in James Bay lowlands



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Lynx usually walk with claws retracted so a large track without claws is a lynx. They also splay their toes more than wolves. This gives them a wider surface area so they sink less into the snow (top picture). The heavy fur on their feet, which also aids to keep prevent excessive sinking, shows up in softer snow (middle picture).

In the bottom right picture the lynx walked across snow that was soft enough that even with our snowshoes we still sank to mid-calf. Without snowshoes we sank to mid-thigh to hip.

Another animal that can splay its toes to stay on the surface is the snowshoe hare (below). When the toes are splayed its name of "snowshoe is well deserved.

Learning a few basic tracks and patterns is a good way to pass time reading the stories in the snow. Is the animal looking for food, are they heading back to shelter, are they running from something or towards something? It is possible to determine their territories and comfort zones.

Then when summer comes, that knowledge makes it easier to find traces of their passage because the stories in the winter have indicated where to look for stories in the summer.



THE WOODLAND OBSERVER

Latow Photography Weekend

The Latow Photography Club sent us the following announcement regarding their seminar and workshops in April. It'll be a virtual meeting so you can attend from anywhere.

As the Latow Photography Weekend will now be on line, it may be of interest to the photographers in the Nipissing Naturalist Club.

This weekend was always held in the Burlington Cultural Center. I have been to a number of the weekends in the past. They were always fun, interesting and featured a well-known photographer.

<https://latowseminar.wpengine.com>

Dorothy de Kiewiet

Latow Photography Seminar & Workshops
Four Mornings April 10-11 and 17-18, 2021

41st Annual This Year Online! Join Us From Anywhere!

Landscape Photography and the Meaning of Life
featuring **Kas Stone**
www.kasstone.ca

Seminar

- Saturday April 10 from 9am - 12:15pm**
 - Inspiration, motivation & meaning:** Why am I making this photograph?
 - Craftsmanship & creativity:** How do I make this photograph?
- Sunday April 11 from 9am - 12:15pm**
 - Ethical & environmental concerns:** How *should* I make this photograph?
 - Personal projects:** What can I *do* with this photograph?

Workshops

- Saturday April 17 from 9am - noon**
How to craft a landscape photograph
Mindful camera and digital darkroom techniques
- Sunday April 18 from 9am - noon**
How to look at images
The technical, emotional and storytelling power of images

Participants receive PDF summary notes, two-week video access for every session, and the chance to win an hour of one-on-one photo help from Kas.

LATOW INTERNATIONAL ANNUAL FESTIVAL 2021
A CELEBRATION OF PHOTOGRAPHY

latowseminar.com

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Banff Mountain Film Festival

Lefebvre's Source for Adventure Presents the Banff Centre Mountain Film Festival in the comfort of your home. Click to view: <https://filmfest.banffcentre.ca/?campaign=WT-166249>
Proceeds go to Nipissing Naturalists and The Canadian Ecology Centre.

A reminder of some Virtual Viewing basics:

- Individual programs: \$15 USD (3-day rental period)
- Bundle (2 programs): \$28 USD (14-day rental period)
- The rental period begins immediately upon viewing (as soon as the customer presses play).
- Films can be re-watched within their rental period.
- On the website, customers will need to have an internet or Wi-Fi connection to view the films, and they are available only through online streaming (not download).

Winter Photo Contest

Just a reminder the Nipissing Naturalists Club is currently running a photo contest and will be accepting entries from members until April 30, 2021.

Voting, using an emailed Google Form, will be open during the first week of May. The winners will be announced at the May meeting and the winning photos will be published in the May 2021 Woodland Observer.

You may submit one photo per category for each member, including each member of family memberships. Please identify who took the photo and in which category to enter the photo. There is no age limit. If you take a better photo later, submit that to replace your original entry. You may send substitutions as often as you like.

Send your entries to nipnatsphotos@gmail.com

Here are the categories:

- **Wildlife**
- **Scenery**
- **People Enjoying Nature**
- **Photographers Nature Choice**

We cannot wait to see your photos!

Check out the winners from our last photo contest in the October newsletter:

[2020 Spring Photo Contest Winners](#)

Keith Pearson - Director





Speaker Coordinator

Fred Pinto fredpinto1@gmail.com 705-476-9006

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Membership Renewal Notice

If you have not already paid your 2021 Nipissing Naturalists Club membership fee, it is time to renew your membership in this great club dedicated to nature and its enjoyment.

- **One Year Single membership \$ 20**
- **One Year Family membership \$ 30**

Renewal for **Bird Wing** can also be included with your **Nipissing Naturalists Club** renewal. One Year Single **Bird Wing** \$ 5

An e-mail transfer can be sent to sturge@sympatico.ca or a cheque can be sent to our Club Treasurer, Connie Sturge, at 537 Hwy 534, Powassan POH 1Z0.

If you send a cheque, please make the cheque payable to “**Nipissing Naturalists Club Inc.**”.

If you are also paying for Bird Wing by cheque, please send a **separate cheque** for that payable to “**Bird Wing**”.

Keith Pearson, Membership Director

Contributors this issue: Fred Pinto, Victoria Reimer, Renee Levesque, Keith Pearson, Grant McKercher

Bird Wing

Dick Tafel, Chairman: rtafel@sympatico.ca. 705-472-7907

Gary Sturge, Treasurer

Renee Levesque, Bird Wing Scribe

Monthly Bird Wing and Bird Bash reports are sent to members by email and posted on Nipissing Naturalists Club’s website: <https://www.nipnats.com/bird-wing/bird-wing-meetings-outings/>, and <https://www.nipnats.com/bird-wing/bird-bash-reports/>.

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<https://www.nipnats.com/newsletters/>.



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