President's Message

The results of the recent provincial election may be disheartening for the future of our environment. The previous term of government was not kind to nature and it is not likely to get better unless policies change soon and dramatically. For example the protections that were in place for species at risk need to be reinstated and expanded.

On a more positive note, the federal government has finally implemented a timetable for banning some of the single use plastics including straws, shopping bags, fast-food containers, cutlery, stir sticks and ring carriers. This will come into effect in December of this year. By 2025 Canadian companies will no longer be able to export these items either. As we think about the vast amount of plastic in the oceans and seen how much plastic litter is present in our local environment, we can appreciate that this new initiative is a step in the right direction.

When one listens to the news or travels around, it is easy to get down about the ever-changing state of our environment. It is good to know that some positive things are also happening.

James Kamstra – President, North Durham Nature

Upcoming Events – September & October 2022

As we emerge from Covid and start to develop our in-person programs and events, we are learning much about each other and safety. Our programs will be forthcoming, but some vagaries surround their implementation. For example, we have three walks scheduled for this fall, but final dates need to be confirmed. So please bear with us and check the website for updated details. Likewise our speaker's roster is under development. Do you have an idea for a speaker or subject you'd like to explore? Do you want to give a talk to the club? Let us know as we are always looking for opportunities to help us all learn.

Talks:	Peter Raspberry will present on his Nature Photography Panorama on September 27 and Emily Conger will talk about a trip from Algonquin to Adirondacks on Oct. 25
Walks:	Nature by Canoe on the Nonquon - Sept 17 or 18 – Jay Thibert Life in the wetlands – September date TBD - Cara Gregory Mushroom hike planned for Oct 2 – Lynda Kamstra

Canadian ornithologists call on the federal government for a National Bird

Hancock House Publishers, Ltd. Press Release – June 9, 2022

On June 9, 2022, a copy of a promotional book entitled "*The Canada Jay as Canada's National Bird?*" has been given to each and every one of Canada's 338 federal Members of Parliament, including The Honourable Pablo Rodriguez, Minister of Canadian Heritage and Multiculturalism, and The Honourable Steven Guilbeault, Minister of Environment and Climate Change Canada. The prime message in this classy-looking colourful book is to encourage the federal government to take steps to adopt a National Bird for Canada, and hopefully to take it a step further --- to make that bird the Canada Jay!

Canada Jay photo by Geoff Carpentier

Why does Canada even need a National Bird, you may well ask? Wikipedia's List of National Birds indicates that 106 of the world's 195 countries have official birds. For example, the U.S. takes a lot of national pride in their National Bird -- the Bald Eagle. But Canada is not on the list -- we do not have one! Yet our country does have other national symbols – the beaver, the maple tree, two sports and even a National Horse! But alas --- no official bird.

One in five Canadians spends on average a third of their year watching, feeding, and/or photographing birds, representing big bucks for our economy! Birds also eat pests, pollinate our plants and crops, and disperse seeds; their eggs and meat (yes, chickens are birds!) feed us and their feathers keep us warm. Birds save human lives by globally warning us of environmental health hazards such as carcinogenic pesticides and industrial by-products. As for their intrinsic value, how many great

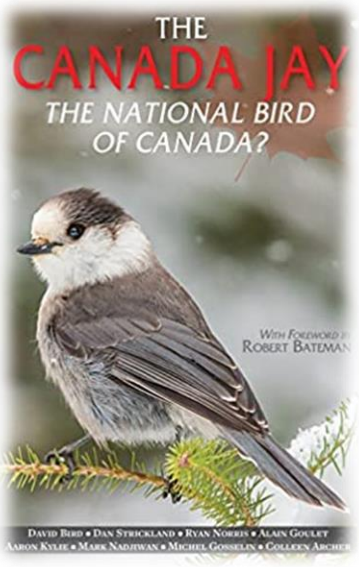
writers, artists, film makers and even aviators and astronauts have been inspired by the beauty, the song and the flight of these amazing unique creatures?

For a National Bird for Canada one could not find a more Canadian bird than the aptly named Canada Jay! This very smart corvid breeds in every province and territory and its range almost mirrors our country's borders. It is extremely tolerant of us, often landing on an outstretched palm and it is amazingly hardy - often incubating eggs at -20 degrees C. Its French name is *le mésangeai du Canada* and its popular name whiskyjack [note: spelling is correct] is derived from one of the largest indigenous language groups in Canada. Canada Jays have played a prominent role in both Indigenous culture and our country's history. Importantly, unlike the Common Loon (Ontario) and the Snowy Owl (Quebec), Canada Jays are not the bird of any province!

Editor's Note: One of the authors of the book is my lifelong friend and colleague, Dr. David Bird. He sent me this message to share with you. "Please do all you can to get Canadians to visit the website www.canadajay.org or the www.change.org site and sign the petition. We are flirting with 15,000 signees at the moment, but we need to get this to at least 100,000 before it gets the federal government's attention. That advice was straight from the lips of The Right Honourable Governor-General David Johnston's to me [David] on the phone".

So what's the hubbub? Is this a good book? We already know the idea is great and what better candidate than the Canada Jay to represent us.

The Canada Jay. The National Bird of Canada? By David Bird, Dan Strickland, Ryan Norris, Alain Goulet, Arron Kylie, Mark Nadjiwan, Michel Gosselin and Colleen Archer. 2022. Hancock House Publishers, Ltd. 80 pages softcover. $9.95 CDN with all profits going to non-profit conservation organizations.



The book is authored by an elite and in-touch group of ornithologists and writers who are most qualified to write about this iconic bird. With a forward by Robert Bateman and a Dedication by John and Janet Foster this is assuredly a must read if you want to know why the Canada Jay should be our National Bird. Anyone who has studied Canada Jays knows that Dan Strickland has studied them his entire life and knows more about them than probably anyone else in the world.

The book is divided into 12 chapters, each written by one or more of the authors. David Bird wrote chapters 1, 4 and 6 that speak to why the Canada Jay deserves to be our National Bird, why we even need a National Bird and why it should NOT be the Common Loon. I loved Strickland's chapter on how the Canada Jay's name evolved over the centuries from the Cinereous Crow to Canada Jay to Gray Jay then recently back to Canada Jay. Strickland also teams up with Norris to write a most interesting part of the story about the intriguing behaviour of this boreal species. There is also an enlightening treatment of the importance of the Canada Jay in the Indigenous teachings where it is deemed a Reconciliation Agent and Environmental Emissary and a similar treatment is offered for the Francophone communities.

All in all I loved the book – an easy but informative read that expresses a very real appeal to instate the Canada Jay as our National Bird. And if that's not enough, peruse the book to see 18 specific reasons why the Canada Jay MUST BE DECLARED our National Bird. Go to www.canadajay.org or the www.change.org and sign the petition and be part of history to forever permit us to celebrate the Canada Jay!

Focus on Nature

The Baltimore Checkerspot, North Durham's Mascot

Text and photos by James Kamstra

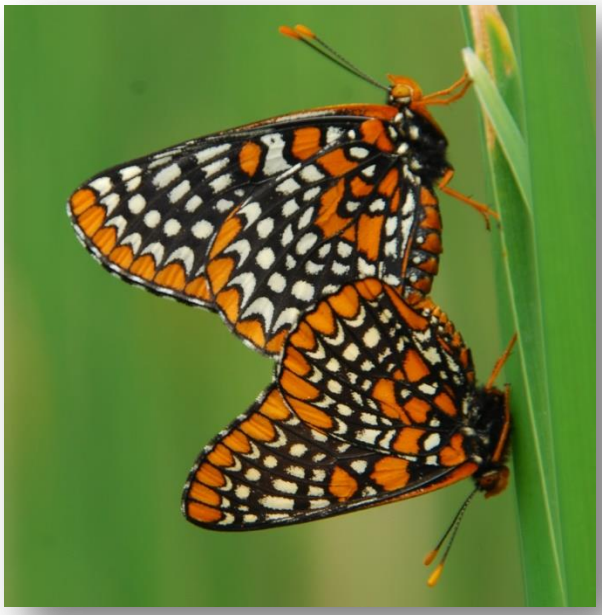
The Baltimore Checkerspot, also known as Baltimore Butterfly is the image on the logo of North Durham Nature. As such I thought NDN members would be interested to learn more about this fascinating insect. And what a spectacular butterfly it is! The upper wings are largely black with some white spotting and a row of orange-red spots along the edges as well as a pair of orange spots on each wing. The underside is similar but shows more white and more orange spots. Its name is derived from a vague similarity to the orange and black coat of arms of 17th century Lord Baltimore, who started a colony in what is now known as Maryland. The Baltimore Oriole, being orange and black, was so named for the same reason. Today Baltimore Checkerspot is the official state insect of Maryland while the oriole is the state bird.

The butterfly has quite a wide distribution, extending from Nova Scotia to southeastern Manitoba and south to Arkansas and Alabama. In Ontario it is primarily found south of the Canadian Shield. Within Durham Region, the Baltimore Checkerspot is rarely encountered south of Oak Ridges Moraine but is fairly widespread in the wetlands in the north part. To illustrate this point, Baltimore Checkerspots have been recorded on each of 25 Sunderland butterfly counts with an average of 135.6 individuals per count. Meanwhile it has been recorded on five of 28 Oshawa butterfly counts with an average of 0.6 per count.

It occurs mainly in wet meadows and marshes where its larval food plant, White Turtlehead (*Chelone glabra*), occurs. The plant never forms large stands but grows as scattered individuals here and there. The butterfly lays its eggs almost exclusively on that plant. The eggs soon hatch; larvae feed steadily for a couple months then enter hibernation for the winter when only half grown. In spring the caterpillars' emergence is timed with the leafing out of plants. Strangely, the larvae do

not go back to turtlehead but instead chose something different to munch on. Often they turn to ash, but may also feast upon viburnum, honeysuckle, dogwood or one of many herbaceous plants to continue their larval development. The larva is easily recognized by alternating narrow bands of black and orange, and spiny black protrusions. Like Monarchs that feed upon milkweeds, the Baltimore larvae pick up alkaloids from ingesting White Turtlehead. As a result, the butterflies are poisonous to avian predators, and their pattern becomes a warning sign to them.

After eating enough leaves for a lifetime, the mature caterpillar forms a chrysalis where it will be completely transformed from a worm-like creature into a beautiful winged flying insect. The chrysalis is distinct, mostly white with black and orange markings. Consequently, these are easier to find than most butterfly pupae which are normally well camouflaged. These are also warning colours, indicating they are distasteful to would be predators. The pupal stage lasts about two weeks and so the butterfly is on the wing from mid-June to mid-July.



Baltimores are not fast fliers and mostly stay within their localized wet meadow habitats. They can form dense colonies; I have seen over 100 within a small area of meadow marsh. These kinds of habitats are often transitional however. Over time trees and shrubs grow up and shade out the sunny meadow marsh, then the habitat is no longer suitable. The butterflies will have to find another site with the right conditions or die out. Abandoned beaver dams that break, allowing the pond to drain, form meadows that can be ideal for Baltimore Checkerspots. Low intensity cattle grazing can also maintain suitable wet meadow habitat, as I have found in some areas of Brock Township.

In the late 1980s researchers in New England found that Baltimore Checkerspots started laying eggs on English Plantain (*Plantago lanceolata*), a non-native weed that grows in disturbed areas. The butterflies have increased in that region as a result, and they are no longer confined to meadow marshes. Several other butterflies have been able to adapt to broadening their restricted food plants to include invasive plants. Wild Indigo Duskywings now feast on Crown Vetch and Henry's Elfin will eat Common Buckthorn. As far as I know, Baltimore Checkerspots have not been found laying

eggs on plantain in Ontario. Perhaps soon, for English Plantain is abundant and not many insects feed upon it.

If you are out in the wetlands in north Durham this summer, keep your eyes open for this orange and black beauty. The rail trail along the Beaver River near Blackwater is a good place for them.

Birdathon 2022

Text and photos by Geoff Carpentier

Well another year has come and gone and I conducted my birdathon in late May, visiting many locations in Durham and Kawartha Lakes … you will recall that I did this to support Birds Canada and North Durham Nature. 25% of what I raise comes back to NDN. To jump to the end of the story I have raised just over $2400 so far. If you'd still like to make a donation, it's not too late. Here is my personal link at Birds Canada https://www.canadahelps.org/me/6Ktyncn

Okay so how did the day go? We started on May 25th working the lakeshore near Whitby and Cranberry Marsh. Only a few shorebirds were present and a disappointing variety of ducks put on a showing. A single Whimbrel was a nice and hoped for treat. Heading north we stopped at the Sunderland and Cannington lagoons to find little habitat for shorebirds and even fewer ducks. Sadly we were not able to get into Nonquon for the third year in a row. Our next target location was Carden Alvar where we would spend the rest of the evening. The hoped for Loggerhead Shrike was a no-show but we found almost everything else we sought – Sedge Wren, Upland Sandpiper, Sandhill Crane, Black-billed Cuckoo, Golden-winged Warbler (see photo above), Eastern Whip-poor-will, Common Nighthawk and a lovely adult Bald Eagle. Through the night we worked our way south again stopping at various marshes where we added Sora, Virginia Rail and a pair of King Rails – the latter are protected and endangered so I can't share the location. One miss that surprised us was the Least Bittern that we find annually. As dawn broke, we worked part of the Ganaraska forest to see what interesting woodland species we could find. Here we identified Hooded Warbler, Hermit Thrush, Brown Creeper, Blue-headed Vireo, Scarlet Tanager and our only owl of the trip – a single Barred Owl.

Moving south again we went to the sports fields near Darlington Nuclear Plant and into Darlington Park. The "guaranteed" Piping Plovers didn't appear and very few ducks were present along with almost no shorebirds. However we did find several Red-throated Loons, Bay-breasted Warbler, a Mockingbird and a Clay-colored Sparrow (photo to right). A huge surprise was a White-eyed Vireo at Westside Marsh in Bowmanville that had local birders zipping out to the site to see it. The challenging pattern of the day continued as Thickson's Woods was not quite birdless but certainly bird deficient. Trying to decide how to jumpstart our list we went back to Cranberry Marsh and added a lovely adult Red Knot and then we headed north to the Walker Woods area. Hoped for birds included Blue-winged Warbler (got it) and Red-shouldered Hawk (missed it). So partly due to the fact that the migration had passed and there was little habitat for shorebirds or ducks our total was down to 149 species – still respectable but below my 35+ year average of about 155 species. Regardless the birds won so thanks to all of you!

Fact or Fiction?

Text by Cara Gregory & photos by Geoff Carpentier

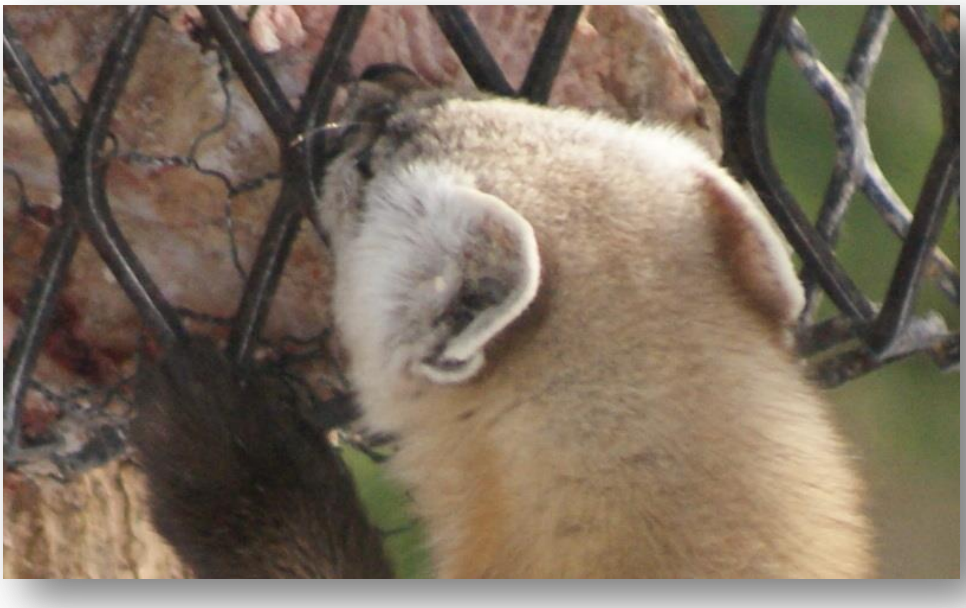
1. **SUBMERGED TURTLES CAN BREATHE THROUGH THEIR "BUM".**

2. BEAVER ARE COPROPHAGIC (EAT THEIR OWN DROPPINGS).

What do you think? Please see page 11 to find out if these statements are fact or fiction.

Nature Quiz

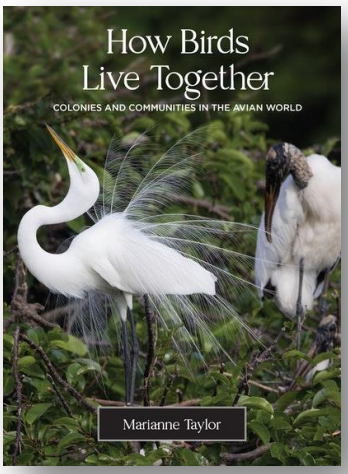
Text and photos by Geoff Carpentier



I am a mammal with a thick fur that eats meat. I kind of look like a fox, but am I?
And what is inside that cage that I find so appealing?

Book Reviews

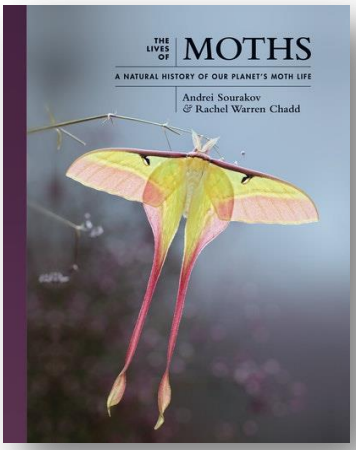
By Geoff Carpentier



How Birds Live Together. MarianneTaylor. 2022. Princeton University Press, Princeton, New Jersey, 08540. Hardcover 224 pages. $14.98 US [sale price]. ISBN 13:978-0-691-23190-7.

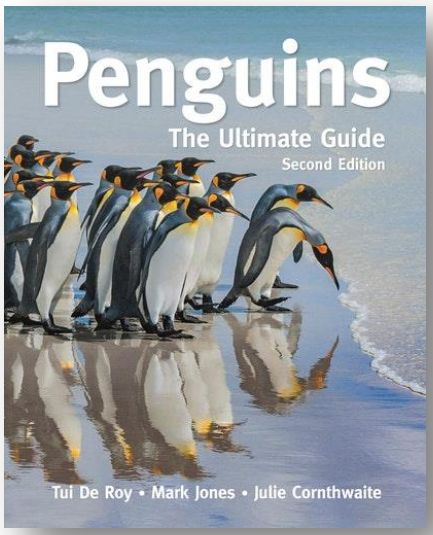
Continuing with their fantastic line-up, Princeton has just released another interesting book. This one is more suitable for the armchair biologist and pensive birder. The jacket of the books describes the book as one that offers "a broad overview of social living in the avian world". I think that is an understatement. The book is fact-filled and supported by many beautiful photos. The content is so varied it is hard to describe it, so I think I will just reference the sections and you can imagine all the interesting information contained in those chapters: High Rise, Tree Houses, Housemates, Going Underground, Beach and Island Resorts, Inland Waterfronts, Good Neighbors, the City in the City, Secret Society and Mobile Homes. Although the titles are somewhat whimsical, the content is not. I find this a book I could pick up, read for a bit, learn a lot and then put it down to start over another day as it is jam-packed with factual content and interesting tidbits. This is a book you will want to read cover to cover.

The Lives of Moths. Andrei Sourakov & Rachel Warren Chadd. 2022. Princeton University Press, Princeton, N.J., 08540. Hardcover 288 pages. $29.95 US. ISBN 13:978-0-691-23357-4.



I find moths both intriguing and frustrating as they are so complex in their design, often cryptic in coloration, and secretive in their lifestyle. A member of the Lepidopterans, there are many more species of moths than there are butterflies, but they are seldom seen and even less frequently identified. Specialists are constantly discovering "new" species that have been in our space forever! We underestimate moths as a nocturnal insect with little value, but the reality is that they are foundational as pollinators and as food for many species of animals. As you explore this book you will learn a great deal about these insects that range in size from tiny dots in the darkness to large moths with wingspans of 8-12 cm. From typical moth-looking critters to ones that mimic butterflies, hummingbirds, spiders and even snakes, you will be shocked at the diversity of this complex of insects. The book covers just about everything you could imagine about moths and even more as the authors have been very thorough in incorporating a vast amount of information into a beautifully illustrated book.

Penguins – The Ultimate Guide. Tui De Roy, Mark Jones and Julie Cornthwaite. 2022. Princeton University Press, Princeton, N.J., 08540. Hardcover 240 pages. $29.95 US. ISBN 13:978-0-691-22856-3.



Supported by over 400 spectacular photographs, this large format book deals with just about everything regarding the 18 species of penguins in the world. I consider myself fortunate as I have seen eleven of these, but long to see the balance one day. Perhaps that won't happen but at least I can live vicariously through the pages of this book and delve into the lives of all penguins. The book is divided into three broad chapters that deal with life on land vs. water, science and conservation (an important subject as so many species are in a precarious position due to over-fishing and climate change) and a chapter on the natural history of each individual species. Again the book is so fact-filled that is hard to summarize the content, but if you simply want to know something about each species (e.g. eggs, food, habitat, reproduction, etc.) then read the last chapter. If you want to understand why penguins are black and white, or where they store food and even how scientists have interacted with them, then the second chapter is for you. Finally, if you want to see how similar species developed or what bristle-tails are, then perhaps get a coffee and start on chapter one. Or maybe just read them all in any order you like!

Insectpedia – A Brief Compendium of Insect Lore. Eric R. Eaton. 2022. Princeton University Press, Princeton, N.J., 08540. Hardcover 190 pages. $16.95 US. ISBN 13:978-0-691-21304-6.

At first I thought this was an odd little book. It is pocket-sized so there couldn't be enough content to recommend it to you, the reader. Right? Well, I was wrong. You won't learn everything about every "bug", but you will learn a lot about some of them. This book is packed with odd and interesting facts about insects and their relationships to each other and to their plant hosts. I can't reveal all the secrets of the book, but here are a few tidbits. Can insects be both cryptically coloured and aposematic at the same time? What!?! Aposematic coloration is the conspicuous markings of a noxious or unpalatable organism**,** such as a skunk, that serve to warn off potential predators. Well think of an underwing moth that is subtly coloured but can flash its pink underwing to scare off predators … that's what this is all about! How did a "stubby' beer bottle in Australia almost lead to the extinction of a species of jewel beetle? Should I be worried about "butt-thumping" beetles in Africa? Want to stay young forever? Maybe you should mimic some fireflies, and practice neoteny, where you never grow up. This may not be as great an idea as you think. Finally, did you know that shellac is created by the Lac Insect? I won't reveal any more secrets, but if you want a fun read, try this one.

Fact or Fiction – Answers Revealed

Text and photos by Cara Gregory

SUBMERGED TURTLES CAN BREATHE THROUGH THEIR "BUMS".

This is **FACT.** Turtles eat, sleep and hibernate under water. When submerged, they breathe by filtering water through special tissues in the cloaca (the excretory and reproductive opening at the base of the tail). The water is held in two small sacs, that act like aquatic lungs, that draw oxygen from the water into the blood in exchange for the body's carbon dioxide waste. Painted Turtles can go without oxygen for up to 150 days if oxygen levels are depleted during their hibernation in the mud under the ice and wintery cold water. This is longer than any other known vertebrate species!

BEAVER ARE COPROPHAGIC (EAT THEIR OWN DROPPINGS).

This is **TRUE**. Beaver are coprophagic animals since they do eat their own droppings. This is extremely beneficial to obtaining nutrients from the hard to digest cambium layer, just under the bark, that they consume. Cambium contains a lot of cellulose, in addition to starches and sugars. Like all herbivores, beaver do not possess enzymes that are capable of breaking down the large cellulose molecules (cellulases), so they must consume their droppings in order to extract more nutrients from them.

Beaver are hindgut fermenters able to create two different types of excrement. The first type is hard feces that contains fully digested foods. The beavers do not eat this. The second type is known as soft feces or cecotrope. A cecotrope is made up of mostly fermented and undigested foods. These are created in separate bacteria-rich areas in the beaver's colon known as the cecum. Beavers will only eat cecotropes. When the beavers eat a cecotrope they can extract more energy, nutrients and amino acids from the food they've already eaten. Cecotropes can also provide beavers with protein and healthy bacteria to maintain good digestion.

The 3rd Ontario Breeding Bird Atlas Update

Text by Geoff Carpentier

Photo of Robins (6 days old) by Kim Lendvay

Well year 2 of the atlas is almost completed and we are making some great progress but lots of work is still needed. Later this year Glenn Coady (my co-Regional Coordinator) and I will do an assessment for each square and see which ones need work and which ones are okay. I believe most will need significant work by the way. Remember that every square needs to be evaluated for special species or groups of birds – nightjars, marsh birds, owls and all squares need to have both on and off-road point counts done. Stay tuned as the season progresses and we will begin planning for Season 3. For more information on the atlas, how to do surveys, or how to sign up go to:

Ontario Breeding Bird Atlas (birdsontario.org)

Nasty & Nice Nature News

Compiled by Geoff Carpentier

Banning of single use plastics. James expressed his positive feelings about Canada's forthcoming ban on single use plastics in his President's Message. This is generally a good thing as many species of animals are negatively impacted by our careless disposal of these materials. But did you know that Canada, USA and Western Europe only account for 2% of the world's plastic waste? Much of the balance is generated by Asian and African nations. Surprisingly, the federal government's own figures say that this transition away from single-use plastics will generate 1.6 million tonnes of waste **over and above** what will be saved by the new policy. And that alone will add about $300 million in costs to be borne by Canadians. So what to do? Maybe better technology, or better compostables or get Asia and Africa on board?!? Just saying! (Source; CBC & Environment Canada)

Seabins help capture plastics in our lakes. A project in Toronto to recover small bits of plastics from Lake Ontario using seabins (i.e. trash trapping devices) is deemed quite successful as it will theoretically be able to capture the equivalent to 230,000 pieces of plastic or 3400 plastic bottles. The study is being conducted by the Toronto Region Conservation Authority, Ports Toronto and the University of Toronto (Source: Toronto Sun)

Hey wanna buy some gas? Apparently the sale of CFC containing gases [these are the ones that were destroying the ozone level] is on the rise, as many third world countries struggle to keep old machinery operational. Not able to afford the retrofits to modernize many refrigeration units, many companies rely on an underground market to buy banned coolants. This is apparently a huge industry. Granada, China and Spain, at least, are implicated in this trade. (Source: Reuters)

Do cow burps harm the environment? According to a UK based company they do. We all know and accept that cow poop produces a lot of methane gas, but burps? Apparently yes. So what to do? Well they are developing a burp mask for cows that will solve the problem. Now I know what I DON'T want for Christmas. (Source: Yahoo News)

Have elephants stopped growing tusks? In the journal *Science*, it is being reported that in Mozambique many elephants have stopped growing tusks to offset the impacts of poaching. Now an elephant can't actually decide whether or not to grow a tusk, but if the ones that don't are effectively ignored by poachers then their genes will be passed on to future generations and more tuskless elephants will arise. Ironically it seems that only the females are doing this and studies have shown that between 1970 and 2000 the number of tuskless females increased from 18.5% of the population to 50.9%. But then from 2000 to 2020, the percentage of tuskless females dropped to 33%, so it is unclear what is happening. (Source: The Washington Post)

Bees are screaming mad! Murder hornets have been in the news for some time. These are the ones that are invading North America from Asia and causing concerns at honey bee hives as they kill all the bees. The bees counter by swarming around an invading hornet and killing it by overheating it. Some species of bees deposit animal feces and leave them on the doorstep to repel predators. A new study has shown that some bees "scream" to drive off invaders. Not really a scream but more of a high-pitched whine that can be quite effective. (Source: Royal Society Open Science)

Answers to Nature Quiz

Well we figured out it is a carnivore and the thick fur seems to imply it might live in the north where it gets cold. It has a small head and pointed snout, so is it a fox? Sorry – no; the face is not pointy enough and the colour is too brown for a fox. So maybe some kind of weasel. Correct? Again the size and shape of the head can lead us to Long-tailed or Short-tailed Weasel, Mink, Ferret, Fisher or Pine Martin. The Ferret can be quickly eliminated due to the colour of this animal. The Mink is much darker in colour and has a broader head. It also has a face that is the same colour as the back, so it can't be that species. It appears to be winter so the Short-tailed and Long-tailed Weasels should be white. Additionally both species are again more uniformly coloured on the head, so let's rule them out as well. The Fisher is another possibility but it is a very dark and large animal so that doesn't seem to fit. That leaves us with the Pine Martin. This Pine Martin was photographed by me in Algonquin Park coming to a suet feeder! And now you know why it liked the mesh cage.

Nature's Pretty Side

Tree Swallow at nest box - photo by Geoff Carpentier

For more information about NDN

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