BIRDS OF TORONTO

A GUIDE TO THEIR REMARKABLE WORLD

• City of Toronto Biodiversity Series •

Second Edition









Imagine a Toronto with flourishing natural habitats and an urban environment made safe for a great diversity of wildlife. Envision a city whose residents treasure their daily encounters with the remarkable and inspiring world of nature, and the variety of plants and animals who share this world. Take pride in a Toronto that aspires to be a world leader in the development of urban initiatives that will be critical to the preservation of our flora and fauna.



Everyone knows Toronto is incredibly proud to be the home of the Blue Jays and over 350 other incredible species of birds! Blue Jays are aggressive, fun to observe and smart. They belong to a family of highly intelligent birds known as the corvids. The corvids also include the American Crow and Common Raven, two other Toronto breeding species. Blue Jays have a complex social system and use their extensive vocabulary and body language to communicate with each other. If a Blue Jay's crest is up, such as when the bird is squawking, it is expressing agitation; the lower the crest, the calmer the bird. Blue Jays usually mate for life. During the breeding season males and females will both help with building the nest. Only the female will sit on the eggs and brood the nestlings, though the male does bring food to her and their young. Like many other jay species, Blue Jays have an affinity for storing nuts such as acorns and has been credited with spreading oak species across North America after the last ice age. LET'S GO BLUE JAYS!

Cover photo: Mark Peck



Though at risk, the Chimney Swift is still common in Toronto Image: Barry Kent MacKay

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"Indeed, in its need for variety and acceptance of randomness, a flourishing natural ecosystem is more like a city than like a plantation. Perhaps it will be the city that reawakens our understanding and appreciation of nature, in all its teeming, unpredictable complexity"

– Jane Jacobs



Great Blue Heron Image:Barry Kent MacKay

Welcome!

To encourage the celebration of all life on earth, the United Nations declared 2010 to be the Year of Biodiversity. We congratulate the City of Toronto for honouring this special year with this Biodiversity Series celebrating the flora and fauna of our city. Each booklet within the series – written by dedicated volunteers, both amateurs and professionals – offers Torontonians a comprehensive look at a major group of flora and fauna within our city.

We hope that this Biodiversity Series will achieve its main goal: to cultivate a sense of stewardship in Toronto area residents. If each of us becomes aware of the rich variety of life forms, their beauty and their critical roles within the varied ecosystems of Toronto, we will surely be inspired to protect this natural heritage. After all, our own health and ultimately our very survival is linked to the species and natural spaces that share the planet with us. Without plants, there would be no oxygen; without the life of the soil, there would be no plants; without unpolluted fresh water, we would die.

While there are many organizations actively engaged in protecting our city's flora and fauna, the support of ordinary citizens is critical to the conservation of our natural habitats. We hope you'll take a walk in one of our parks and open spaces, lower your blood pressure, look around you and enjoy the diversity of trees, animals, fish, birds, flowers and

even fungi that flourish among us.

Margant atwood

Haema Hillism

With best wishes, Margaret Atwood and Graeme Gibson



Introduction

Birds bring a special wonder and excitement to people. Whether it is the iconic call of the Common Loon, the vibrant brilliance of the Scarlet Tanager or the cheeky boldness of the Black-capped Chickadee, we humans cannot help being impressed and maybe even a little jealous. It seems good to be a bird. Birds have become part of the city fabric and are found throughout the urban landscape.

Toronto is a beautiful city of parks, ravines and water courses that we can be proud of. By protecting the diverse habitats found throughout the Greater Toronto Area (GTA), we are protecting the plants and animals that use and need our green space to live. We have documented 410 species of birds in the GTA and 369 in Toronto. Some species are year round residents, some will stay just for the winter or breed through the summer months while others are migrants, passing through in a few days, heading to breeding grounds farther north or making their way south to warmer wintering areas. Regardless, they all require safe places to forage and rest and they need our help.

Cities can also be dangerous places for birds. Domestic and wild predators abound, reflective glass in the home and office challenge their visual perceptions and the lights at night confuse and disorient. Toronto has become a leader in bird-friendly development and has a variety of wonderful programs to help make people aware of the challenges and to aid the birds that need to be rescued, rehabilitated and released.

I hope this booklet will provide you with the information necessary to enjoy the birds around us and help protect them. I encourage you to get outdoors, go for a walk and engage in the natural world.

Yours, Mart D Eng

Dr. Mark Engstrom, Deputy Director of Collections & Research of the Royal Ontario Museum

City of Toronto Biodiversity Series

Birds of Toronto, 2nd edition is part of the Biodiversity Series developed by the City of Toronto in honour of the Year of Biodiversity 2010. A number of the non-human residents of Toronto will be profiled in the Series. It is hoped that, despite the severe biodiversity loss due to massive urbanization, pollution, invasive species, habitat loss and climate change, the Biodiversity Series will help to re-connect people with the natural world, and raise awareness of the seriousness that biodiversity loss represents and how it affects them directly. The Series will inform residents and visitors of opportunities to appreciate the variety of species inhabiting Toronto and how to help reduce biodiversity loss by making informed individual decisions.

The Joy of Birding by Robert Bateman

From *Thinking like a Mountain* Penguin Books (2000)

"Over the years, I've often spoken about one of the most memorable experiences of my childhood, a golden day in May, when I was perhaps ten or eleven. That morning – it must have been a Saturday – I ventured down the steep path into the ravine behind our house, one of many ancient river valleys that provide a tracery of wildness through Toronto's urban landscape. That ravine held the first forest that I got to know; from the time I could walk, I explored it and made it my personal domain. As I grew more interested in wildlife, I began to learn about its inhabitants: the resident birds, raccoons and squirrels. To my fledgling eyes, my ravine seemed impossibly rich and varied...

In my memory, the day dawns sunny, with the promise of unseasonable warmth. As quietly as one of the characters from Ernest Thompson Seton's "Two Little Savages" – I devoured Seton's books from a young age – I creep down to my favourite spot, a bower of wild plum

blossoms that gives me excellent views of the branches below, already brushed with spring's first greenery. There I wait, breathing the rich smells of damp earth and decaying leaves, mixed with plum blossom perfume, and listening to the chirp and chatter of the local birds – totally at ease in my familiar territory. Time passes without any sense of urgency. The sun rises and the day grows warmer. Then suddenly, as if at some prearranged signal, the migrants come. Within the space of less than an hour on that unforgettable morning, I saw



"Golden-crowned Kinglet and Rhododendron" Image: Robert Bateman

legions of migrating warblers, as well as kinglets, a Yellow-bellied Sapsucker and a Ruby-throated Hummingbird. It seemed as if every branch of every tree was dripping with birds. If perfect happiness is possible, then this was the day I experienced it."

Solstice Duet

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Common Loons are anything but common, at least not in my memory. The rugged Canadian Shield country where they spend their summers is replete with iconic companions... lingering sunsets, White Pine silhouettes and the shimmering wake of a Muskrat's passing at dawn. How many fortunate souls long to hear the haunting cries of loons after the long, dark, contemplative days of winter? Theirs is the song of that magic fullness that only the summer solstice can bring...the symphonic theme of lake country and the connection with our memories.

Not surprisingly, loons have found their way into the cultures of this land the Anishinaabe call aki. They know this bird's song as the inspiration for the flute's melodious sound. The loon features importantly in their traditional clan structure. Loon Chiefs were responsible for resolving internal disputes within their communities, a reflection of the loon's abilities to perceive through both air and water and to orate with nuanced voice.

One of aki's elder expressions, the loon family's origins stretch back far in time to the time of dinosaurs. In fact, we may think of them as expressions of ancient wisdom, successful and ubiquitous in the Precambrian heartlands they so eloquently define. When I encounter them, either calling overhead on their migratory flights north in the spring or singing wildly in large flotillas at the tail end of summer, this timeless and primal symbol never fails to evoke visions of wild spaces whose silence is broken only by their songs of experience and travels through time and latitude.

Thus, "Solstice Duet" came to me and will remain as my tribute to this very special being called loon...a beacon calling me home.

Rick Beaver Michi Saagiig Anishinaabe Wildlife Biologist and Artist rickbeaver.com



Ascendant Loons Image: Rick Beaver

Early Toronto Ornithology

After European settlement, it took some time for the science and pastime of ornithology to become established. Early European Jesuits, explorers and traders did not record much in the way of bird life, and the scant records they kept were muddled with impossible tales of monsters and mythical creatures. The first modern scientific observer of bird life in the Toronto area was Charles Fothergill, an English Quaker who emigrated to Port Hope, and later Toronto, after being expelled from his sect in England. A talented nature artist and birder, Fothergill made his living as a printer. In this role, he published Toronto's first nature column in his paper, the Weekly Register. In various manuscripts, he also described 186 bird species of Ontario and Quebec to science, and was the pioneer naturalist of Southern Ontario before his death in 1840.

No Toronto-based bird researchers followed Fothergill for some time, although soon thereafter, Thomas McIlwraith, a Scottish immigrant based in Hamilton, became an authority on the birds of the whole region, including Toronto. He is perhaps best known for his 1886 book "Birds of Ontario", a landmark study that included information about 302 bird species observed within a six-mile radius of his home city.

J.H. Fleming was Toronto's first true local ornithologist. Inheriting lucrative business interests meant he could devote almost all his time to the study of birds. Shooting, skinning and mounting stuffed birds for display and study was common in the 19th century before cameras and binoculars became available, and J.H. Fleming collected, traded and bought an enormous collection of international specimens that are now at the Royal Ontario Museum (ROM).

By the 1920s, the ROM became the centre of the local ornithological community. ROM curators such as Lester Snyder and Jim Baillie led and collaborated on the research that built our understanding of the region's birds. They also did a lot to popularize birds and birding. Jim Baillie in particular wrote a popular bird column in the Toronto Telegram for 39 years, and was instrumental as the public face of Toronto birding. Beloved by birders, Baillie never drove, but birdwatchers from around the region would vie for the honour of taking him on birding trips.

Toronto's first female

Photo: TOC Archive

ornithologist also came out of the ROM. Margaret Mitchell grew up in Toronto's High Park region loving birds and wildlife, and later completed a degree in biology. Despite the fact that her qualifications were at least equal to or better than those of male researchers of the day, she was not able to find paid work in her field. Undeterred, she volunteered as a research associate at the museum, where she contributed the first comprehensive study of the now-extinct Passenger Pigeon, still considered the definitive work on the species.



Newcomers & Birds

Toronto's cultural diversity is a major part of our civic identity. When newcomers settle in Toronto, a connection to our equally diverse natural landscape, including birds, has helped them to feel at home here. The stories below show how birds and birding have helped newcomers connect to our city.

"I came to Canada when I was 8 years old. I wasn't a birder, but my very first day in Canada was spent by the shores of Lake Ontario near R.C. Harris Water Treatment Plant. I remember Trumpeter Swans gliding along the sparkling water, and gulls flying overhead, and I remember how welcomed and exhilarated I felt by this sight. It replaced any fears and nervousness with excitement and made me look forward to getting to know this city. Not speaking any English, I was slow to warm up to people and make friends, but I found comfort in nature. I'd spend hours sitting quietly in the backyard watching different birds come and go, holding out sunflower seeds hoping for a chickadee to land, checking the dove nest for eggs, drawing what I saw. In those hours, I didn't grieve over what was left behind, or worry about what was ahead. I was just there, happy where I was, discovering what was around. By embracing Toronto and its uniquely beautiful blend of urban and nature, I had a very smooth transition to life in Toronto, and I attribute it to the feathered impact.

Now, I still appreciate it every day. To go for a morning walk and be refreshed by the symphony of robins, sparrows and blackbirds, to watch the sunrise and see all the cormorants flying out to the lake in a line like little music notes — that's a blessing. And that's Toronto."

-Alice C.



Murugesapillai and children birding together in winter Photo: Murugesapillai Mylvaganam

"I became interested in birding at a young age, when my father took me regularly to the Kumana National Park in Sri Lanka. Many years later in Toronto, I introduced birdwatching to my children by taking them to Taylor Creek Park in our neighborhood. Our first birding trip was on a cold February morning to Halls Road in Durham to see the Great Gray Owls, and thereafter birding became our favorite family activity.

While life used to revolve around work, home and TTC stops, birding activity revealed the under-appreciated parts of Toronto, its parks and landscapes. The Whimbrel at Colonel Sam Smith Park, the owls and the warblers at Tommy Thompson Park, and the gulls at Ashbridge's Bay all provided unforgettable memories. During these trips, we met amazing and highly knowledgeable birders who shared helpful tips to improve our identification skills and a lot more.

For my children, birding sparked a greater interest in the natural world, awareness of invasive species and led to a collection of books on birds, wild flowers and trees that continues to grow."

-Murugesapillai M.

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North American Bird Migration Routes

There are four major paths for bird migration through North America – the Pacific, Central, Mississippi and Atlantic Flyways. These flyways delineate main "highways" used by migratory birds that correspond to major geographic features, which have an appropriate north-south alignment (e.g., coastlines, Rocky Mountains, Great Plains). There is extensive variation between species in routes of migration and there is even considerable variation among individuals of the same species. Breeding location, flight speed, distance of travel and preferred habitats are all factors that contribute to routes taken. Toronto is located where the Atlantic and Mississippi Flyways converge. We know that most birds traveling through Toronto in spring are heading north to the Arctic and boreal forest regions. However, individuals of the same species may be destined for areas far apart (e.g., Saskatchewan or Quebec). With additional research at places like Tommy Thompson Park Bird Research Station (see page 64), we will be able to learn more about the destinations of Toronto's migrating birds. What we do understand is that birds follow ancient routes and that the ecological integrity of these routes is critical to the survival of migratory bird populations.

Did you know? Most songbirds migrate at night. There are many reasons for this, including avoiding predators and taking advantage of the cooler and calmer air - during flight their hearts can beat five hundred times per minute, generating heat. Here is one human's account of witnessing a night of migration:

"A listener would have detected faint peepings overhead, wave upon wave, as the birds of the north, great and small, rode a high northwind, answering a call only they could hear. From innumerable scattered lakes and rivers, ponds and marshes and brooding forests, they thronged the great celestial flyways, navigating by stars and river lines and deep magnetic fields. The night breathed and moved and beat its wings with power and magic. Altogether it was an event of ancient meanings, a time to be up and attentive to earth's doings and messages. Snow crickets sang of it, careening bats felt it with their clicks, and the night creatures of the wood with tiny sounds went about their errands mindful that something immense was happening."

Calvin Luther Martin, The Way of the Human Being



10 Urban Ecology

The skyscrapers, condos, highways and endless streets of Toronto are inhospitable to nature but our parks, ravines, waterfront and even backyards provide homes for many species of birds. "Urban ecology", the study of how urban landscapes support wildlife, is an important part of city planning. Our lives are enriched by wildlife encounters, whether it is as simple as listening to a robin sing while you sip your morning coffee, showing young children a pair of Mallards in a nearby pond, or glimpsing a Red-tailed Hawk circling high above your tedious afternoon commute.

Small natural areas within urban landscapes support breeding bird generalists that are not usually shy. Songbirds that occupy these habitats include robins, catbirds and chickadees. Research has shown that such birds are highly adaptable. For instance, some birds in cities adjust their songs to cut through city noise pollution by singing shorter notes at a higher pitch. Other studies have even shown they sing louder on weekdays than on weekends, when there is less traffic. Compared with their rural cousins, city birds also decrease their natural stress response which ordinarily would have them on high alert to flee at the sight of any approaching human.

By the time DDT was banned here in the 1970s Peregrine Falcons were gone from much of North America because DDT caused almost complete reproductive failure. Following reintroduction, there are now about a dozen pairs of peregrines, nesting on ledges of tall buildings in Toronto, thriving on a diet of easy-to-catch pigeon. The Trumpeter Swan was reintroduced to the Toronto area in the 1980s, some 200 years after it disappeared from the area. Although facing a shortage of nesting habitat, the threatened Chimney Swift still breeds in remaining old brick chimneys in the city - it is a treat to see groups of these 'flying cigars' twittering wildly as they circle the skies.



Nature trail at Tommy Thompson Park/Leslie Street Spit Photo: TRCA



Urban birdwatching Photo: Christoph Ng



Bridges likes this one in the Don Valley provide nesting habitat for birds Photo: Robert Burley



Red-tailed Hawk nesting on an air conditioner Photo: Mark Peck



American Robin nesting on a public pay phone Photo: Mark Peck

Windswept open areas in Toronto, like the Downsview Airport and Tommy Thompson Park/Leslie Street Spit, provide a winter home to Arctic birds like the Snowy Owl which, unlike most owls, hunts during the day. In some winters, Snowy Owls appear by the dozens in what is known as an "irruption". Surges in lemming abundance in the Arctic during the owl's breeding season allow ample food for the owls to raise many offspring. The following winter, the young owls migrate south in search of a tundra-like habitat that can sustain them through the winter. Another Arctic visitor is the diminutive Snow Bunting that is often seen in restless whirling flocks eating seeds off the weeds that poke above the snow, even in the worst winter weather.

Healthy urban ecology requires a diverse network of natural habitats to support birds and other wildlife but it also calls for making our cities bird-friendly. This means keeping dogs on leash in natural areas, keeping cats indoors, reducing unnecessary lighting, especially during migration seasons, and designing buildings to reduce the frequency of bird collisions with windows. Urban birdwatching can be a powerful means to connect us with Canada's larger and more distant ecosystems and to remind us that nature is never irrelevant to the wellbeing of human society.

Did you know?

Red-tailed Hawks have adapted to the urban environment. They have nested on the Legislative Building at Queen's Park!

Habitats of Toronto

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The landscape of what is now the City of Toronto has seen constant change over the last several centuries. Until recently it was commonly assumed that the entire region was a continuous forest until European settlement. However, it is now known that Indigenous peoples managed the landscape extensively for hunting and agriculture for centuries. This created open spaces within the forest and a mosaic of habitats that provided nesting opportunities for many grassland birds. All of these species are now disappearing from the city landscape due to habitat loss and degradation.

Small scale forest clearance by Indigenous peoples for a combination



Bobolink Photo: TRCA

of game management and crops began around 2000 BC, and then increased somewhat with the arrival of corn agriculture around 1000 AD. Europeans arriving in eastern North America around 1600 AD brought diseases that initiated a dramatic decline in the Indigenous population, resulting in the loss of most of the open habitats vital for grassland birds such as Bobolinks. This was a period when species dependent on shrub thicket and forest habitats thrived.

European settlers began to open up the Toronto landscape for farming in the 1790s. Later, demand for ship-building timber caused forest removal to accelerate. Forest clearance persisted through the early 20th century when people began to leave the rural land for urban centres, and some farmland again reverted to shrub thicket and forest habitats. This time, however, many of the natural areas disappeared beneath the suffocating concrete of urban sprawl. The only places that couldn't be built on were the flood-prone ravines that cut through the city landscape.

Although change in the Toronto landscape is nothing new, the rate of change has been increasing exponentially. After millennia of gradual change, the arrival of agriculture accelerated this transformation. Now we're at the stage where large areas of natural landscape can disappear overnight as a result of development. Unfortunately, such rapid turnovers in land use and landscape type now happen too quickly for many species to keep up. Habitat generalists persist, adapting to novel opportunities, but large numbers of more sensitive species are simply disappearing.

This is why the ravine network that crisscrosses the City of Toronto is so important. Not only do these areas of natural cover provide corridors connecting larger blocks of habitat, allowing opportunities for migration and for dispersal of breeding birds, but they are also corridors in time, providing continuity of habitat across decades and



centuries. Some of the oldest trees in the entire region are found in the ravines – having first been spared in the agricultural clearances and then surviving the flood of concrete that has taken over so much upland forest.



Humber Arboretum Photo: Robert Burley

The	shore	line c	of Lak	e Onta	rio at	the	mouth	of	the ł	luml	ber	River
										Pho	oto:	TRCA

% of City Area (63,231 ha)	Total Hectares in the City of Toronto	Broad Habitat Type
8%	5,071 ha	Forest
3.7%	2,326 ha	Grassland
1.1%	696 ha	Shrub thicket or young forest
0.3%	188 ha	Beach and Bluff
0.3%	186 ha	Wetland
13.4%	8,468 ha	Total

The table captures most of the important natural habitats throughout the city, but not backyards and upper canopy habitat provided by the network of street trees and smaller manicured parkettes. Although these habitats are less natural than functioning forest habitats, they still play a significant role in providing nesting opportunities for urban bird species, and perhaps more importantly, foraging opportunities and shelter for hundreds of thousands of migrant songbirds that pass through the city every spring and fall.

"The Ravines are to Toronto what canals are to Venice, hills are to San Francisco and the Thames River is to London. They are the heart of the City's emotional geography, and understanding Toronto requires an understanding of the ravines"

Accidental City, Robert Fulford (1995)

Bird Language

What can bird language teach us? Observing bird communication is one of the oldest methods humans use to track what's happening in our environment. We don't need to be able to fly up to the highest branch to see what is going on; we can use our senses to tune into the forest's own radio for updates on what's happening all around us.

It works in the city too! If you watch the group of pigeons swooping around in great circles, you may notice a Red-tailed Hawk on the hunt. Or if you're walking along a tree-lined street in the evening (without headphones in your ears), a long high trill may reveal an Eastern Screech-Owl calling down from a branch overhead. Toronto has many urban parks that are excellent places to start listening for bird language, but you can also hear birds almost anywhere in the city.

Baseline vocalizations are the everyday sounds that birds make when no predatory threat is perceived. Baseline vocalizations include: singing, calling to the flock, feeding, juvenile begging and even territorial aggression. Like: "Get away from my nest!" or "Mom, I'm hungry!".

Alarm calls serve as a warning system to other members of the flock, as well as other birds and animals in the area that a predator may be near. Perhaps they're announcing a stealthy cat sneaking through some tall grass or someone jogging along.

Learning about bird language can connect you to avian life and the natural world as a whole, whether we're deep in a ravine or right downtown.



A Tree Swallow conversation Photo: Ian Sturdee

Did you know?

Some songbirds can produce two different sounds simultaneously, from each side of the syrinx, though to humans this sounds like a single, complex and beautiful song.

16 Birds and Climate Change

The tide of migratory birds that comes and goes in spring and fall, is timed so that parent birds have the best chance of raising a family during their breeding season. This means returning to the breeding grounds late enough to avoid early spring snowstorms, but early enough to raise a brood when insect food is at its peak.

Climate change threatens to unravel the migratory schedules of many birds because spring weather is more unpredictable than ever and has changed faster than birds can adapt. Purple Martins, for instance, spend the winter in the heart of the Amazon rainforest, and they cannot possibly know what the weather is like 7,000 km away in Toronto. They time their departure using internal clocks that have been genetically set to the average conditions the population has experienced over past generations.

Migration tracking studies have shown that martins do not leave Brazil earlier in years when spring begins early on the breeding grounds. For this, and other long-distance migrants, their breeding period has become mismatched with the peak period of food availability, meaning they cannot produce and raise as many offspring. To make matters worse, recent studies have shown that more prolonged droughts on their tropical wintering grounds can delay spring migration and lower reproductive success even more. Torontonians may initially cheer at the thought that in two decades it will be 4°C warmer, there will be far less snow, and wind chill warnings will become a thing of the past. But, the sobering reality is that climate change will be a disaster for our birds and it poses grave human health and economic challenges as we face unprecedented weather extremes.



Purple Martin, female Photo: Mark Peck

Did you know?

Almost half of North America's bird species are severely threatened by climate change.

You can help slow and stop climate change by reducing greenhouse gas emissions at home and at work. For more information visit toronto.ca/services-payments/water-environment/environmentally-friendly-city-initiatives/transformto/.



"The beauty and genius of a work of art may be reconceived, though its first material expression destroyed; a vanished harmony may yet again inspire the composer; but when the last individual of a race of living things breathes no more, another heaven and another earth must pass before such a one can be again." William Beebe

Passenger Pigeon

Once the most numerous bird on earth, the last record of the Passenger Pigeon in the Toronto area was a group of five seen over Toronto Island on 6 July 1900 by J. Hughes Samuel. Deliberately slaughtered at its immense breeding colonies, and with much of its eastern deciduous forest habitat falling to the settler's axe, the last Passenger Pigeon died in the Cincinnati Zoo on 14 September 1914. It bred in colonies of millions of pairs in the Toronto area in the early 1800s. The name of the Toronto neighbourhood, Mimico, is derived from the Mississauga word "omiimiikaa", meaning "place of the wild pigeon".

Toronto Reference Library, Rare Collections, "Passenger Pigeon (Male)" by William Pope, 1835

Birds at Risk

Thirty-nine of the bird species considered "At Risk" by the Canadian and Ontario governments have been seen in Toronto. Some of these species even breed here: Peregrine Falcons, Chimney Swifts, Common Nighthawks and Barn Swallows nest on Toronto buildings.

Under Ontario's Endangered Species Act, COSSARO (Committee on the Status of Species at Risk in Ontario) designates Ontario species at risk as extirpated (i.e. no longer found in Ontario), endangered, threatened or of special concern. Recovery strategies are developed for every endangered or threatened species within 2 years, and these species and their habitats are protected when they are listed.

The federal Species at Risk Act (SARA) works similarly: COSEWIC (Committee on the Status of Endangered Wildlife in Canada) recommends an at-risk status for a species which may or may not be adopted by the federal Cabinet. If a species is assigned an at-risk rank, a Recovery Strategy is developed to protect and recover the species. For more information visit ontario.ca/speciesatrisk and sararegistry.gc.ca

Chimney Swift Image: Barry Kent MacKay

Birds and the Law

In addition to legislation protecting species at risk, birds are protected by other laws. The oldest of which is the federal Migratory Birds Convention Act (MBCA), enacted in 1917 to implement a treaty with the United States to control hunting and to protect valued birds throughout the continent. Almost all bird species are protected under this Act, or the Ontario Fish and Wildlife Conservation Act. Under these Acts it is illegal to possess protected birds, eggs or nests without a permit. It is also illegal to release nonnative wildlife into the environment.

Birds are also protected under Ontario's Environmental Protection Act (EPA) and the federal SARA through policies that restrict reflected light from buildings that can kill. In 2013 the Ontario Court of Justice ruled that reflected light discharged from buildings are "contaminants" under Ontario's EPA. Owners or managers of buildings whose design results in death or injury to birds could be found guilty of an offence under the EPA, as well as the SARA where death or injury occurs to a species at risk, if they fail to take all reasonable preventative measures.

Under Ontario's Prevention of Cruelty to Animals Act and the Criminal Code, it is illegal to kill, injure, or cause or allow unnecessary pain, suffering or injury to any animal.



Bald Eagles do not develop their distinctive white head and tail until they are between four and five



Major Threats to Birds

It is estimated that more than 2 billion migratory birds are killed across North America as a direct result of human actions – excluding the indirect impacts of climate change, invasive species, habitat destruction from deforestation, agriculture and urban sprawl. Simple changes in our daily lives can reduce these losses.

Common Threats to Birds:

Cats	Power lines
Collisions with:	Vehicles
Windows/buildings	Wind turbines



Dark-eyed Junco is a victim of building collision in Toronto Photo: Mary Barber



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It is estimated over 1 million migratory birds die each year in Toronto due to collisions with buildings. This image shows only a portion of dead birds recovered in Toronto by FLAP Canada during 2015. Photo: FLAP Canada

Top 20 Victims of Building Collisions in Toronto

White-throated Sparrow Golden-crowned Kinglet Ovenbird Ruby-crowned Kinglet Brown Creeper Dark-eyed Junco Hermit Thrush Nashville Warbler Common Yellowthroat Black-capped Chickadee Magnolia Warbler Ruby-throated Hummingbird Black-and-white Warbler Black-throated Blue Warbler Yellow-bellied Sapsucker Swainson's Thrush American Woodcock Fox Sparrow Black-throated Green Warbler Song Sparrow

Top Species at Risk Victims of Building Collisions in Toronto

Wood Thrush Canada Warbler Eastern Whip-poor-will Rusty Blackbird Chimney Swift Common Nighthawk

Birding Ethics (adapted from Ontario Field Ornithologists - ofo.ca)

Birders must be ambassadors of birding and environmental stewardship. The welfare of the birds must come first.

PROTECT HABITAT

Appropriate habitat is vital for the existence of birds and we must ensure that our activities cause minimum damage to our environment. Use trails, pathways and roadsides, whenever possible, to avoid trampling vegetation.

KEEP DISTURBANCE TO A MINIMUM

Although some birds can tolerate human activity, this varies from species to species and from season to season. Migrants may be tired and hungry and should not be kept from resting or feeding.

To avoid stressing birds or exposing them to danger, exercise restraint and caution during observation, photography, sound recording or filming.

Keep well back from nests and nesting colonies, roosts, display areas and important feeding sites. You may wish to report any nests you find with Bird Studies Canada's Project NestWatch (birdscanada.org/volunteer/ pnw) and help provide valuable information on breeding success.

Avoid visiting known sites of rare breeding birds unless they can be viewed from a distance without disturbance.

RARE BIRDS

Rare migrants or vagrants are the species most sought after by birders. Before advertising the presence of a rare bird, evaluate the potential for disturbance to the bird, its surroundings and other people in the area, and proceed only if access can be controlled, disturbance minimized and permission has been obtained from private landowners. Remember, most non-birders will be surprised by the number of visitors who wish to see a rare bird.



Birders protecting habitat by staying on the road Photo: Mark Peck

RESPECT THE RIGHTS OF LANDOWNERS

Be aware of the rules about access to Conservation Areas, National Parks and Provincial Parks. Do not enter private property without the owner's explicit permission. Follow all laws, rules and regulations governing use of roads and public areas, both at home and abroad. Practice common courtesy in contacts with other people.

HAVE CONSIDERATION FOR OTHER BIRDERS

Try not to disrupt other birders' activities or scare the birds they may be watching. Be polite to other birders and helpful to beginners. Many other people enjoy the outdoors; do not interfere with their activities.

HAVE FUN AND INCREASE KNOWLEDGE OF BIRDS

Send your findings to Citizen Science programs like eBird (ebird.org), Project Feeder Watch (birdscanada.org/volunteer/pfw) and Christmas Bird Counts (birdscanada.org/volunteer/cbc)



The Story of "Flicker" Toronto's (un)Official Bird: Northern Flicker *(Colaptes auratus)*

Returning to Toronto and the rest of southern Ontario in late March and early April, the Northern Flicker is a sure sign of spring. Their brown and black, barred and spotted bodies, black bib, conspicuous white rump and golden yellow wing linings are key identification features. Males can be easily distinguished from females by the distinctive black mustache on their cheek. Their loud, rapid call often described as *"wik-a-wik-wik-a-wik-a"* is common in early spring as flickers begin establishing territories and attempting to attract mates.

Flickers are members of the woodpecker family but, unlike most woodpeckers that feed on trunks and branches of trees, flickers are commonly observed foraging on the ground in search of their favourite food, ants! However, they also feed on other invertebrates and even switch over to fruit in late fall and winter. They are well adapted to a variety of habitats and are commonly found in woods, forest edges, rural, suburban and urban areas. They nest in cavities, usually excavating a new hole each year in trees, snags, hydro poles, fence posts and even nest boxes, often providing future homes for many other cavity nesting species. Look for them in the many ravines and parks throughout Toronto and don't be surprised if you see one working away at an anthill in your own backyard!

24 **Breeding Birds**

The most widespread and obvious breeding birds in Toronto are the Rock Pigeon, European Starling and House Sparrow, all of which are introduced species from Europe, and well-adapted to the urban environment. However, a total of 146 species have been confirmed breeding within the City. Although the Rock Pigeon may nest in any month, the breeding season for most species occurs between April and August. The protection of a wide range of habitats is essential to maintaining our local diversity of breeding birds.



Spotted Sandpiper

Ring-billed Gull

Common Tern



Double-crested Cormorant



Great Egret





Red-tailed Hawk



Eastern Screech-Owl



Pileated Woodpecker



Warbling Vireo





Blue Jay



Red-breasted Nuthatch



Northern Mockingbird



European Starling





American Goldfinch



Song Sparrow



Baltimore Oriole



Featured Breeding Birds: Common

Northern Cardinal (Cardinalis cardinalis)

The Northern Cardinal is one of Toronto's most common and widespread breeding birds today. It was first recorded here in 1900, and the first confirmed local nesting of this formerly more southern species occurred in 1922. It is now a year-round resident that is equally at home in backyard trees, shrubs and vines as in the tangles and thickets of our ravines and parks. The male is instantly recognizable with its brilliant red plumage and bill, prominent crest, black face and bib, and loud, whistling "cheer cheer" song. The female also has red wings, tail, bill and crest, but is otherwise more cryptically coloured in buffy grey and brown feathers. Males begin singing on the first warm days in late February, and pairs nest from early April to late September. While they are mainly seed eaters and favourites at bird feeders, fruit and invertebrates make up an important part of their diet in late summer and fall, when they require food sources rich in carotenoid pigments to replace their bright red feathers during their molt period.





Northern Cardinal, male Photo: Mark Peck

American Robin (Turdus migratorius)

For many, the cheerful early morning chorus of the American Robin is the first sign of spring. Found across North America, the American Robin is seen year round in Toronto flocking to fruit trees in winter. A member of the thrush family, it is a large songbird with a plump appearance. Males and females look similar, though females have gray, not black heads, and have paler orange underparts. White tail tips are visible in flight. Females build and tend cup-shaped nests made of grass, mud and twigs. They lay 3-5 light blue coloured eggs and can nest up to three times during the spring and summer. Robins eat insects and berries; they are commonly seen looking/ listening for worms on grass or standing tall, motionless and with their head turned so that one eye is looking down.

American Robin, male Photo: Ian Sturdee

Featured Breeding Birds: Uncommon

Indigo Bunting (Passerina cyanea)

Although Indigo Bunting males may be one of the most strikingly beautiful breeding birds in the Toronto area, they are often overlooked by the casual observer. Indigo Buntings are sparrow-sized birds that feed on seeds much of the year but during the summer switch to a high-protein diet of insects and other invertebrates. Males are a brilliant indigo blue while females are a crypticallycoloured brown. They are nocturnal migrants, using the stars to migrate, arriving back to southern Ontario in late April and early

May. Males quickly establish territories. singing their bouncy, buzzy; "sweet-sweet, chew-chew, sweet-sweet" song from exposed perches, telephone wires and the tops of bushes. They prefer brushy, weedy habitat and may often be found at the edges of parks and along rural roads. Nests are built by the female low in bushes and shrubs, and she is solely responsible for incubation of the eggs and care of the young.



Indigo Bunting, male Photo: Mark Peck



Common Nighthawk Photo: Jim Richards

Common Nighthawk (Chordeiles minor)

The Common Nighthawk was once a regular breeding bird in Toronto, nesting on the city's many older, gravel-roofed buildings. It's booming courtship displays and nasal "peent" calls are well known to long-time birders in our area. The second Ontario Breeding Bird Atlas demonstrated a serious decline in numbers in all of Ontario's atlas regions except the Hudson Bay Lowlands. It has declined noticeably as a summer resident in our area in the last 20 years, likely due to a combination of fewer suitable rooftops for nesting, increased nest predation and insect decline. Despite its decline as a breeding bird, large pulses of fall migrants are still regularly detected in a narrow date range over the last 10 days of August (a record total of 1,129 was seen just north of High Park on 27 August 2001). Such large and impressive late August flights were described by both James H. Fleming a century ago and Charles Fothergill two centuries ago. Common Nighthawks leave North America to spend the winter months in northern South America.

28 Wintering Birds

Although many of our bird species migrate south prior to the start of winter, several other species remain all year. In addition, some species that spend their summer farther north move south to overwinter in Toronto and the surrounding areas. Lake Ontario, our sheltered ravines and parks, and the popularity of backyard bird feeders all help to provide a variety of habitats and food resources for a rich diversity of winter birds. The Toronto Christmas Bird Count, a one day count of birds seen in Toronto, usually records 80-100 species each year.



Common Goldeneye

Common Merganser

Red-breasted Merganser



Mourning Dove



Pine Siskin

American Goldfinch

American Tree Sparrow

Dark-eyed Junco

Featured Wintering Birds

Long-tailed Duck (Clangula hyemalis)

The most characteristic winter anthem for the Toronto waterfront is melodic yodeling of large flocks of wintering Long-tailed Ducks. This Arctic breeding bird of freshwater tundra wetlands arrives to winter on the Toronto waterfront from as far away as Siberia, Ellesmere Island and Greenland. Several hundred thousand Long-tailed Ducks routinely winter on Lake Ontario from mid-October to mid-May; the Toronto section of the Mid-Winter Waterfowl Inventory alone has tallied more than 23,000 individuals. Long-tailed Ducks spend considerable time under water diving up to 60 meters for food such as insects, crustaceans and fish. They get their name from the male's elegant long, central tail feathers.



Black-capped Chickadee Photo: Mark Peck



Long-tailed Duck Photo: Mark Peck

Black-capped Chickadee (Poecile atricapillus)

There is no better ambassador for birds than the Black-capped Chickadee! This cute, bold ball of energy with its inquisitive nature makes it a favourite in parks and at backyard birdfeeders. The next time you are out for a winter walk in your local park or ravine bring some sunflower seeds, wait until you hear "chickadee-dee-dee" then hold out a handful of seeds and wait for the birds to arrive. Chickadees are year round residents in southern Ontario, and throughout much of Canada. Males and females look alike and even young birds look very similar. Black-capped Chickadees are one of the earliest nesting species, often starting in late April. They are cavity nesters, usually excavating in dead trees but they will also use bird houses. Inside the cavities, nests are constructed with mosses, grasses and twigs, and almost always lined with animal hair and plant down. Despite its small size, a chickadee often lays 6-8 eggs in a single brood.

Migratory Birds

Even the most casual observer will appreciate the amazing sights and sounds associated with bird migration. Spring migration begins in March with the return of many species of waterfowl, sparrows and blackbirds. As the days grow warmer and longer, species diversity rapidly increases, peaking in mid-May with the brilliantly-coloured warblers, grosbeaks and tanagers finding food and safety in our green spaces and ravines. Some will stay for the summer while others will continue farther north to breed in the boreal forest and even on the Arctic tundra. By July, adults and juveniles of some species have already begun to head back south, still requiring food resources and a diversity of habitats to ensure their safe journey.



Whimbrel

Sanderling





Common Loon





Golden-crowned Kinglet



Ruby-crowned Kinglet



Swainson's Thrush



Hermit Thrush



Gray Catbird



Cedar Waxwing





Chipping Sparrow



Savannah Sparrow













Common Grackle





Golden-winged Warbler



Blue-winged Warbler



Black-and-white Warbler



Nashville Warbler



Mourning Warbler





American Redstart



Magnolia Warbler





Blackpoll Warbler



Black-throated Blue Warbler





Yellow-rumped Warbler



Black-throated Green Warbler





Scarlet Tanager



Rose-breasted Grosbeak



Indigo Bunting

Featured Migratory Birds

Turkey Vulture (Cathartes aura)

Every March, Turkey Vultures begin to arrive back in Toronto. Most will migrate through the city heading to breeding sites farther north, but some will stick around and spend the summer scavenging in our ravines and rural areas. They are easy to recognize: a large dark bird soaring, teetering irregularly, rarely flapping, with its wings held in a "V". Vultures ride thermals and are able to take advantage of the warm air rising from buildings, hills and escarpments. Unlike most birds, they have an excellent sense of smell, allowing them to find animal corpses and carcasses along roadsides and hidden under the forest canopies. The bald, red head of the adults are distinctive and help them stay clean while scavenging. By early October, "committees" of Turkey Vultures can be observed at the High Park Hawk Watch as they head south to spend the winter in Georgia, Florida and the Caribbean.



Ruby-throated Hummingbird Photo: Carol L Edwards



Turkey Vulture Photo: Mark Peck

Ruby-throated Hummingbird (Archilochus colubris)

Ruby-throated Hummingbirds may be small but gram for gram they are one tough little bird. Weighing approximately 3.5 g (similar to a nickel) hummingbirds return to Toronto in late April, from wintering areas in Central America. Some even fly over the Gulf of Mexico along their route. They are the only hummingbird regularly found in eastern North America. They feed on nectar and small insects but are often assisted by hummingbird feeders. Males establish territories and initiate courtship displays hoping to attract one or more females to their site. Females build tiny nests with plant downs, decorated with lichens held together by spider webs. They are also solely responsible for incubating the eggs and looking after the young. The eggs will hatch in 12-14 days and the young will remain in the nest for almost another three weeks before fledging.

Featured Migratory Bird

Blackpoll Warbler (Setophaga striata)

Blackpoll Warblers are one of the most numerous birds coast-tocoast across the boreal forest. During spring and fall migration these epic travellers are often seen feeding in the trees of Toronto's backyards and parks. The name refers to the male's black cap, which he sports only during spring and summer.

Though not impressive in appearance or voice (the song is an unremarkable, yet distinctive series of high pitched notes), Blackpoll Warblers are renowned for their extraordinary migratory feats. In fall, birds from across North America sweep eastward to the Atlantic coast, where they stop for a week or two to refuel. Birds that normally weigh 12-14 g (about 2 toonies) fatten up by gorging on insects, and almost double their body mass in just a week. They then launch on a 2,500-3,000 km, 2-3 day non-stop flight over the Atlantic Ocean to the Greater Antilles where they land exhausted and depleted. The flight is aided by the northeast trade winds which gives them an extra push as they approach the tropics. The last leg of their fall migration is a short 1,000 km hop to Venezuela and Columbia where they spend the winter alongside toucans, parrots and monkeys. For populations in western Alaska, the total annual round trip is over 19,000 km!

Like many migratory birds, Canadian populations of Blackpoll Warblers have been declining steeply in recent decades but the exact cause is not known. Their breeding range includes huge remote areas of boreal forest that are still intact. In South America, habitat loss is not likely a big problem for blackpolls because they readily occupy secondary forest and are often found in disturbed habitats. With urbanization and habitat loss at key stopover sites, it is possible that their migration journey has become far more dangerous.



Blackpoll Warbler Photo: Jim Robinson




Radar Images of Nocturnal Migration



Massive clouds of migrating birds show up as bright red on the Doppler weather radar station (in clear air mode) in Buffalo, NY. These images were taken on 16 May 1999 and show how birds suddenly fill the sky after sunset, then move north along the shores of Lake Ontario and over the city of Toronto. Sunset and sunrise are marked by long red lines, formed by the sun's rays as they strike the narrow radar beam low on the horizon. Bridget Stutchbury, Silence of the Songbirds, Harper Collins (2007). Images courtesy of John Black, Brock University

Keeping Common Birds Common

The concern for and interest in rare birds is understandable. At the personal level it's fun to discover the unexpected. At the landscape level, the presence of a rare breeding species can alter planning policies, whether it be in the granting of development permits or the management of natural areas. However, focus on such species to the exclusion of commoner species can result in poor stewardship of the natural world.

Accordingly, Toronto and Region Conservation Authority (TRCA) decided that rather than ranking species by abundance alone, they would consider the ecology of a species in order to predict what might happen to such species as urbanization spreads across the region. This may help us prevent currently common species from becoming scarce.

For example, if there had been a better understanding of the ecological needs of, and more care and respect for the Passenger Pigeon, once the most numerous bird on the planet, perhaps we'd still be able to witness the spectacle of their vast, sky-darkening flocks last seen 150 years ago. Even now, we need to consider and care about common birds such as chickadees, Gray Catbirds and Red-eyed Vireos. These common birds, found in gardens and ravines across the city of Toronto, are ignored by birdwatchers in search of rare species, but they tell an important story about biodiversity in the city. What is it about these species that enable them to thrive in the urban landscape? What pressures could tip them into decline? What are we doing right for these birds, and what might we accidentally do wrong?

Using the TRCA's ranking method, several relatively abundant species such as Gray Catbird, Eastern Wood-Pewee and Killdeer are all ranked as "Species of Urban Concern." These are species which, although common in the region, are vulnerable to urban impacts

10 SPECIES OF URBAN CONCERN COMMONLY NESTING IN TORONTO

Gray Catbird Indigo Bunting Eastern Wood-Pewee Blue-gray Gnatcatcher Rose-breasted Grosbeak Red-eyed Vireo Eastern Kingbird Great Crested Flycatcher Willow Flycatcher Common Yellowthroat





Gray Catbird Photo: Mark Peck

Rose-breasted Grosbeak Photo: Mark Peck

which could result in their decline and eventual loss from the cityscape. Between 2007 and 2016, TRCA staff mapped a total of 581 Gray Catbird territories within the city limits; pretty much every ravine held its own small breeding population of this migratory songbird. All they need is a patch of relatively undisturbed dense shrub where they can forage and nest out of harm's way (harm unfortunately often being a wandering house cat) – and if they find this, then individuals are likely to return every spring from the southern US or Mexico to raise another brood.

Unfortunately, TRCA cannot monitor all nests of common species, but documents annual presence or absence within 10 km grid squares across the region. Such species have been appropriately ranked to indicate the lowest level of concern. It's important to understand that even such resilient species may one day face challenges from intense urbanization.

Colonial Waterbirds

Toronto's location on the shore of Lake Ontario, as well as the habitats in two prominent parks [Humber Marshes, Tommy Thompson Park (TTP)], makes the city a desirable nesting location for colonial waterbirds such as terns, gulls, herons and cormorants. Terns are graceful birds in the same family as gulls, but feed almost exclusively on fish. Common Terns have a sleek white throat, light grey belly, gray back and forked tail. During breeding season they sport a black cap a thin orange-red bill with a black tip and dark red legs. They nest in large groups on low, sparselyvegetated islands, and are in constant communication with one another. Less abundant in Toronto, but present in most years, is the Caspian Tern. Larger than the Common Tern, the Caspian Tern is distinguishable by its heavier red bill, black legs and shorter tail. Caspian Terns build scrape nests along rocky shorelines.

Also breeding in Toronto are Black-crowned Night-Herons. Adults have light-grey body feathers, a black back and top of head. They sport bright red eyes during breeding season, have a black bill and yellow legs. These Night-Herons regularly nest with other species, specifically Double-crested Cormorants and Great Egrets in Toronto. In 2000, 31% of Canada's population nested at TTP! They build shallow nests of sticks in trees and shrubs. As their name suggests, they actively forage for food at night, opportunistically feeding on fish, plants, invertebrates, small mammals, reptiles, birds and eggs.

Did you know?

Colonial waterbirds are species of birds that nest together in high densities (hence colonial; think of people living in high-rise buildings in downtown Toronto) on the shorelines of freshwater lakes or oceans.



Caspian Terns (and a Ring-billed Gull in the foreground) Photo: TRCA





Great Egret Photo: Ian Sturdee

Common Tern Photo: Chris Henry

Cormorants

The Double-crested Cormorant is the second most abundant bird at TTP, and one of the most obvious breeding bird species there. These cormorants are large, black, fish-eating birds that nest in large colonies on freshwater lakes either in trees or on the ground. Though they impact certain local fish populations, and the trees they nest in die, they are a native species worth celebrating as they have made a dramatic recovery from near extirpation. Cormorant reproductive success was significantly impacted by DDT from the 1950s to the 80s while the chemical was prevalent in the environment; DDT caused a thinning of eggshells and the cormorant population plummeted. Cormorants returned to Toronto, specifically at TTP in 1990 and the population has grown from six breeding pairs to 14,505 in 2018 – the largest colony in North America!

As noted above, cormorants damage trees they nest in. They nest in high density; build large, heavy nests, strip bark from trees for nesting material; and their guano (excrement) is highly acidic which changes the soil chemistry and limits the nutrients that can be absorbed by the trees. These behaviours have negative impacts on the trees which decline in health until they die. Typically, as trees die, cormorants move into healthy trees.

In an effort to limit the loss of tree canopy at TTP, TRCA, with help from an Advisory Committee, devised a management plan that discourages cormorants from nesting in healthy trees and encourages ground nesting. The management strategy has been highly successful with 74% of the population nesting on the ground in 2018 (compared to 15% in 2008) – a sustainable nesting option for both the cormorants and other species at the park. A significant number of trees have died over this period, but most of those trees were already dying when the strategy started - very few healthy trees have since been lost.

For more information about the Tommy Thompson Park Cormorant Management Strategy please visit trca.ca/cormorants



Double-crested Cormorant Photo: Paul Prior



Tree nesting cormorants Photo: TRCA



Cormorant ground nest colony (Gail Fraser) Inset: Aerial view of cormorant ground nest colony (TRCA)

42 Gulls

For many Torontonians, 'seagulls' are pesky birds at picnic sites and parking lots of fast food restaurants, begging for scrap food and eating garbage. This however, is far from the natural habitat and behaviours of gulls. The commonest gull in Toronto is the Ringbilled Gull, named for the distinctive black ring near the tip of the yellow bill. The Ring-billed Gull is a year-round resident of the city and along the shorelines of Lakes Ontario and Erie, but most migrate south to warmer regions for the winter. Ring-billed Gulls are colonial nesters that build minimal scrape nests of twigs and grasses on open ground near freshwater. A natural diet includes fish, insects and rodents, however, like all gulls, they are opportunistic and will eat grains, garbage and french fries.

The Herring Gull is also found in Toronto year-round, but is less common and has a significantly lower population than the Ringbilled Gull especially in summer when most Herring gulls are nesting on Canada's eastern and northern coasts. They are larger in size than Ring-billed Gulls but are otherwise similar in appearance. The key differences are a large red dot near the tip of the yellow bill and pink legs. Herring Gulls are colonial nesting birds that build minimal scrape nests lined with grasses and feathers placed up against logs or rocks (if available) near shorelines. They eat fish, insects, other gulls and eggs. Also opportunistic, they will scavenge for fish and dead animals.

The Toronto waterfront provides wintering grounds for a number of other gull species. Mixed in with flocks of Ring-billed and Herring Gulls, a keen birder may be able to find Great Black-backed, Iceland and Glaucous gulls. The Great Black-backed Gull breeds on the east coast along the north Atlantic, while the Iceland and Glaucous gulls breed in the Arctic. Other rare gull species are occasionally observed including Laughing and Lesser Black-backed.



Ring-billed Gulls at their nest site Photo: Gail Fraser

The term 'seagull' refers to a diverse group of gull species, some of which rarely see the sea. The classic 'seagull' is the Herring Gull.

Did you

know?

Hawks & Falcons

As long as you are not viewing things from a pigeon's or a sparrow's perspective, one really good news story for Toronto biodiversity is the increase in hawks and falcons nesting within the city limits in the last decade or two. For many years, Red-tailed Hawks and American Kestrels were the only raptors commonly seen in the city outside migration seasons. Then, in the 1990s, Cooper's Hawk, thought to need large tracts of forest in which to hide away from human disturbance, began to show up as a nesting species. Numbers continued to climb through the new millennium to the extent that now the species is perhaps as abundant as the larger red-tail. TRCA surveys found that nesting territories across the city increased from 8 in 2007 to 34 in 2016. They are now in most large ravines, as well as several city parks.

The success story for Peregrine Falcons in the city is well-known: they have taken advantage of the abundant supply of pigeons and starlings, just as Cooper's and Red-tailed hawks have. Less well known but likewise remarkable is the recent incursion by the smaller but equally dynamic Merlin. This dashing little falcon had not previously been recorded nesting in the Toronto area until 2014 when a pair was discovered nesting in Brampton. In that same year it was suspected that a pair may have nested in Rouge Park, and in 2015 a pair raised young in a local birder's backyard, just east of the DVP! This pair returned in 2016 (as did the Brampton birds), and birders await future expansion into the city.

Another species that has increased dramatically around Toronto, but not yet within the city, is the Osprey. They were occasional nesters in the GTA until a decade ago when pairs began using some of the telecommunication towers sprouting up across the landscape. There are now at least a dozen known nests in the GTA, one just 8 km east of the Rouge Park – in an industrial estate! It's surely just a matter of a few years before a pair moves into the city.



Cooper's Hawk with a Rock Pigeon prey Photo: Mark Peck



Red-tailed Hawk Photo: TRCA

44 0wls

There is perhaps no other group of birds that holds the same allure as owls. Owls seem to have an intrinsic ability to captivate people, and draw them into the wonder of nature. In fact, they are so popular that many natural area managers and birding organizations have special policies for reporting, or not reporting, the specific locations of owls in order to protect them from harassment. If you're lucky enough to come across an owl, give it the respect it deserves by giving it enough space, being quiet and enjoying its natural behaviour in the natural environment.

Owls have some pretty special features that allow them to be secretive predators that exploit a niche few birds do – night. With many rod cells in their eyes, most owls have excellent night-time vision. While their eyes don't move, owls can swivel their heads more than 180° without moving the rest of their body, thereby avoiding detection by potential prey. Not only are owls supremely camouflaged, their flight feathers have fringed edges and lots of downy surface making their flight silent so their prey (and people) can't hear them coming. Many species have facial disc feathers that direct sound to their ears, which are often asymmetric allowing for extremely focused, sensitive hearing – some species can hear mice beneath snow more than a foot deep!

Interestingly, not all owls are strictly nocturnal. Snowy, Northern Hawk and Short-eared owls hunt during the day, and other species including the Great Gray, Barred and Great Horned owls will also sometimes hunt during the day. Owl prey varies but is primarily small mammals and invertebrates. The size of targeted prey depends largely

Did you know?

Owls regurgitate indigestible items like fur and bones in the form of "pellets". Pellets are usually found where owls roost and can be very helpful in determining diet.



Barred Owl Photo: Ian Sturdee



Great Horned Owl Photo: Mark Peck



Photo: Mark Peck



Long-eared Owl Photo: Mark Peck



Northern Saw-whet Owl Photo: Ian Sturdee

Snowy Owl Photo: Ian Sturdee



on the size of the owl, however Great Horned Owls are noted for targeting prey that is sometimes larger than they are!

While there have been 12 species of owls recorded in Toronto, only a handful are residents or regular visitors. Two species are known to be regular nesters in Toronto: Eastern Screech-Owl and Great Horned Owl. Regular visitors to Toronto include Northern Saw-whet Owl that migrates through the city in spring and fall, and Long-eared Owl that often winters in Toronto's wooded areas. Snowy and Short-eared owls winter here in some years but are absent in others. Northern Hawk, Great Gray, and Boreal owls are even less common winter visitors to the city. The Barn Owl is a species of extreme southern Ontario and is classified as Endangered under the provincial Endangered Species Act; it has is not been recorded in Toronto for decades, although there are 2 records for Durham region in this century.

Many species of owls have declined in and around Toronto due to habitat loss. The open grasslands Short-eared Owls require have been fragmented and developed. The large expanses of forests required by Northern Saw-whet, Barred, and Long-eared owls have been replaced by houses and highways. These species no longer breed in the city. TRCA and the City of Toronto contribute to the restoration of habitat that owls need through tree planting, which will lead to future forests; stream and wetland restoration, which supports the food web that owls rely on; and through screech-owl nest-boxes that mimic tree cavities.

Did you know?

Even though European Starlings can be prey for Eastern Screech-Owls, starlings are fierce competitors for nest cavities and can sometimes evict screech-owls from nest cavities.

Crows, Ravens and Jays

46

The crow must be one of our most familiar birds, but it belongs to a diverse group known as corvids, which includes 130 species, most found in tropical regions. About one-third of corvids are crows and ravens, large birds dressed primarily in glossy black plumage.

A common corvid in Toronto is the American Crow, although it's still much less common than before the arrival of West Nile virus. A nesting pair of American Crows is frequently supported by nonbreeding helpers (grown offspring that help parents and defend their territory). American Crows are often noticed noisily fending off intruders or mobbing a predator with a loud cacophony of calls. Like all corvids, they are inquisitive and intelligent birds.

Two close look-alike species have recently arrived in Toronto: the Common Raven from the north and the Fish Crow from the south. The raven was common in southern Ontario before the land was cleared for agriculture. It tends to replace the American Crow at northern latitudes and higher elevations, but it was found breeding within Toronto in 2014. It is distinguished by its voice, larger size and wedge-shaped tail (versus fan-shaped). The Fish Crow from the eastern coastal US is very similar to the American Crow but slightly smaller and best distinguished by a higher-pitched, nasal voice. This species is a very rare find in the Toronto, but is being spotted more frequently in southern Ontario.

The only other corvid species likely to be encountered in Toronto is the Blue Jay. Iconic and unmistakable, Blue Jays breed mainly in forests, but adapt well to forest edges and residential areas. Some individuals stay year-round, while others head south in fall in flocks that can number in the hundreds!





American Crow Photo: Pierre Robillard



Most corvids are wary, but with a little patience, observation is likely to yield interesting insights into the behaviours of this very intelligent group of birds.

Common Raven Photo: Mark Peck

Aerial Insectivores

Aerial insectivores are birds that specialize in hunting for flying insects while in flight. This group includes swifts, swallows, nightjars and flycatchers. They occupy varied habitats ranging from mature forests and open woodlands, to grasslands, farmlands and urban areas. Aerial insectivores are incredible to watch in action – flying acrobatically through the air chasing insects ("hawking"), or flying out from a perch to snatch an insect from the air ("sallying").

But aerial insectivores are in serious trouble – populations of most species are declining steeply, more than any other group of birds. All aerial insectivores in Toronto migrate and it seems that the longest distance migrants (swallows, swifts and nightjars) have experienced the greatest rate of decline. Chimney Swifts have declined 98% in the last 50 years.

We don't have exact reasons for the decline of these bird populations but we can make some informed guesses. It's likely the combined impact of these factors is more significant than any single cause. The following factors are thought to play the biggest role in the decline of aerial insectivores:

- Fewer insects due to habitat loss (e.g. loss of wetlands) and modification (e.g. intensive monoculture farming), as well as pesticide use and light pollution;
- Loss of nesting habitat (e.g. loss of natural habitat and loss of substitute habitats like chimneys); and loss of migratory and overwintering habitats; and
- Climate change. See page 16.

The decline of these birds is concerning – birds are often indicators of ecosystem health. Their population decline

is a symptom of serious problems with our ecosystem, problems that are likely affecting other wildlife populations that are more challenging to monitor. Ultimately these problems may also directly affect people, or they may already be affecting us – we just haven't yet made the connection.



Swallows gathering over Tommy Thompson Park Photo: Ann Gray

Did you know?

Chimney Swifts spend most of their lives in the air. They lack the ability to perch upright and instead cling to vertical surfaces when resting. Before chimneys, swifts nested in large hollow trees, but when land was cleared of forests they adapted well to chimneys.

Did you know?

Aerial insectivores perform the important ecosystem service of pest control – they eat insects that humans typically consider pests. A Barn Swallow eats up to 60 insects an hour. That's about 850 insects a day!

Toronto Bird Checklist

The list below represents all of the bird species documented from within the City of Toronto - 369 species. This number continues to grow as sightings of rare and out-of-range birds are collected by the public. The Toronto Ornithological Club maintains the bird list for Toronto, and public submissions of bird sightings are welcome to be included in their database through the eBird Canada website - a real-time, online bird checklist program.

- = Abundant
- Common
- = Uncommon
- = Rare

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- = Vagrant
- = Extirpated
- = Extinct

= Breeds regularly in Toronto

R = Designated "At-Risk" by COSARRO and/or COSEWIC

DUCKS, GEESE AND SWANS

- Snow Goose
- Ross's Goose
- Greater White-fronted Goose
- Brant
- Cackling Goose
- Canada Goose *
- Mute Swan *

- Trumpeter Swan *
- Tundra Swan •
- Wood Duck * •
- Blue-winged Teal •
- Northern Shoveler •
- Gadwall *
- Eurasian Wigeon
- American Wigeon •
- Mallard *
- American Black Duck * •
- Northern Pintail •
- Green-winged Teal •
- Canvasback *
- Redhead •
- **Ring-necked Duck** •
- Tufted Duck
- Greater Scaup
- Lesser Scaup •
- King Eider •
- Common Eider
- Harlequin Duck R
- Surf Scoter .
- White-winged Scoter •
- Black Scoter •
- Long-tailed Duck .
- Bufflehead •
- Common Goldeneve •
 - Barrow's Goldeneve
 - Hooded Merganser • •
 - Common Merganser
 - Red-breasted Merganser •

Ruddy Duck

PHEASANT, GROUSE AND TUR-**KEYS**

- **Ring-necked Pheasant**
- Ruffed Grouse
- Willow Ptarmigian
- Greater Prairie-Chicken R
- Wild Turkey

GREBES

- Pied-billed Grebe * •
- Horned Grebe R
- Red-necked Grebe *
- Eared Grebe
- Western Grebe

PIGEONS AND DOVES

- Rock Pigeon *
- Passenger Pigeon
- White-winged Dove
- Mourning Dove *

CUCKOOS

- Yellow-billed Cuckoo * •
- Black-billed Cuckoo * •

NIGHTJARS

- Common Nighthawk * R •
- Eastern Whip-poor-will R ۲

SWIFTS

Chimney Swift * R

HUMMINGBIRDS

Ruby-throated Hummingbird * •

RAILS, GALLINULES, AND COOTS

- Yellow Rail R
- King Rail R
- Virginia Rail *
- Sora * •
- **Purple Gallinule**
- Common Gallinule
- American Coot

CRANES

- Sandhill Crane •
- Whooping Crane R ۲

STILTS AND AVOCETS

- Black-necked Stilt
- American Avocet

OYSTERCATCHERS

American Oystercatcher

PLOVERS

•

- Black-bellied Plover
- American Golden-Plover
- Wilson's Plover

Killdeer *

- **Common Ringed Plover**
- Semipalmated Plover Piping Plover R

SANDPTPERS AND PHALAROPES

- Upland Sandpiper
- Whimbrel
- Eskimo Curlew
- Hudsonian Godwit
- Marbled Godwit ۲
- Ruddy Turnstone
- Red Knot R
- Ruff
- Stilt Sandpiper •
- Sanderling
- Dunlin
- Purple Sandpiper •
- Baird's Sandpiper •
- Least Sandpiper
- White-rumped Sandpiper
- Buff-breasted Sandpiper R •
- Pectoral Sandpiper
- Semipalmated Sandpiper •
- Western Sandpiper
- Short-billed Dowitcher
- Long-billed Dowitcher •
- American Woodcock * •
- Wilson's Snipe
- Spotted Sandpiper *
- Solitary Sandpiper •
- Lesser Yellowlegs
- Willet •
- **Greater Yellowlegs**
- Wilson's Phalarope •
- Red-necked Phalarope R •

Red Phalarope

JAEGERS

- Pomarine Jaeger
- Parasitic Jaeger
- Long-tailed Jaeger

AUKS AND MURRES

- Thick-billed Murre
- Ancient Murrelet

GULLS AND TERNS

- Black-legged Kittiwake
- Ivory Gull R
- Sabine's Gull
- Bonaparte's Gull
- Little Gull
- Laughing Gull
- Franklin's Gull
- Heermann's Gull
- Mew Gull
- Ring-billed Gull *
- California Gull
- Herring Gull *
- Iceland Gull
- Lesser Black-backed Gull
- Slaty-backed Gull
- Glaucous Gull
- Great Black-backed Gull
- Caspian Tern *
- Black Tern R
- Common Tern *

- Arctic Tern
- Forster's Tern

LOONS

- Red-throated Loon
- Pacific Loon
- Common Loon

SHEARWATERS AND PETRELS

- Black-capped Petrel
- Great Shearwater

GANNETS

Northern Gannet

CORMORANTS

- Neotropic Cormorant
- Double-crested Cormorant *
- Great Cormorant

PELICANS

- American White Pelican R
- Brown Pelican

HFRONS

- American Bittern
- Least Bittern R
- Great Blue Heron * •
- Great Egret * •
- Snowy Egret
- Little Blue Heron
- Tricolored Heron
- Cattle Egret

- Green Heron *
- Black-crowned Night-Heron *

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Yellow-crowned Night-Heron

IBISES

- Glossy Ibis
- White-faced Ibis

VULTURES

- Black Vulture
- Turkey Vulture *

OSPREY

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BARN OWLS

Osprey •

HAWKS, KITES AND EAGLES

Swallow-tailed Kite Bald Eagle R

Northern Harrier

Cooper's Hawk *

Northern Goshawk

Sharp-shinned Hawk *

Red-shouldered Hawk

Broad-winged Hawk

Swainson's Hawk

Red-tailed Hawk *

Golden Eagle R

Barn Owl R

Rough-legged Hawk

TYPICAL OWLS

50

- Eastern Screech-Owl *
- Great Horned Owl *
- Snowy Owl
- Northern Hawk Owl
- Barred Owl
- Great Gray Owl
- Long-eared Owl
- Short-eared Owl R
- Boreal Owl
- Northern Saw-whet Owl

KINGFISHERS

Belted Kingfisher *

WOODPECKERS

- Red-headed Woodpecker R
- Red-bellied Woodpecker *
- Yellow-bellied Sapsucker
- Downy Woodpecker *
- Hairy Woodpecker *
- American Three-toed Woodpecker
- Black-backed Woodpecker
- Northern Flicker *
- Pileated Woodpecker *

FALCONS

- American Kestrel *
- Merlin *
- Gyrfalcon
- Peregrine Falcon * R

TYRANT FLYCATCHERS

- Olive-sided Flycatcher R •
- Eastern Wood-Pewee * R •
- Yellow-bellied Flycatcher Acadian Flycatcher R
- Alder Flycatcher •
- Willow Flycatcher * •
- Least Flycatcher * •
- Gray Flycatcher •
- Fastern Phoebe *
- Say's Phoebe
- Vermilion Flycatcher
 - Ash-throated Flycatcher
- Great Crested Flycatcher * •
- Variegated Flycatcher ۲
- Western Kingbird
- Eastern Kingbird * •
- Fork-tailed Flycatcher

SHRIKES

- Loggerhead Shrike R
 - Northern Shrike •

VIREOS

- White-eyed Vireo
- Yellow-throated Vireo
- Blue-headed Vireo
- Philadelphia Vireo •
- Warbling Vireo * •
- Red-eved Vireo * •

JAYS, CROWS, AND ALLIES

- Gray Jay
- Blue Jav * .
- Black-billed Magpie
- Eurasian Jackdaw
- American Crow *
- Fish Crow
- Common Raven *

LARKS

Horned Lark * •

SWALLOWS

- Purple Martin * •
- Tree Swallow *
- Northern Rough-winged • Swallow *
- Bank Swallow * R
- Cliff Swallow * .
- Cave Swallow
- Barn Swallow * R

CHICKADEES AND TITMICE

- Black-capped Chickadee *
- Boreal Chickadee
- Tufted Titmouse

NUTHATCHES

- Red-breasted Nuthatch *
- White-breasted Nuthatch *

CREEPERS

Brown Creeper * •

WRENS

- Rock Wren
- House Wren *
- Winter Wren *
- Sedge Wren
- Marsh Wren *
- Carolina Wren * •
- Bewick's Wren

GNATCATCHERS

Blue-gray Gnatcatcher * •

KINGLETS

- Golden-crowned Kinglet •
- Ruby-crowned Kinglet

THRUSHES

- Fastern Bluebird *
- Townsend's Solitaire

Gray-cheeked Thrush

Swainson's Thrush

Wood Thrush * R

American Robin *

MOCKINGBIRDS AND THRASHERS

Varied Thrush

Gray Catbird *

Brown Thrasher *

Northern Mockingbird *

Hermit Thrush

Fieldfare

Veery

STARI INGS

European Starling * •

WAXWINGS

- Bohemian Waxwing
- Cedar Waxwing *

OLD-WORLD SPARROWS

House Sparrow * •

PIPITS

American Pipit •

FINCHES

- **Evening Grosbeak**
- Pine Grosbeak
- House Finch *
- **Purple Finch**
- Common Redpoll •
- Hoary Redpoll
- Red Crossbill
- White-winged Crossbill
- Pine Siskin
- Lesser Goldfinch
- American Goldfinch *

LONGSPURS AND SNOW BUNTINGS

- Lapland Longspur
- Snow Bunting

EMBERIZIDINE SPARROWS

Spotted Towhee

- Eastern Towhee *
- American Tree Sparrow
- Chipping Sparrow *
- Clay-colored Sparrow
- Field Sparrow *
- Vesper Sparrow
- Lark Sparrow
- Savannah Sparrow *
- Grasshopper Sparrow R
- Henslow's Sparrow R
- Le Conte's Sparrow
- Nelson's Sparrow
- Fox Sparrow
- Song Sparrow *
- Lincoln's Sparrow
- Swamp Sparrow *
- White-throated Sparrow
- Harris's Sparrow
- White-crowned Sparrow
- Golden-crowned Sparrow
- Dark-eved Junco ۲

YELLOW-BREASTED CHAT

Yellow-breasted Chat R

BLACKBTRDS

- Bobolink R
- Fastern Meadowlark R
- Western Meadowlark
- Orchard Oriole *
- Bullock's Oriole
- Baltimore Oriole *

- Red-winged Blackbird *
- Brown-headed Cowbird *
- Rusty Blackbird R .
- Brewers Blackbird
- Common Grackle *

WOOD WARBLERS

- Ovenbird
- Worm-eating Warbler
- Louisiana Waterthrush R
- Northern Waterthrush
- Golden-winged Warbler R •
- Blue-winged Warbler .
- Black-and-white Warbler
- Prothonotary Warbler R
- Swainson's Warbler
- Tennessee Warbler
- Orange-crowned Warbler •
- Nashville Warbler
- Connecticut Warbler
- Mourning Warbler * •
- Kentucky Warbler .
- Common Yellowthroat *
- Hooded Warbler
- American Redstart *
- Kirtland's Warbler R
- Cape May Warbler •
- Cerulean Warbler R
- Northern Parula
- Magnolia Warbler
- **Bay-breasted Warbler** •

- Blackburnian Warbler
- Yellow Warbler *
- Chestnut-sided Warbler *
- **Blackpoll Warbler** •
- Black-throated Blue Warbler

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- Palm Warbler .
- Pine Warbler *
- Yellow-rumped Warbler
- Yellow-throated Warbler
- Prairie Warbler
- Black-throated Gray Warbler
- Hermit Warbler

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- Black-throated Green Warbler
- Canada Warbler R Wilson's Warbler

CARDINALS AND ALLIES

Summer Tanager

Scarlet Tanager *

Western Tanager

Blue Grosbeak

Lazuli Bunting

Indigo Bunting *

Painted Bunting

Dickcissel

Northern Cardinal *

Rose-breasted Grosbeak *

Yellow-billed Cuckoo Illustration by: Bary Kent MacKay

GETTING INVOLVED

Birding Basics

The serenity of the early morning hours on a fresh spring day brings a sense of peace and joy as you stand quietly observing the activities of brightly coloured songbirds. Bird watching (also known as birding) is a wonderful way to get outdoors and connect with nature.



Using a field guide to identify a bird Photo: TRCA

It's easy - you can go at your own pace, spend as much or as little time as you have and you really don't need much equipment.

How to use Binoculars

Binoculars are the *most important tool* for bird watching. They come in a variety of magnifications and apertures, and at a variety of different prices. The most common magnification and aperture for birding is 8x42. You can increase magnification to 10, but these will be heavier, more expensive, won't perform as well in low-light, the field of view will be smaller and it will be harder to hold the image steady. There are many reputable brands of binoculars and each birder has their own preference, so try a few different brands and styles within your budget before making a purchase. Consider the ease of keeping water off eyepieces in the rain, and the ease of focusing.

Once you have a pair of binoculars in hand, be sure you know how to use them. Follow these easy steps and you'll be admiring birds in no time.



1) Do you wear glasses? If no, twist up the eyecup to increase the distance between your eye and the lens. If you wear glasses leave the eyecup twisted down; your glasses add the required distance.

2) Bring the binoculars to your eyes, open/close the center hinge (by moving the barrels up and down) until you see just one circle through the eyepieces. It should seem like you are looking through a single lens telescope rather than two lens binoculars.

3) Focus your binoculars by looking through them and simultaneously rotating the focus knob until the feature you're looking at is clear.

4) Cutomize the focus by focusing on a feature (as above), close your right eye, and adjust the left diopter ring (immediately below the eyecup) by turning it ever-so-slightly until you have a very crisp image.

Tips for Birding Through Binoculars

- Finding a bird through binoculars can be challenging, so locating a bird in a tree you saw without binoculars should be done using this technique: keep your eyes on the bird you see without shifting your gaze, bring the binoculars to your eyes and focus them; your bird should be in view (as long as it hasn't already flown away).
- Don't use your binoculars to search for birds. Look for movement in trees and shrubs. Find the bird with your eyes, then using the technique above observe the bird through binoculars.
- Birds can move quickly; the more practice you have at raising your binoculars to your eyes and focusing them fast, the better you will become at seeing quick birds.



Bird watching Photo: TRCA

How to Identify Birds

- Get a good field guide and familiarize yourself with the types of birds in your area.
- When looking at a bird:
 - Take note of the size, the colours on different body parts, any lines on the head, breast or wings and the shape of the beak.
 - Flip through your book and look for birds of similar size and general colour to help you narrow it down.
- You can also use a bird identification app.
 - Some apps (like Merlin) help you identify by asking questions and narrowing down species.
 - Field guide apps (like Sibleys or Peterson) allow you to sort alphabetically or taxonomically (by bird family), but you need to know what you're looking for to fully benefit from the app.

Where to go:

You can go bird watching anywhere! There are a lot of great parks in Toronto for bird watching (see pages 58-59), but you can also start in your yard or local ravine.

If you're curious about what species you might see in a location on a particular day, check ebird.com for lists of birds seen by others.

See page 88 for guided bird walks and activities.

Birding by Month

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Bird species change from week to week in Toronto, an intricate cycle fueled by the great spring and fall migrations.

DECEMBER AND JANUARY

Contrary to popular belief, many bird species can be observed and enjoyed during Toronto's winter months. Resident birds (i.e. species that live in the Toronto area all year) such as Whitebreasted Nuthatch and American



White-breasted Nuthatch Photo: Mark Peck

Goldfinch, can often be seen at bird feeders during this time. They are joined there by species that spend winter in Toronto after breeding farther north (e.g. Dark-eyed Junco and American Tree Sparrow). Winter is also the time to search for "irruptive" winter finch species. These birds don't visit Toronto every winter, but in years where food sources in the northern boreal forests are scarce, large numbers of species like Purple Finch, Common Redpoll or Pine Siskin can be seen locally looking for food in backyards and parks. By mid-January, large numbers of wintering ducks gather on the Great Lakes as their Arctic breeding waters freeze. Approximately 20 species of ducks are found in Toronto each winter, and thousands of individuals can be seen at once floating in "rafts" on Lake Ontario. Winter is also the season to search for wintering owls. As many as ten species of owls can be seen in some winters. Like the finches



Common Redpoll Photo: Mark Peck



Barred Owl Photo: Mark Peck

above, large numbers of these birds occasionally "irrupt" southward due to prey availability and weather conditions in northern boreal habitats (e.g. Longeared Owl and Barred Owl).

FEBRUARY

By mid-February, warm fronts from the south often bring hardy early spring migrants like Northern Pintail, Rednecked Grebe and Horned Lark. Some locally breeding residents like Red-tailed Hawks and Great Horned Owls begin nesting by February, and breeding pairs can be seen or heard at this time. Warm fronts coming up from the Gulf of Mexico late in the month deliver the first migrating American Robins, Red-winged Blackbirds and Killdeer as well, although changeable weather can cause these birds to retreat again until temperatures are more favourable.

MARCH AND APRIL



Turkey Vultures Photo: Mark Peck

Many daytime migrants, particularly ducks, hawks and blackbirds, migrate north through Toronto in March and April. Duck diversity reaches a peak, with wintering ducks still present as migrants from the south arrive. Raptors such as Red-shouldered Hawks and Turkey Vultures are among the early arriving birds of spring. By the end of the month,



Eastern Phoebe Photo: Mark Peck

the first hardy insect eating birds like Tree Swallows and Eastern Phoebes show up. The cast of migrants widens in early April to include nocturnal migrant species like Brown Creeper, Golden-crowned Kinglet, Hermit Thrush and White-throated Sparrow. By late April, many of the wintering ducks, like Common Goldeneye, Bufflehead and Greater Scaup, depart northward. Likewise, the northern breeding birds, including owls and winter finches, leave by the end of the month just as other early migrants arrive from farther south (e.g. Yellow-rumped Warbler, Palm Warbler and Black-and-white Warbler).

MAY

May is the most exciting month of a birder's year - the majority of spring migrants pass through the city and new species arrive daily - all sporting their finest breeding plumages. Singing male birds join in the dawn choruses just as the landscape is bursting forth with new greenery. The peak of spring bird migration in Toronto occurs around 13-21st May. One of the highlights at this time of year is the spring passage of



Long-tailed Duck Photo: Mark Peck

Whimbrel through our area in a narrow 22-27th May time frame. These large, striking shorebirds can pass through our area in large numbers, but only for a

⁵⁶ Birding by Month *continued*



Whimbrel Photo: Mark Peck

few days (the spectacle is best viewed from Colonel Samuel Smith Park – see back cover). Although most of the wintering ducks have long departed, one of our most beautiful and vocal species, the Long-tailed Duck, remains throughout most of May, and is joined at the lakefront by large flocks of Common Loon on their way to breeding lakes in the north.

JUNE AND JULY



Eastern Bluebird Photo: Mark Peck

Though some late migrants are still arriving in Toronto in the first ten days of June, most local species have already begun nesting. Young birds leave the nest by early July, and some species may begin their second broods. As the breeding season begins to wind down, the dawn chorus fades and habitats become much quieter. Late in the month, early southbound migration begins again. Some of the earliest raptors (Turkey Vultures, Osprey), flycatchers (Least, Alder) and warblers (Tennessee, Chestnut-sided, Magnolia) depart at this time.



Yellow Warbler Photo: Mark Peck



Barn Swallow fledglings Photo: Mark Peck

AUGUST AND SEPTEMBER

By early August, blackbirds and swallows start congregating in large, conspicuous flocks prior to departure. Daytime migrants such as Chimney Swifts and Ruby-throated Hummingbirds leave by the end of the month. An annual highlight of this period is large numbers of Common Nighthawks that can be seen passing southwest over the city in the last ten days of the month. Young birds born in the summer swell the migrant numbers in fall compared to spring as they join their parents on migrations south. However, since birds are not singing, and many have moulted out of their bright breeding plumages by this time, birding is much more challenging despite the large numbers. Enormous flights of Blue Jays along the lakefront are a sure September sight. Fall hawk watching also begins at this time, with 15 regularly occurring species of raptors observed migrating over Toronto. Most impressive is the highly synchronized passage of Broad-winged Hawks in September, in which large "kettles" of hundreds, or even thousands can be seen at hawk watch locations across the waterfront.

OCTOBER AND NOVEMBER

October provides opportunity to view the widest variety of species at hawk watch sites as later migrating species like Red-shouldered Hawk, Northern Goshawk and the spectacular Golden Eagle join the action. Many of the short distance migrants, such as Orangecrowned Warbler, Yellow-rumped Warbler and Chipping Sparrow, arrive early in spring and leave later in the fall. By the middle of October, wintering duck species begin to return from northern breeding grounds.



Raft of wintering ducks including: Greater Scaup and Redhead Photo: Mark Peck



Snow Buntings Photo: Mark Peck

The cold and cloudy days of November bring with them the last of the fall migrants. The birds of winter, such as Northern Shrike, American Tree Sparrow and Snow Bunting arrive on cold fronts out of the north. The potential to encounter rare or out-of-range species is best in November as young birds experiencing their first migrations become lost or disoriented.

Interested in birding?

Join free bird walks offered by the Toronto Field Naturalists and the Toronto Ornithological Club. Many local birding hotspots (pages 58-59) also offer guided bird walks.

Exceptional Bird Viewing Locations in Toronto

1 Claireville Conservation Area Meadow, marsh, deciduous forest and conifer plantations in the city's northwest corner provides habitat for a remarkable diversity of breeding birds, including Willow Flycatcher, Bobolink, Brown Thrasher, Indigo Bunting, Rose-breasted Grosbeak and occasionally Clay-colored Sparrow and Purple Finch.

2 The Humber Arboretum Botanical gardens, forests, meadows and wetlands along the West Humber River behind Humber College, including 6 kilometers of trails is a great place to seek woodpeckers, hawks and owls. Fruiting and ornamental trees in the gardens attract mockingbirds, waxwings and thrushes. The bird-friendly demonstration garden offers ideas to help you create your own outdoor space for birds.

³ Colonel Samuel Smith Park The

mature trees of the former Lakeshore Psychiatric Hospital grounds with the bays, marshes and meadows on lakefill at the foot of Kipling Avenue, have made one of Toronto's premier birding destinations. It is a favourite site for winter waterfowl at the lake and spring warblers in the trees. Red-necked Grebes have nested in the marina area, and the southeast headland is the best place to observe Whimbrel in spring.

4 Lambton Woods/James Gardens/ Lambton Park One of the best areas to find Eastern Screech-Owl and a variety of woodpeckers year-round. Great Horned Owl,

Wood Duck, Wood Thrush and both species of cuckoo have bred here in the past.

⁵ Humber Marshes Exceptional for migrant and breeding birds. Regular breeding birds here include Black-crowned Night-Heron, Wood Duck, Hooded Merganser, Green Heron, Great Horned Owl, Eastern Screech-Owl, Belted Kingfisher and Wood Thrush.

6 Humber Bay Park Widely acknowledged as the best site in the city to see waterfowl in winter, with 20,000 ducks, geese and swans present in some years, including Harlequin Duck in most winters. The conifers can be good for roosting owls. Northern Mockingbirds are easily found here throughout all seasons. It is also a good place to find northern gulls in winter.

7 High Park One of Toronto's busiest parks still provides plenty of habitat for migrant and breeding birds. With a wide diversity of habitats, it is not unusual to find more than 100 species on a peak spring day. Breeding species include the Wood Duck, Cooper's Hawk, Great Horned Owl, Eastern Screech-Owl and Orchard Oriole. "Hawk Hill" near the restaurant



is also the site of multiple public bird counts! View migrating raptors of many species during the day at the Hawk Watch between 1st September and 30th November, or join in monitoring migrating Common Nighthawks as they stream through west Toronto at the Nighthawk Watch from 21st August to 7th September.

⁸ Downsview Park Grassland here accommodates Northern Harrier, American Kestrel, Horned Lark, Field Sparrow, Savannah Sparrow, Bobolink and Eastern Meadowlark in summer and Short-eared Owl, Long-eared Owl, Snowy Owl and Northern Shrike in winter.

9 Toronto Islands The best locations on the island to see large numbers of migrants in spring and fall include the large willows along the airport fence at Hanlan's Point, the dunes and Trout Pond near Gibraltar Point, the Nature Reserve immediately north of the water filtration plant, Snug Harbour and Snake Island and the southeast portion of Ward's Island. Almost anything can turn up in migration, as demonstrated by the Variegated Flycatcher from South America in October 1993.

10 Mount Pleasant Cemetery/Moore Park Ravine/ Evergreen Brick Works The wide diversity of mature trees in the cemetery, coupled with the funneling effect of the ravine from the Brickworks in the Don valley, makes this area one of the best locations in the city centre for the migration of warblers and other songbirds in spring. The large number of fruiting ornamental shrubs and trees provide cover and food for many berry-eating species in winter. Kingfishers, herons and aerial insectivores favor the constructed wetland at the Brickworks.

11 Tommy Thompson Park/Leslie Street Spit Toronto's iconic Urban Wilderness is a globally significant *Important Bird Area*, and an excellent location to see migrants in spring and fall, breeding colonial waterbirds in summer and waterfowl in winter. Visitors can stop at the Tommy Thompson Park Bird Research Station during migration to learn about songbirds and the important monitoring that is underway. See page 62-63 for information.

12 Sunnybrook Park/Serena Gundy Park/E.T. Seton Park These three parks combine to form a very large patch of mature deciduous and mixed forest right in the centre of the city. Great Horned Owl, Eastern Screech-Owl, Wood Thrush, American Redstart and occasionally, Scarlet

Tanager, Veery and both species of cuckoo breed here.

13 Ashbridge's Bay Park This small waterfront park provides good migration viewing in spring and fall. It presents an excellent place to view waterfowl, loons and grebes in Lake Ontario, and to study Iceland and Glaucous gulls in Coatsworth Cut on the west side of the park in winter.

14 Rosetta McClain Gardens/Scarborough Bluffs In the fall, Rosetta is an exceptional location to view eagles, hawks, falcons and vultures streaming along the top of the Scarborough Bluffs on their southward migration, especially when the wind is blowing from the north or northwest. In the spring, the park is a great location for viewing warblers and other small birds.

15 Morningside Park On spring days this park can be remarkably busy with migrant songbirds. The best place to check is often at the edge of the large mowed area in the centre of the park. This is also the most consistent place, outside of Rouge National Urban Park, to encounter breeding Scarlet Tanagers within the city.

16 East Point Park Contains a mix of habitats that makes for great birding during the migration and nesting seasons. Common Yellowthroat favour the wet thickets, Wood Ducks the pond, Warbling Vireo the woodlands, Bank Swallows nest along the bluff face, and hawks migrate along the bluffs in the fall. The park also includes an open shelter structure that celebrates Toronto's birds in its design.

17 Rouge National Urban Park The largest urban park in North America stretches from the marsh at the Rouge River mouth, past eastern white pine forest near Highway 401, restored wetlands and forests along Reesor Road, agricultural fields near Plug Hat Road, and deciduous forests at Steeles, to the Oak Ridges Moraine. This corridor of natural habitats and agricultural landscapes has the richest diversity of breeding birds in Toronto. Find Wild Turkey, Eastern Meadowlark or Common Nighthawk in meadows and agricultural fields. Some forest interior species like the Ruffed Grouse, Black-throated Green Warbler and Scarlet Tanager breed in this rare example of a closed canopy urban forest.

Restoring Habitat for Birds

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The City of Toronto, Toronto and Region Conservation and Parks Canada work together to restore habitat within the city. Some leading examples of habitat restoration projects occur in Rouge National Urban Park. The park sits at the very east end of Toronto and extends into the cities of Markham, Pickering and the Township of Uxbridge. Rouge National Urban Park protects and presents nature, culture and agriculture from the Oak Ridges Moraine to Lake Ontario, providing a haven for many birds in the area.

A contributing factor in the decline of bird populations is habitat loss. One way to combat this loss of habitat is through restoration. Restoration can include planting trees to create forests, planting degraded areas along riverbanks, creating new wetlands, planting



Installing nest boxes is a great way to provide homes for birds. Nest boxes provide homes for birds such as the Tree Swallow. grasses and wildflowers to create meadows, or installing nest boxes and other habitat structures such as dead snags and log tangles.

Restoration efforts do not occur overnight or without the help of many people with shovels in hand. Various organizations

Photo: Heike Reuse

help to coordinate volunteer initiatives across the city involving local schools, community groups and Indigenous communities.

How do we know if our restoration efforts are working? Animals, especially the birds who move in, are a great way to evaluate this work. It is also surprising to note just how quickly birds settle into their new homes.



Local high school students planting trees at Rouge National Urban Park Photo: Heike Reuse

These restoration projects throughout the City of Toronto will help to strengthen biodiversity, increase habitat connections and create more resilient ecosystems.

Below is an example of a before and after photo of a restored wetland. In just a short period of time, plants flourish and wetlands are filled with wildlife.



Photo: Parks Canada

Photo: Parks Canada

Birds on the Farm

The City of Toronto has a long agricultural history. First Nations people have lived in this area since time immemorial and have farmed in the area for thousands of years. More than 200 years ago, European farm families settled here and started producing food to support the new settlement. Now we have few farms left, but evidence of our agricultural past is everywhere. Urban agriculture is growing in gardens and on rooftops. A vibrant farm community is also flourishing in Rouge National Urban Park. Parks Canada staff and park farmers are working together to protect natural and cultural resources and produce food through sustainable farming practices. Farmers have always interacted with birds on their farms.

There are many ways birds can help out on the farm. Birds eat pest insects that damage crops, they help pollinate plants, and add a lot of diversity, fun and colour to the landscape. At Rouge National Urban Park, and throughout Ontario, farmers work to incorporate best farming practices into their farm operations. To improve habitat for birds, farmers often:

- Plant native trees and shrubs and create rock piles; ٠
- Plant native berry-producing shrubs like red-osier dogwood, • elderberry and nannyberry to produce food for birds;
- Strategically place perches or houses for Eastern Bluebirds, Tree • Swallows, Wood Ducks or owls;
- Install nesting platforms to provide nesting habitat for birds of prey; • and
- Manage garden or farm ponds to provide water sources for birds. •



Photo: Mike Wittamore

Mike Whittamore is one of the farmers operating in the Rouge at the northern border of the City of Toronto. Whittamore's farm features fields of strawberries and raspberries, and he's familiar with the birds that live throughout the farm. He says, "we often see flocks of wild turkeys taking cover on cold winter nights in our strawberry fields. Birds have a special place on our farm. Not only for their beauty in colour and song, but also for their voracious appetite consuming insects that would normally affect our crops."

Tommy Thompson Park/Leslie Street Spit

Tommy Thompson Park (TTP) is located on the Leslie Street Spit, a human-made peninsula that extends five kilometers into Lake Ontario from the foot of Leslie Street. Landform construction began in 1959 by Toronto Harbour Commission (now Ports Toronto) to accommodate an anticipated port expansion. This was not realized, and the landscape has since evolved from bricks and concrete rubble to an urban wilderness that supports a variety of habitats and wildlife. Cottonwood forests, shrub thickets, coastal wetlands and meadows are a few of the communities at the park that provide excellent shelter, food and nesting opportunities for birds. The Spit has been designated an Environmentally Significant Area and a globally significant Important Bird Area.

As of 2018, 323 bird species have been recorded at TTP. During winter months the coastal wetlands and open waters of Lake Ontario surrounding the Spit provide refuge for thousands of waterfowl of more than a dozen species. The yodeling chatter of Long-tailed Ducks mixed in with mergansers, scaup and goldeneye provides reward to dedicated birders braving the cold, wintery winds. As spring approaches, migration begins and species composition shifts from waterfowl to songbirds. Many thousands of songbirds use TTP as stopover habitat as they travel from southern winter grounds to northern breeding grounds. Warblers, vireos, flycatchers, thrushes and sparrows are abundant as they search for food in the insect-filled trees and shrubs. The availability of food

Cell 1 Wetland Photo: TRCA



Northern Parula Photo: Charlotte England



(L-R) female Greater Scaup, Hooded Merganser, male Lesser Scaup Photo: Ian Sturdee



Red-tailed Hawk with Meadow Vole prey Photo: Ian Sturdee



in the various vegetation communities is essential for songbirds to replenish their fat stores after crossing Lake Ontario before continuing north. This influx of songbirds, in their spectacularly bright breeding plumage, along with the early morning chorus of song is what birders wait for with great anticipation every year. Migratory shorebirds also stop at TTP to forage along shorelines. By early June the park becomes quieter as migration winds down.

Tommy Thompson Park is home to at least 40 species of breeding birds anually including waterfowl, songbirds, shorebirds and colonial waterbirds. While most bird nests are quite inconspicuous, the breeding Double-crested Cormorants, Common Terns and Ring-billed Gulls are the most obvious nesters in the park. Yellow Warbler, Song Sparrow, Red-winged Blackbird, Killdeer and Barn Swallow are a few of the other, more conspicuous species that breed annually.

Although we are still enjoying warm, sunny summer days, fall migration begins in late July. Much like during the spring migration, thousands of songbirds stop over at TTP to rest and refuel before crossing south over Lake Ontario. Fall migration is different from spring: it is spread out over three months as birds are not in a rush to travel south to wintering grounds, it is much quieter as birds are not singing, and most have drabber plumage (both tools they use to attract breeding mates in the spring), and many young birds hatched in the boreal forest swell the numbers of migrants at this time. The fall also brings a large number of hawks through the park. As fall migration comes to an end the Arctic ducks arrive in the waters of Lake Ontario and winter returns.

Tommy Thompson Park is jointly managed by the City of Toronto and TRCA. Visit tommythompsonpark.ca for hours of operation and more information.



Guided bird walk at TTP Photo: TRCA



Yellow-rumped Warbler Photo: Andrea Chreston

Black-billed Cuckoo nest Photo: Pierre Robillard

Tommy Thompson Park Bird Research Station (TTPBRS)

Birds are indicators of environmental health: they are more sensitive than humans and provide an early warning that something is wrong. The historic example is miners bringing a caged canary into the coal mine; if there were high levels of carbon monoxide the canary would become sick or die, providing an early escape warning to the miners. Modern monitoring techniques help us understand the health of bird populations and their habitats to guide local, regional, national and international environmental conservation efforts.



Photo: TRCA

TRCA operates TTPBRS which conducts monitoring, research and education. Located on Peninsula D at TTP, the station is in a lush cottonwood forest rich with food and shelter for migratory songbirds. As the point in Toronto closest to the south side of Lake Ontario, TTP provides essential stopover habitat for birds as they arrive from, or prepare to cross Lake Ontario. This allows TTPBRS to collect migration monitoring data by tracking populations of local and northern birds (that typically breed in remote areas) as they migrate through Toronto in spring and fall. For example, birds

Essential Stopover Habitat

TTP is known to provide essential stopover habitat. For example, TTPBRS banded a handful of Golden-crowned Kinglets on 1 April 2016 just before blizzard like conditions closed the station for 12 days. Upon reopening, banders were surprised to recapture



Golden-crowned Kinglet Photo: TRCA

many of the kinglets they had banded on 1 April. Not only had these tiny birds survived the terrible weather conditions, they had also gained fat and were ready to continue their northern migration; proof that TTP does in fact provide essential habitat.

that breed in the boreal forest are difficult to monitor because of its vast size and remoteness. They can be monitored along their migration route to enhance our understanding of areas we can't easily access.

Education is an important aspect of the TTPBRS mandate. Elementary students have the opportunity to participate in the curriculum based Winged Migration Program, post-secondary students have endless options for research projects, and it is a place for ornithological training. TTPBRS is open to park visitors during migration, offering a unique opportunity to appreciate birds in an urban environment. The station is an approximate 2.7 km walk from the park entrance, with excellent bird watching along the way. Visit ttpbrs.ca for more information.

Incredible Migration - Red-eyed Vireo

It's incredibly rare to catch a bird previously banded at another location. On 12 May 2015, a Red-eyed Vireo was captured at TTPBRS that had been banded only 15 days earlier in Middlesex, Belize – 3,000 km from Toronto!

Top row (L-R): Black-throated Green Warbler, Orange-crowned Warbler, Yellow Warbler. Middle row (L-R): Yellow-rumped Warbler, Common Yellowthroat Front: Cape May Warbler Photo: Amanda Guercio

Birds in the Built Environment

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While urbanization causes loss of natural habitat, the built environment can provide substitute habitat opportunities. In fact, prior to urbanization a few species in Toronto would have been absent, or rare, since the natural habitat would not have been suitable. For example, before there were buildings and bridges, Barn Swallows nested in caves. Since there are no caves in Toronto, there were probably not many Barn Swallows around. Today, Barn Swallows are a common sight in certain areas of Toronto, and nest exclusively on structures that provide overhead shelter.

Chimney Swifts have also adapted to take advantage of substitute habitat. Before European settlement, mature forests containing old hollowed trees – nesting and roosting opportunities for swifts – were likely abundant. As the land was cleared these large diameter hollow trees disappeared, but a new habitat appeared – chimneys. Since chimneys were generally not in use during the nesting season, this afforded swifts with an excellent opportunity that they still use today. Unfortunately, many chimneys are being removed, sealed or lined with metal and are therefore becoming unusable to swifts.

The exterior of buildings and structures attract several different species. Toronto's skyscrapers are substitute cliff habitat for nesting Peregrine Falcons. This is another species that was probably rare in Toronto prior to development since the Scarborough Bluffs represent the only natural cliff habitat in the city. Common Nighthawks are attracted to urban gravel rooftops because they can look much like their natural habitat; but the conversion of gravel rooftops to smooth synthetic roofs has reduced urban habitat for nighthawks.

Common Ravens are known for their intelligence and ability to coexist with humans, but as a breeding bird they were absent from Toronto for more than 160 years. In 2014 they began using a chimney stack at the Portlands Energy Centre as substitute nesting habitat – a location that provides the high elevations they prefer.

Some species adapt well to residential areas. American Robins and Eastern



Barn Swallow nest Photo: TRCA



Chimney Swift nest on the side of a wooden shed Photo: George K. Peck



Peregrine Falcon Photo: Ian Sturdee



Before European settlement the Toronto landscape provided plentiful and varied natural cavities – holes in trees – for cavity nesting birds. Most of these were removed as land was cleared, but artificial nest boxes have helped. In fact, Purple Martins in eastern North America rely almost exclusively on artificial nesting structures. TRCA restores habitat for cavity nesting birds through wetland restoration, tree planting and nest box installation. Nest boxes have been used by a number of species including Wood Duck, Eastern Screech-Owl, American Kestrel, Tree Swallow and Eastern Bluebird. Volunteers are always needed for nest box maintenance – contact TRCA 416-661-6600 / info@trca.on.ca

Phoebes will nest under eaves and other protected areas outside homes. Cliff Swallows have also been known to build their unique gourd-shaped nests under eaves, and since they often nest in large colonies, this can be an impressive sight. Colonies at the bridge at Rouge Beach, the R.C. Harris Water Filtration Plant, and the pier at Centre Island are great examples of how this species has seized this substitute habitat opportunity.

> Did you know?

The Peregrine Falcon is the world's fastest animal, reaching over 300 km/hr during steep dives.

Did you know?

The European Starling and House Sparrow are non-native birds that nest mainly in cavities in manmade structures including bird boxes, dryer vents and utility poles. They generally outcompete our native birds, evicting them from their nests and even killing their nestlings.



Female Wood Duck in a nest box Photo: TRCA

Growth of Cities

The upward and outward growth of urban areas around the world has both degraded the quality of existing natural habitat and increased the number of hazards found in cities. As human activity encroaches on shorelines, wetlands, ravines and meadows, stopover locations for migrating birds are becoming smaller and more fragmented. Urban intensification also brings larger and taller buildings that increase the number of obstacles for migrating birds.

Expanded Use of Glass in Architecture

The amount of glass in a building is the strongest predictor of how dangerous it is to birds. As changes in production and construction techniques facilitated the greater use of glass, cities have become more dangerous for birds to navigate through.

The development of the curtain wall system and the invention of the float glass technique led directly to the expanded use of glass in modern architecture.

Today it is common to see buildings with the appearance of complete glass exteriors. The increase of curtain wall and window wall glazing, as well as picture windows on private homes, has in turn increased the incidence of bird collisions. The vast majority of Toronto's new mid - to high-rise buildings contain more than 60 percent glass. Historic masonry structures, with their "punched" windows, used less glass area per facade, and the glass itself, by necessity of manufacture and transportation, was divided into panes. Further, operating windows frequently had exterior insect screens, rendering them completely bird-friendly.



Old City Hall Image: City of Toronto Archives



Reflective glass is a major threat to birds Photo: FLAP Canada



Black-capped Chickadees killed at a two-storey building one morning in 2010 Photo: FLAP Canada Recent estimates suggest that about 25 million birds die each year from window collisions in Canada. A disproportionately high number of these fatalities occur in Toronto due to its location adjacent to Lake Ontario; at the confluence of the Atlantic and Mississippi Migratory Flyways, and to the fact that it contains one-third of all tall buildings in Canada. Bird mortality is disproportionately higher at mid-rise and high-rise buildings, which are concentrated in urban areas such as Toronto.

Despite the extreme scale of the problem, there are solutions available today that can reduce bird mortality without sacrificing architectural standards.



A dead Common Yellowthroat Photo: FLAP Canada

Glass

The urban environment contains a number of hazards, many of which are common and hard to avoid for birds. Unlike humans, birds are confused by reflective surfaces and will fly into windows that appear to be trees or sky. In addition, clear glass poses a danger as birds have no natural ability to perceive clear glass as a solid object. Birds will strike clear glass while attempting to reach habitat and sky seen on the other side. The impact of striking glass in full flight often results in death.

Experiments suggest that bird collisions with windows are indiscriminate. They can occur anywhere, at any time, day or night, year-round, across urban and rural landscapes, affecting migratory, resident, young, old, large, small, male and female birds.

Light

It has been observed that many migratory birds have evolved to travel at night when they are safer from predators, and the cooler temperatures enable them to expend less energy. To find their way during these flyovers, birds use natural cues including the moon and stars to navigate. Light emanating from urban areas obscures these natural cues, which disorients and confuses the migrating birds. Light attracts them into the unfamiliar urban environment where they subsequently get trapped, hence the term "fatal light attraction". Once trapped, birds will attempt to take shelter in whatever habitat they can find.



The clear glass corner of this building in downtown Toronto poses a lethal threat to birds Photo: Hanna del Rosario



Toronto Migratory Bird Policies

Leadership in Bird-Friendly Design

COUNCIL ACTION - 2005

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April 2005 -- Toronto City Council adopted Motion J(17) regarding the "Prevention of Needless Deaths of Thousands of Migratory Birds in the City of Toronto". This was a result of the work of citizen scientists and the Fatal Light Awareness Program (FLAP) Canada drawing attention to this issue.

BIRD-FRIENDLY DEVELOPMENT GUIDELINES - 2007

Toronto's 2007 *Bird-Friendly Development Guidelines* was the first Counciladopted document of its kind in North America. The award winning Guidelines provided several strategies and options for making new and existing buildings less of a threat to migratory birds, with a focus on the two key issues that are of critical importance – making glass less dangerous to birds and mitigating light pollution. These strategies could be voluntarily incorporated into the design of new buildings and into retrofit projects of existing buildings by developers and owners respectively.

TORONTO GREEN STANDARD - 2010

In 2010, the *Toronto Green Standard* (TGS) came into effect for new development in Toronto. The TGS established performance measures for development based on local environmental drivers and established performance measures for reducing bird collisions. The bird-friendly standards contained in the TGS have been refined from the 2007 Guidelines to include those that can be implemented through the planning approval process in the Province of Ontario. Toronto demonstrated leadership and innovation by being the first municipality in North America to require new development to incorporate bird-friendly standards. The TGS undergoes a process of revision every four years in the best interest of mitigation and, ultimately, prevention of bird fatalities from striking buildings. The most recent revision was completed in 2017.








Best Practices

Since the publication of the *Bird-Friendly Development Guidelines* in 2007, great advances have been made in the understanding of bird collisions and bird mortality from collisions with buildings. This is a topic of ongoing research by the scientific community working in this area, and resulting policy development by municipalities in Canada and the United States. *Best Practices for Bird-Friendly Glass* and *Best Practices for Effective Lighting* have been developed as supporting documents to the the TGS 2014 and elaborates upon the original bird-friendly strategies.

'Best Practices' answers many of the most common questions on bird-friendly design and provides local examples of strategies used to reduce the number of birds that die each year in Toronto.

This document is intended to assist with the understanding of the issues and the implementation of the *Toronto Green Standard*. For more information and to view these guides, visit toroto.ca.

Did you know?

Toronto was the first municipality in the world to require bird-friendly elements in the design of new buildings.

Toronto's Natural Parklands and Environmentally Significant Areas



Research commissioned by the City of Toronto identified and documented over 86 biodiversity hotspots within Toronto – officially referred to as Environmentally Significant Areas (ESAs) – mostly within river valleys, ravines and along the waterfront. ESAs contribute disproportionately to biodiversity in our city. They contain habitats of unusually large size or high diversity, rare plants and animal species, and unique landforms. They also contribute to the ecosystem beyond the city's boundaries by serving as stopover locations for migratory wildlife and as amphibian or colonial bird breeding habitat. A total of 2,698 ha, approximately 4% of the City's land area is ESA (equivalent to almost eight Central Parks). Most of these areas are located on City parkland and are managed by the City of Toronto and TRCA. Some ESAs extend onto privately owned land.

Bluffers Park Photo: Robert Burley

ESAs and the lands that surround them are protected by a framework of policies, regulations and programs that support nature in the City and the surrounding bioregion. Each of these ESAs contains something unique and special that needs to be protected. Like the jewels in a necklace, these natural treasures are in turn supported by the surrounding green space system.

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Toronto Ravine Strategy

The Ravine Strategy is about the future of Toronto's ravines. It aims to protect and enhance their ecological health and function, to allow them to flourish for generations to come. With the population of Toronto increasing, overuse threatens the integrity of our ravines more than ever before. Climate change is causing more extreme storms, which adversely affect the city's ravine system

The Strategy sets out the framework for careful planning of investments through 21 actions under five guiding principles: Protect, Invest, Connect, Partner and Celebrate. The actions support the vision of the ravines system: a "natural, connected sanctuary essential for the health of the city, where use and enjoyment support protection, education and stewardship." The actions represent short, medium and long-term deliverables, and the Strategy identifies multiple "Priority Investment Areas" which guide investment and partnership opportunities.



Black Creek Photo: Robert Burley

The Strategy was developed through public participation including online surveys, a workshop, an open house and pop-ups, and advice from the Ravine Advisory Group representing the many organizations who care about the ravines. Did you know?

Ravines make up approximately 17 percent of Toronto's land area.

Toronto Zoo: Birds From Around the World - In Our Own Backyard

Modern zoos evolved from simple menageries displaying strange and exotic animals to more mission-based centres focused on educating the public about wildlife and saving species threatened with extinction. The emphasis on conservation has emerged in concert with increased awareness of animal welfare, resulting in deeper understanding of animal husbandry requirements and more comprehensive care of animals in zoos. Consequently, modernized zoos remain an effective opportunity for visitors to experience and appreciate species they would not often encounter otherwise.



Photo: Toronto Zoo

The Toronto Zoo – owned by the City of Toronto and operated by a Board of Management – is a fine example of a modern zoo. It is situated within the Rouge Park at the city's east end and is the largest zoo in Canada, not to mention among the largest on the continent. Habitats maintained for the Zoo's resident animals are embedded within naturalized areas, which also support nesting habitat for over 70 wild species of birds. More than 100 species of birds are managed within the Zoo, many of which inhabit free-flight walk-through aviaries. Immersive exhibits like this allow visitors to feel as though they are birding in the tropics, even on the coldest winter days.



A recently fledged Eastern Loggerhead Shrike Photo: Toronto Zoo

Unlike many zoos, which are structured taxonomically, the Toronto Zoo exhibits are arranged zoogeographically, so plants and animals from similar geographical regions are displayed proximately. That said, the Zoo boasts a renewed focus on Canadian species. Toronto Zoo staff have participated in local recovery or reintroduction of native Ontario species like the Bald Eagle and Trumpeter Swan. In fact, at least one pair of Trumpeter Swans has bred on the Zoo property annually since 1995.

Much of the conservation work carried out by the Zoo occurs behind-the-scenes, so unfortunately, visitors are not always aware of this involvement. For example, birds such as the Eastern Loggerhead Shrike, which are bred at the Zoo for reintroduction as part of a provincial recovery strategy, are shy and typically kept away from the public. Thus, the Zoo is striving to bring activities like this to the forefront to engage visitors and encourage them to take a role in conservation.

Did you know?

The Toronto Zoo is located at the east end of the city and is open 364 days a year. Visitor information and directions are available at torontozoo.ca

How You Can Help





Education display Photo: FLAP Canada



Rehabilitated Snowy Owl release Photo: Toronto Wildlife Centre



Injured bird rescue Photo: FLAP Canada

Rehabilitated Sandhill Crane release Photo: Toronto Wildlife Centre

Bird-Friendly Coffee

If you're a coffee drinker, it's worth considering what type of farm your coffee comes from. There are three types of coffee farms that provide varying degrees of critical habitat for wintering North American birds in tropical regions. Unfortunately, tropical rainforests are highly subjected to deforestation, and the resulting loss of bird habitat is a major threat.

SUN COFFEE

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Most coffee is grown as a full sun monoculture, with heavy inputs of fertilizers, herbicides, fungicides and insecticides. These open fields provide no foraging opportunities for wintering birds as they do not seek shelter or food in coffee plants directly.

RUSTIC SHADE COFFEE

Rustic shade coffee farms consists of coffee plants grown amongst natural forest tree species. Rustic coffee can consist of coffee grown under old growth, or more commonly, secondary forest. This type of shade coffee benefits birds and other wild species the most, and also tends to produce the slowest growing (and therefore tastiest) coffee beans.

PARTIAL SHADE COFFEE

Also known as planted shade coffee, partial shade plantations incorporate a mosaic of taller trees, providing shade canopy above the coffee plants where wintering birds can forage and seek shelter. Multi-species, mixed-height planted shade farms provide extra benefit to both farmers and birds. Insect-eating birds function as natural pest control.

HOW DO I CHOOSE?

Bird-Friendly is a certification created by the Smithsonian Migratory Bird Center. Certified Bird-Friendly coffee farms require a minimum of 40 percent shade coverage and make recommendations for the diversity and size of trees that make up the forest canopy. These standards ensure a variety of habitats that supports a wealth of wildlife. Look for this symbol!





Rustic Shade Coffee Plantation Photo: David Pritchard

SOME TORONTO BIRD SPECIES THAT USE SHADE COFFEE FARMS:

Sharp-shinned Hawk American Kestrel Ruby-throated Hummingbird Willow Flycatcher Warbling Vireo Red-eyed Vireo Barn Swallow Blue-gray Gnatcatcher Wood Thrush Yellow Warbler Black-and-white Warbler American Redstart Ovenbird Rose-breasted Grosbeak Indigo Bunting Baltimore Oriole

Bird-Friendly Homes

Before you consider making your garden bird-friendly you should start by making your home bird-friendly. Window collisions are a leading cause of bird injury and death; birds simply do not see or understand glass.

WINDOW TREATMENTS

Be creative, treat your windows like a canvas. There is an infinite variety of designs that can be applied to the outer surface of your problem windows. Exterior screens, sunshades and grilles, perforated window film, multiple rows of ribbons or beads outside the window are some techniques that help create barriers to the window. You can also draw patterns on your windows with soap and markers. Less effective techniques include drawing drapes and turning the slats of blinds open during the day. For more info, visit birdsafe.ca

BIRD-FRIENDLY WINDOW DESIGN

Uniformely cover the outside of windows with a contrasting pattern of any shape. Space these visual markers no more than 10 cm apart vertically or 5 cm horizontally.

"What is the use of a house if you haven't got a tolerable

LIGHTING

Minimize light both in and outside your home. If you must incorporate exterior decorative or security night lighting around your yard, be sure to use shielded light which directs the light downward to help avoid polluting the night sky.



Examples of well designed lighting Images: Jason Harris

Did you know?

Most bird-window collisions occur at homes and cottages.



An example of bird-friendly window film Photo: Featherfriendly.org



An example of bird-friendly curtain Photo: Acopian BirdSavers



An example of bird-friendly screening Photo: Bird Screen

planet to put it on?" – Henry David Thoreau

80 Bird-Friendly Gardens

Birding is second only to gardening as a favourite North American pastime, so creating a bird-friendly garden is a great way to combine the two! It can also be a mutually beneficial relationship with birds helping to pollinate flowers and control insect infestations.

FOOD

Birds eat a variety of seeds, nuts, fruit and nectar, and their diets change with the



Bird-Friendly garden Photo: Emily Rondel

seasons as natural food sources come and go. Many birds eat insects in the summer when such high-energy prey are plentiful, but switch to seeds, nuts and other plant matter in the fall. Finding food during the colder months can be a challenge for city birds, and gardeners can help by planting trees and shrubs that hold their seeds and berries into winter, such as Smooth Wild Rose and Staghorn Sumac. Allow birds to take full advantage of garden food sources by letting flowers go to seed. Sparrows, finches and other seed-eating birds feast on the seed heads of goldenrod, thistle and sunflower through late summer into winter and fall. Plant wildflowers that attract insects, and avoid chemicals that harm them. Most of the world's 750,000 known insects are harmless and many are even beneficial, providing important food sources for wildlife, pollinating many of our local plants, and providing balance to our ecosystems. For more information visit nanps.org.

FEEDERS



Squirrel-proof bird feeder located near a treated window, keeping birds safe from window-collisions Photo: FLAP Canada

Most feeders are provided for overwintering birds, and are kept clean and full from late fall until spring. Feeders should be placed in a sheltered spot, either within 0.5 m of a window (so a bird leaving the feeder can't gain enough momentum to do harm if it strikes the window), or more than 10 m away from a window (so birds are less likely to perceive windows as a pathway to other parts of your yard).

The most common type of seed offered at feeders in North America is black-oil sunflower seed. This small sunflower seed is high in energy and has thin shells, making it the preferred food item for a wide variety of birds such as cardinals, chickadees, finches and sparrows. Suet is a good choice for attracting insect-eating birds. Be careful if you offer suet in hot weather; it may become rancid if it has not been specially processed. Often called "thistle" seed, nyjer actually comes from the Guizotia abyssinica plant native to Africa. This imported seed attracts finches like American Goldfinch, Pine Siskin and Common Redpoll to special feeders designed for it. Most nyjer seeds are heat-treated prior to importation to prevent sprouting.

In the summer, offering various fruits can attract many species. Oranges cut in half can attract orioles. Grapes and raisins are a favorite of many fruit-eating birds such as mockingbirds, catbirds, bluebirds, robins and waxwings. Be sure to dispose of any fruit (or seed) that becomes moldy – the associated toxins are harmful to birds.

To make nectar for hummingbirds, add one part sugar to four parts boiling water and stir, and allow the mixture to cool before feeding. Adding red food coloring is unnecessary. Red portals on the feeder, or even a red ribbon tied on top, will attract the birds.

Cleaning Tips for Bird Feeders and Baths

- 1. To prevent the spread of disease between birds, clean and disinfect your bird feeders and baths every two weeks. Immerse each feeder or birdbath in a 9:1 water/bleach solution. Rinse it thoroughly, making sure to get rid of all bleach and old seed.
- 2. Rake or sweep up any husks and uneaten hulls on the ground surrounding your feeders.
- 3. To prevent mold, resist filling your feeders to the top. Unless you have an extraordinarily busy yard, there is no need to fill your feeders more than 1/4 full.



Northern Cardinal Photo: Gord Belyea

Impact of Burdock Plant

Burdock, a common non-native plant throughout Toronto, is a peril to the smallest songbirds such as kinglets which get hopelessly stuck to the velcro-like seed-heads. If you find such distressed birds either seek help from an experienced birdhandler, or, taking care to control the bird's movements in a safe but gentle grip, carefully tease the individual feathers free from the seed-head. If the bird seems unharmed, release it in an area away from the Burdock patch. Burdock are best destroyed after flowering before seeds ripen – because it is a biennial, it will die after setting seed. Roots are a prized edible in some Asian cuisines, but are hard to dig out except in sandy soil.



Magnolia Warbler trapped in Burdock Photo: Paul Prior

Subsidized Predators at Bird Feeders

Backyard bird feeders are a wonderful way to get youngsters interested in wild birds and nature in general. The educational and entertainment opportunities of a well-maintained bird-feeding station are easy to appreciate, but not so obvious are the potential problems caused by poorly-maintained feeders. Birds are not the only animals looking for an easy meal through the hard winter months; a whole host of urban mammals are more than happy to chow down on seeds and suet. Unfortunately, the impact of artificially high populations of such mammals is rarely witnessed by those who are inadvertently contributing to the problem when they attract goldfinches to their feeders.

In nature, the vast majority of young animals – birds, mammals, frogs, bugs – fail to survive their first winter. Because feeders provide an extra and constant food source, survival of birds and mammals that take advantage is likely enhanced. This would be a good thing if the well-fed birds and mammals went their separate ways in the spring. But the very mammals that thrive through the winter due to the easy food source, will turn their attention in spring and summer to preying on nesting birds – many of which actually spent their winter, unaided, in the forests of Central and South America. Feeders are subsidizing these predators, thereby escalating the pressures on bird eggs and young. This pressure, together with the depredations by that number one subsidized predator – cats – have an enormous impact on the productivity of nesting birds in the city landscape, in backyards, parks and ravines.

So, what to do? Simply run a tidy operation with feeders that neither allow mammals access, nor spill seed onto the ground. Most nocturnal mammals – rats, raccoons, skunks, opossums, all consummate nest robbers – eat food that drops to the ground beneath feeders. Here, they forage through the night, not



Raccoon foraging at a bird feeder Photo: Paul Prior

usually even trying to access the feeders hanging above. A little imagination and inventiveness can reduce the spillage considerably. Unfortunately, this does not solve the problem of squirrels and chipmunks – yes, both of these furry friends are habitual egg-thieves. Foiling these smart and agile mammals is an industry in itself, and again takes considerable inventiveness – but surely this just adds another educational dimension to backyard feeding for the youngsters in the family!

Bird-Friendly Workplaces

There are a variety of techniques that can be used to make a commercial or institutional structure bird-friendly. Tenants of buildings can do two things in particular to help reduce bird deaths and injuries at their workplace, both during the day and at night:

- 1) Encourage building managers and owners to implement the City of Toronto's *Best Practices for Bird-Friendly Glass* and *Best Practices for Effective Lighting*, and
- 2) When working late: use task lighting, draw blinds, and ensure lights are turned off after leaving. This will also reduce unnecessary energy use.





Photos: Flap Canada

The above images show a Toronto building that has window film markers applied on the outside surface of glass: a dot pattern on the lobby transparent windows and a horizontal stripped pattern that resemble venetian blinds on the mirrored glass.



Sky glow over Toronto. Reducing light pollution will help keep birds safe during their flights at night and has many benefits, including seeing far more stars in the sky. Photo: Gabriel Guillen



Ryerson University Student Learning Centre is a landmark building with bird-friendly window design. Photo: FLAP Canada

Dogs

A Dog on a Leash is Worth More Birds in the Bush.

While eating supper with the kids, a Tyrannosaurus rex blunders through, over-turning your table, seemingly unaware of you. You have no idea whether it will return any minute or not. This must be what it's like for ground-nesting and ground-foraging birds when an off-leash dog passes by.

The City's parks and ravines are home to a wonderful diversity of birds, which nest and forage close to the ground, such as Indigo Bunting, Song Sparrow, American Woodcock, Brown Thrasher, Common Yellowthroat, Spotted Sandpiper and Field Sparrow. These birds have a limited amount of time to build a nest, hatch eggs and then feed and fledge their young before setting south for winter. The last thing these little creatures need is to have their family-raising repeatedly sabotaged by generally playful, occasionally hungry and always terrifying dogs.

Some say that dogs are no worse than natural predators such as coyotes. But such animals are much rarer than dogs and are active almost exclusively at night. Dogs are active throughout the day (when most songbirds forage food for hungry broods).

It is easy to underestimate the damage that pets are doing: unless Fido is seen bounding back with a mouthful of feathers it is assumed that all is well in the wake of a walk in the woods. In reality, most encounters result in disturbance that is much more difficult to observe. Consider the cumulative impact of many daily encounters throughout breeding season.

Repeated disturbances result in eventual abandonment of the nest, especially early in the season before the clutch is complete. Although the parent bird is less likely to abandon later in the season, the



Dog harassing a Mallard

chicks may starve. And there is increased likelihood, as the parents become more stressed, that they will reveal the whereabouts of their carefully concealed nest to predators such as crows and Blue Jays. These are all consequences of disturbance caused by dogs running off-leash through natural habitats – resulting in reduced productivity for native birds, and thus declining populations.

So, what can you do? Ensure that your dog is always leashed when walking in natural areas. Be aware of the times of year when ground-nesting birds are most vulnerable: April through July. More awareness of the impacts that we have on the landscape in which we live, work and play can mitigate the larger impact that we as a huge population have on the birds that share our landscape.

Did you know?

City by-law requires dogs to be on-leash **at all times** except in designated dogs off-leash areas.

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Cats

The cat versus bird conflict is iconic – some of us fondly recall Sylvester the Cat's tireless and humorous efforts to eat Tweety Bird. An individual outdoor "puddy tat" may kill only one bird per week, but the problem is that this kill rate is multiplied millions of times over by other people's cats. Biologically speaking, cats are a non-native species because they were introduced to North America and collectively have had a devastating impact on our native bird and wildlife species.

So how do you convince a cat owner to keep their cat indoors, to train a kitten to walk on a leash or to build fenced enclosures so their cat can safely enjoy the outdoors off-leash? Nature Canada has launched a Cats and Birds campaign (catsandbirds.ca) to educate cat owners about the dangers of allowing their pet to free-roam outdoors. Ironically, they are suggesting that cat owners should take care of their pets as well as dog owners do. Cats who are allowed to free-roam have far shorter lifespans because of the increased risk of disease and injury.

Margaret Atwood, one of Toronto's most famous authors, has joined the cause by producing a graphic novel series called Angel Catbird whose flying superhero is both cat and bird, and therefore sees both sides of the issue.



Outdoor cat with wild bird kill Photo: Paul Prior

Did you know?

Outdoor and feral cats are one of the largest threats to Toronto's bird life. Toronto's estimated 60,000 feral cats and 150,000 outdoor house cats kill an estimated 4-9 million birds every year.

Injured or Dead Birds

INJURED ADULT BIRDS

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If you find a fully feathered bird that appears injured or stunned, try to confine the bird in a safe place to allow it to recover. An unwaxed paper bag or cardboard box makes a suitable container.

- Place the bird in a warm, dark, quiet place away from people, pets and other animals
- Please do not handle the bird more than necessary, as it is very stressful to the bird
- Do not give the bird food or water, as it can cause it more harm

If the bird is large or aggressive (eg. hawk, heron, cormorant, swan, gull) keep an eye on it and call a wildlife rehabilitator immediately for instructions.

Leave a message on the Toronto Wildlife Centre's hotline: 416-631-0662

IF YOU FIND A DEAD BIRD

If you find a dead bird that was known to have collided with a window, please report the collision on mapper.flap.org. It is important to always practise proper hygiene when handling wildlife. If you find a dead bird in a natural area do not touch it, just leave it to decompose naturally. If you find a dead bird in your yard and wish to dispose of it, use gloves or put your hand inside of a plastic bag to pick up the bird. Double-bag the carcass and dispose of it in the garbage. Carefully remove gloves and discard them and thoroughly wash your hands with soap and warm water. Any of the following conditions mean that the bird should be brought to a wildlife rehabilitator as soon as possible:

- Blood visible anywhere e.g. beak, eyes, matted feathers
- A significant amount of feathers missing
- Asymmetry anywhere e.g. one eye closed one eye open, one wing drooping one wing normal, one leg being held up out
- One or both wings being held away from the body
- Inability to stand (on both legs)
- Beak looks crooked
- Swelling anywhere, e.g. around the eyes or head
- Bird appears inflated, like a little balloon
- Bird is off-balance e.g. falling to one side, stumbling when it tries to walk or hop
- Head tilt or head twitch
- Gurgled breathing or open-mouthed gasping
- Bird has been unable to fly for more than one hour
- Bird known / suspected to have been in a cat's mouth or claws



Injured Common Yellowthroat: breathing heavily through its mouth; swollen, closed eyes, and tilted head Photo: Ruby Pajares



Stunned Black-and-white Warbler after hitting a window: half-closed eye, puffed feathers, and sitting on window ledge against glass Photo: FLAP Canada

BECOME A BIRD RESCUE VOLUNTEER

FLAP Canada and the City of Toronto ask for your help with rescuing injured migratory birds or driving birds to a rehabilitation centre. Many of the birds that survive collisions with windows can recover and are released to the wild. Timely care is vital, and can mean the difference. between life and death. A few hours of your time during migration seasons can really help. Visit flap. org/volunteer.



NESTLING AND FLEDGLING BIRDS

Nestling birds have no feathers or only patches of feathers and should be carefully returned to the nest. Fledgling birds are fully feathered, have left the nest naturally and are learning to fly. If you find a fledgling, it should be left alone or placed in a nearby shrub for the parents to find. For more information, visit helpbabybirds.ca.



The birds on the right are nestlings and not old enough to leave the nest. The bird on the left is a fledgling and is learning to fly. (L) Nancy Barrett (R) Sarah Plant

Did you know?

Songbirds vary in size – hummingbirds (4 g) to crows (400 g). Be careful not to mistake a small adult bird for a baby.

Citizen Science Opportunities

PROGRAM	MONTH												WEDCITE
	J	F	м	Α	м	J	J	A	s	0	N	D	WEBSITE
eBird	•	•	•	•	•	•	•	•	•	•	•	•	ebird.ca
Project FeederWatch	•	•	•	•							•	•	birdscanada.org/volunteer/pfw/
Christmas Bird Count 4 Kids	•											•	birdscanada.org/volunteer/cbc4kids/
Great Backyard Bird Count		•											birdscanada.org/volunteer/gbbc/
Project NestWatch			•	•	•	•	•	•	•				birdscanada.org/volunteer/pnw/
Tommy Thompson Park Winter Waterfowl Event			•										tommythompsonpark.ca/events
Tommy Thompson Park Bird Research Station				•	•	•		•	•	•	•		ttpbrs.ca
Flap Mapper	•	•	•	•	•	•	•	•	•	•	•	•	mapper.flap.org
Sunday Morning Bird Walks - Tommy Thompson Park				•	•	•		•	•	•	•		tommythompsonpark.ca/events
Great Lakes Marsh Monitoring Program				•	•	•	•						birdscanada.org/volunteer/glmmp/
Ontario SwiftWatch					•	•	•	•	•				birdscanada.org/volunteer/ai/
Schoolyard Bird Blitz					•								birdscanada.org/education/school/index.jsp?targetpg=birdblitz
Whimbrel Watch at Colonel Sam Smith Park					•								torontobirding.ca/site/page/view/projects.whimbrel
Tommy Thompson Park Spring Bird Festival					•								springbirdfestival.ca
International Migratory Bird Day - Toronto Zoo and Rouge National Urban Park					•								naturecanada.ca/initiatives/bird-day/
Colonel Sam Smith Park Spring Bird Festival					•								friendsofsamsmithpark.ca/
Toronto HawkWatch - High Park and Rosetta McClain Park								•	•	•	•		torontobirding.ca/site/page/view/hawkwatch.info
Nighthawk Watch at High Park								•	•				birdscanada.org/research/speciesatrisk/coni/
Toronto Christmas Bird Count												•	birdscanada.org/volunteer/cbc/
• = Citizen Science Program, • = Public Event													

Conclusion

Birds have been living in the GTA and migrating through this region for many hundreds of thousands of years. The dangers posed to birds by today's modern urban landscapes are extremely new in evolutionary time scales and birds have been unable to alter natural behaviours in response to these relatively recent products of human activity. Many bird populations are decreasing rapidly throughout North and South America and it is inconceivable that they can evolve quickly enough to adjust to massive urbanization, deforestation, habitat loss, climate change and other factors threatening them. Cities are key places where adjustments in human behaviour necessary for bird conservation can occur. Local policy initiatives, public education and involvement of individuals will help to reconcile the needs of the human and nonhuman worlds and help mitigate the negative impact of our built environment on the natural environment.



Birding Resources

PARTNERS

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City of Toronto: toronto.ca Bird Studies Canada: bsc-eoc.org Fatal Light Awareness Program (FLAP) Canada: flap.org Rouge National Urban Park: pc.gc.ca/en/pn-np/on/rouge/index Royal Ontario Museum: rom.on.ca Toronto and Region Conservation Authority: trca.ca Toronto Field Naturalists: torontofieldnaturalists.org Toronto Ornithological Club: torontobirding.ca Toronto Zoo: torontozoo.com

ORGANIZATIONS AND BIRDING RESOURCE WEBSITES

Bird Studies Canada: bsc-eoc.org Cornell Lab of Ornithology; All About Birds: allaboutbirds.org Durham Region Field Naturalists: drfn.ca eBird Canada: ebird.org/content/canada/ Halton/North Peel Naturalist Club: hnpnc.com Ontario Breeding Bird Atlas: birdsontario.org/atlas/index.jsp Ontario Field Ornithologists: ofo.ca Ontario Nature: ontarionature.org Pickering Naturalists: pickeringnaturalists.org Richmond Hill Naturalists: rhnaturalists.ca South Peel Naturalists' Club: spnc.ca Toronto Ornithological Club: torontobirdingclub.ca Toronto Field Naturalists: torontofieldnaturalists.org Tommy Thompson Park Bird Research Station: ttpbrs.ca Toronto Wildlife Centre: torontowildlifecentre.com

Did you know?

Toronto was the only Canadian locality to participate in the very first Christmas Bird Count in 1900, the first Citizen Science effort in North America! A single participant went birding that year and recorded 4 species.



Toronto Citizen Scientists take part in the annual Christmas Bird Count Photo: Lance McMillan

FIELD GUIDES

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Birds of Ontario. Bezener, A., 2000.

National Geographic Field Guide to the Birds of Eastern North America. Dunn, J.L and J. Alderfer, 2008.

Peterson Field Guide to the Birds of Eastern and Central North America. 6th Edition. Peterson R.T., 2010.

The ROM Field Guide to Birds of Ontario. Hughes, J.M., 2001.

The Sibley Field Guide to Birds of Eastern North America: 2nd Edition: Sibley, D.A., 2013.

APPS

eBird by Cornell Lab of Ornithology iONTBIRDS Merlin Bird ID by Cornell Lab of Ornithology Peterson Field Guide to Birds of North America

The Sibley eGuide to the Birds of North America

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Illustrations and Images

City of Toronto Archives, City of Toronto, Robert Bateman, Rick Beaver, John Black – Brock University, DeLuca *et al.*, Gord Belyea, Jason Harris, Barry Kent MacKay and Toronto Reference Library.

A flock of Whimbrel viewed from Colonel Samuel Smith Park on 23 May 2007 frames the Toronto skyline. Since the early 20th century, Toronto Ornithologists have noted the unique and impressive spring migration of Whimbrel past the city's waterfront within a narrow $22 - 27^{th}$ May time frame. In this short stretch of May, literally thousands of Whimbrel migrate past Toronto each spring between their South American wintering grounds and their breeding grounds on the tundra coast of the Hudson Bay Lowlands. In some years, as much as one-quarter of the entire eastern North American population is witnessed passing along the Lake Ontario shoreline. Afforded protection by the Migratory Birds Convention act of 1917, its population is probably still rebounding from intense market hunting pressure in the 19th century.

Contributing Artists

Robert Bateman - His fascination with nature dates from his boyhood in Toronto, where he began his lifelong education as a naturalist by studying and sketching the species he saw in the ravine behind his house. An internationally acclaimed artist whose paintings can be found in collections worldwide, he is the best selling author of several books. An officer of the order of Canada, the recipient of nine honorary doctorates and an honorary life member of many conservation organizations, he devotes a great deal of his time to finding ways to preserve the natural world.

Barry Kent MacKay – Based in Markham, Ontario, Barry is an artist, activist, naturalist, writer and a pioneer in wildlife rehabilitation. It was Barry and his mother Phyllis who first started rescuing birds fatally attracted to lights on Toronto's buildings and structures in the 1960s. Thus, it is very fitting that his beautiful depictions of the birds of Toronto are featured here. He is well known and respected for his Nature Trail column (published in the *Toronto Star* for 25 years) and his ongoing involvement in national and international ornithological and conservation





organizations. Barry is the Senior Programme Associate of the Born Free USA.

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Back Photo: Jean Iron

