



# BIRDS OF TORONTO

A GUIDE TO THEIR REMARKABLE WORLD

• City of Toronto Biodiversity Series •



Imagine a Toronto with flourishing natural habitats and an urban environment made safe for a great diversity of wildlife species. 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.



Cover photo: Jean Iron

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 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.

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American Woodcock  
 Barry Kent MacKay

*“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  
Barry Kent MacKay

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## 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, fishes, birds, flowers, and even fungi that flourish among us.

*Margaret Atwood*  
*Graeme Gibson*

With best wishes,  
Margaret Atwood and  
Graeme Gibson  
January 2011



## Introduction to the Birds of Toronto

Mark/George Peck

Herpetologically yours,  
Dr. Mark D. Engstrom

Deputy Director, Collections and Research, Royal Ontario Museum

### City of Toronto Biodiversity Series

*Birds of Toronto* 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 (defined here as a 50 km radius from the Royal Ontario Museum) 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.

## Birds in Our Midst

Birds have always been with us. By the time early humans began walking upright, birds had roamed the planet for millions of years. We evolved in a world teeming with birds, and it is no wonder they have permeated our culture.

Birds have inspired art and literature throughout the ages, in every part of the world. Birds adorned the famous cave paintings of Lascaux, France, dating back 17,000 years, suggesting that even then birds took on symbolic meaning. Every culture has depicted birds in pottery, sculpture, jewellery, paintings and drawings. Birds have been featured in literature, from Homer's *Illiad* and *Odyssey*, to *Aesop's Fables*, to the many works of William Shakespeare. Countless poems have dedicated to them.

With their miraculous ability to fly, birds have been symbols of freedom and power. Rising above Earth and soaring to the heavens, many cultures considered them to be messengers between humans and the divine. Birds have played many roles in mythology, often associated with the creation of the world.

Humans coexisted with birds for ages before we began to study them scientifically. Aristotle (384-322 BC) compiled the first known bird list, which included 170 species. With the 14th century came the Renaissance and the invention of the printing press, which led to a surge in natural history writing and subsequently an interest in birds. The first major work of ornithology appeared in 1678 – *The Ornithology of Francis Willoughby*, which was based on careful observation of both the structures and habits of birds. The field of ornithology truly expanded in the 18th century, however, with the publication of several works on natural history and ornithology. In 1798, Linnaeus published his *Systema Naturae*, which laid the

foundation for modern binomial nomenclature and motivated naturalists to find and classify new kinds of organisms including birds.

The study of birds continued to grow into the 19th and 20th centuries, however bird identification remained tricky. Binoculars were of poor quality and ornithology texts were too massive to cart into the field. The standard way to identify a bird was with a shotgun and a dissecting knife. This all changed in 1934 when Roger Tory Peterson published *A Field Guide to the Birds: Giving Field Marks of all Species Found in Eastern North America*. Peterson's system organized groups of birds into similar poses, using arrows to indicate key field marks for identification. This book revolutionized birding by making it possible for anyone to identify birds in the field.

Today, birding is a popular pastime. It is also a multi-billion dollar industry, with the sale of bird feeders, bird food, bird baths, binoculars, telescopes, field guides, books, magazines, audio recordings, computer software, guided bird tours and birding festivals. This widespread interest in birds has in turn benefited science and conservation, as volunteer birders everywhere take part in counting, atlasing, and studying birds in their own neighbourhoods.

Birds can be enjoyed by anyone. Whether you choose to watch the birds at your feeder, go on bird walks, or take birding trips, there is something for everyone. You can start at any age, and no training is required. Besides purchasing binoculars and a field guide, it is essentially a free hobby. You don't have to venture far to find birds – they are all around us!

No human culture has existed without birds, and it is impossible to imagine a world without them. They were here long before us, and may they continue to fill the world with beauty, music and magic.

## A Quote from 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



“Golden-crowned Kinglet and Rhododendron”  
© Robert Bateman

prearranged signal, the migrants come. Within the space of less than an hour on that unforgettable morning, I saw 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.”

## *Mother, we will never leave you*

Reprinted with the permission of the Royal Ontario Museum, from *Tales the Elders Told – Ojibway*

*Legends* by Basil H. Johnston.

After the earth was made, there were only trees, grasses, and flowers upon it. There were no birds, no animals, no insects. On the whole earth there was only one living being – Spirit Woman.

For a long time Spirit Woman was content to live alone. She made mats and baskets and twines. She picked berries and fruits. She made clothes for herself. She was always very busy.

But after living alone for many years, Spirit Woman began to long for a friend. The more she thought about a friend, the lonelier she became. At last the Great Spirit, Kitche Manitou, sent her a husband to ease her loneliness. The two were very happy together.

It was not long before Spirit Woman gave birth – first to a ruffed grouse. On the same day she gave birth, one by one, to all the birds that inhabit the earth and fly in the sky. But only the ruffed grouse stayed with her. Soon after they were born, all the other birds flew away. Spirit Woman was sad when they left her.

“I will never leave you, Mother,” promised the ruffed grouse. “I will always be near you, no matter where you are.” Spirit Woman appreciated the loyalty of the ruffed grouse and was kind and gentle to the bird.

On another day Spirit Woman gave birth a second time – first to a rabbit and then one by one to all the other animals. This time only the rabbit stayed to comfort her mother. All the other creatures – the bear, the moose, the lynx, the mouse, and all the rest – fled as soon as they could.

“I will never leave you, Mother,” promised the rabbit. “I will always stay close to your side.”

Because the rabbit was so devoted, Spirit Woman gave the little creature a gentle nature. Because the

rabbit was so loyal, Spirit Woman created a rock in the form of a rabbit in the place where she had given birth. In later years people called the rock “The Sitting Rabbit”.

Then Spirit Woman gave birth a third time – this time near the sea. One by one, Spirit Woman brought forth all the water creatures, beginning with the whitefish. The whitefish was the only one that stayed to look after Spirit Woman. All the other fish soon deserted their mother.

Even though Spirit Woman had reason to be sad when all the creatures left her, she found contentment with the ruffed grouse, the rabbit, and the whitefish. They always stayed close to her.

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## Early Toronto Ornithologists

Mark, Glenn



## Yesterday's Habitats of Toronto

Before European settlement, Toronto was a landscape dominated by upland hardwood and mixed forest of either Carolinian or Great Lakes–St. Lawrence character, with extensive wetlands at the mouths of three main rivers (Don, Humber and Rouge) that flow into Lake Ontario. The area that is now the City of Toronto accommodated a large and diverse population of forest and wetland birds. As the city grew, spreading northwards from the lakeshore, almost all of this forest cover was converted first to agricultural land and then to the expanses of asphalt, brick, turf, concrete and glass that we now know.

The majority of forest wildlife species were unable to sustain themselves in this new environment. However, remnants of these populations still persist where forests remain, mainly where lands were difficult to develop. This has allowed the city to maintain what is now the most important natural characteristic of modern Toronto – the city ravines.

High Park, 1918



Children gathering lupine in High Park, 1918

Ashbridge's Bay Marsh, early 1900s



Ashbridge's Bay marsh (above), once one of the finest freshwater coastal wetlands in eastern North America, was sacrificed in the early 1900s for the creation of the port industrial lands (below).

Port Industrial Lands, 1930



### Importance of Ravines and Backyards

A legacy of the last ice age, the network of ravines that thread through much of the city are invaluable to an assortment of wildlife, notably birds. Ravines act as green corridors in an otherwise hostile urban landscape and provide important habitat for both migrating and resident birds. In the spring and fall, migrating birds move through city ravines in huge numbers on their long journeys, foraging and finding shelter. Locally bred birds, recently fledged and independent youngsters that were raised in green spaces across the city, depend on the connectivity of ravines to provide safe access to migration gathering areas on the lakeshore. In addition, these corridors are the routes that allow resident birds to disperse across the landscape, helping to ensure genetic health through increased breeding opportunities. City green spaces are usually isolated fragments of natural habitat or “natural islands” in an urban environment, which often means that birds cannot safely move between green spaces. In this respect, even small residential backyards provide important habitat for birds to spread throughout the city.

Ravine at Toronto Zoo



photo: Ken Ardill

## Today's Habitats of Toronto

Toronto's ravines and parks contain some of the best remaining forest habitat in the city. In some of the larger blocks of remaining forest, like Rouge Park, it remains extensive enough to support bird species more typically associated with rural forest cover.

High Park and the Lambton Prairie are excellent remnants of the once extensive black oak savannah that existed around the lower Humber River. They represent one of the rarest and most threatened habitat types in North America.

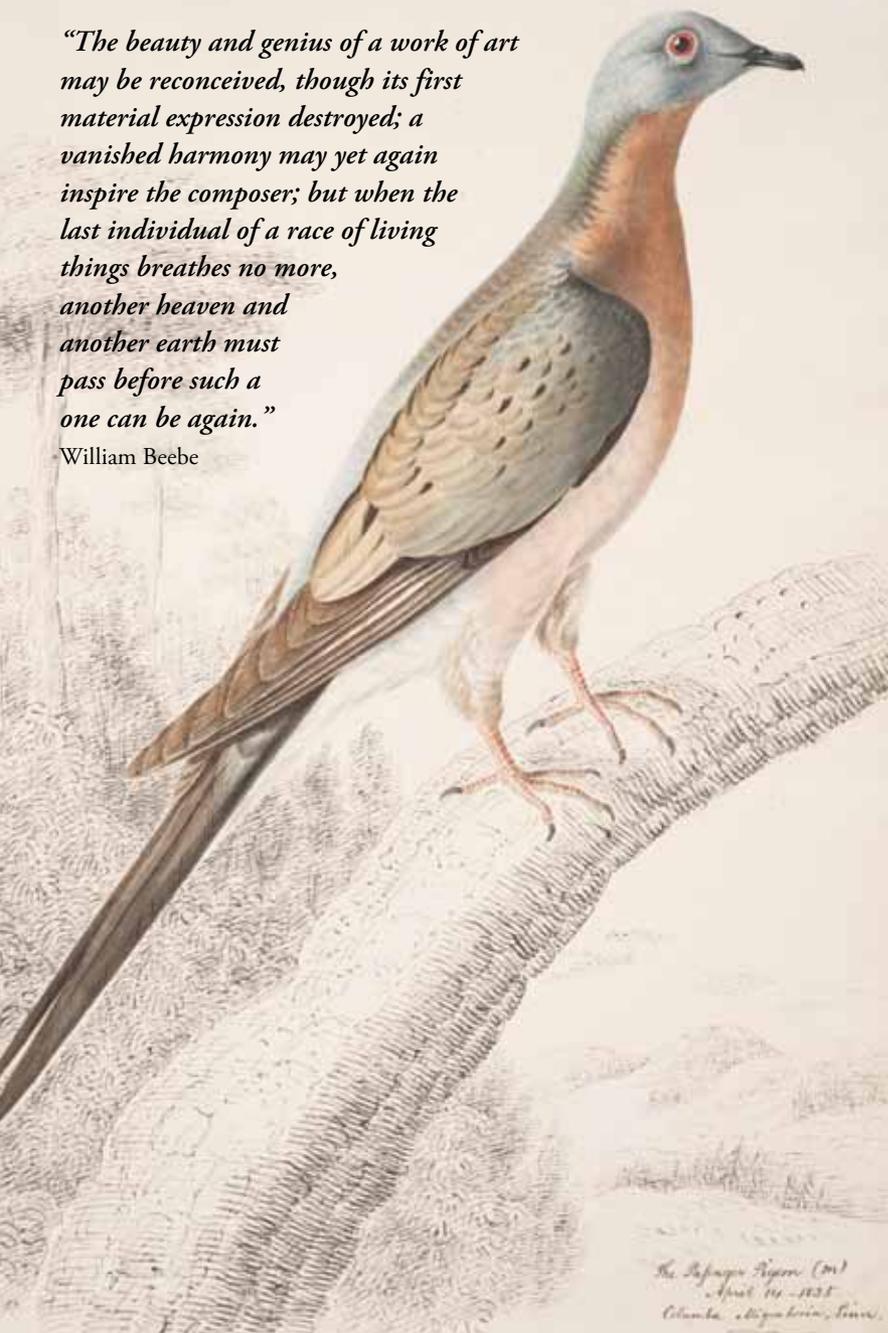
Nesting birds in the city's natural spaces tend to be well-represented by birds of the shrub layer (e.g., Gray Catbird, Brown Thrasher, Indigo Bunting) and the upper canopy (e.g., Warbling Vireo, Red-eyed Vireo, Baltimore Oriole, Blue-gray Gnatcatcher), with ground-nesting species (e.g., Ovenbird, Mourning Warbler, Ruffed Grouse) under-represented due to human disturbance.

As Toronto has lost much of its woodland cover, new habitat opportunities have arisen. The original forest was dotted with openings caused by wind or fire where meadow, savannah and thicket habitat would thrive for a few years before being swallowed again by the forest. These natural gaps accommodated various bird species (e.g., Bobolink, Field Sparrow, Eastern Meadowlark), all of which now find similar open habitat occurring more permanently, although artificially, throughout the city. Hydro corridors and road allowances provide excellent opportunities for some of these species, although as primarily ground-nesting species, they remain sensitive to disturbance by humans and their pets.

Despite the loss of continuous natural cover, there is still an enormous variety of birds throughout the city. Some of these species are represented only by the occasional pair that has overcome the odds of nesting in the urban environment (e.g., Scarlet Tanager in Sunnybrook Park), but many species seem to thrive in the remaining natural habitat. Then there are those species that have discovered entirely new nesting opportunities created by urbanization itself. These local birds, plus the incredible number of migrant birds that pass through, afford plenty of excellent birding opportunities for the patient enthusiast.

*“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



*The Passenger Pigeon (M)  
April 11, 1835  
Columba, & Dendroica, Temm.*

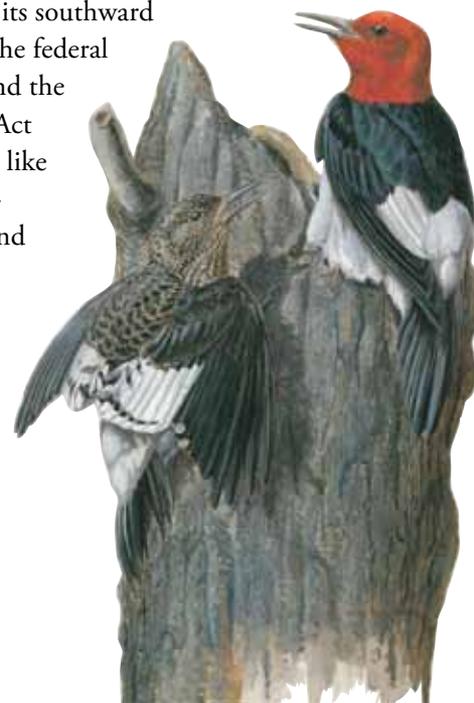
## Birds at Risk

Ontario is home to 31 bird species recognized to be at risk of disappearing from Ontario. Although many of these birds are seldom found in Toronto, three of them are conspicuous and can readily be found in the city: Nesting on building rooftops and ledges, several pairs of Peregrine Falcons have made Toronto home since the 1990s (see page 20). Although Chimney Swifts are declining, they are still vocal and visible from May through August in Toronto neighbourhoods that contain traditional chimneys (page 26). The Common Nighthawk (page 33) can be seen during the last 10 days of August during its southward migration through the city. The federal Species at Risk Act (SARA) and the Ontario Endangered Species Act aim to protect wildlife species like these and the threatened Red-headed Woodpecker (right) and to provide for their recovery.

### 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. Wantonly 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 local name, 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



Red-headed Woodpecker  
Barry Kent MacKay

## Bird Species at Risk in Ontario

Ontario Status	Common Name	Scientific Name
Extirpated	Eskimo Curlew	<i>Numenius borealis</i>
Extirpated	Greater Prairie-Chicken	<i>Tympanuchus cupido</i>
Endangered	Acadian Flycatcher	<i>Empidonax virescens</i>
Endangered	Barn Owl	<i>Tyto alba</i>
Endangered	Golden Eagle	<i>Aquila chrysaetos</i>
Endangered	Henslow's Sparrow	<i>Ammodramus henslowii</i>
Endangered	King Rail	<i>Rallus elegans</i>
Endangered	Kirtland's Warbler	<i>Setophaga kirtlandii</i>
Endangered	Loggerhead Shrike	<i>Lanius ludovicianus</i>
Endangered	Northern Bobwhite	<i>Colinus virginianus</i>
Endangered	Piping Plover	<i>Charadrius melodus</i>
Endangered	Prothonotary Warbler	<i>Protonotaria citrea</i>
Endangered	Red Knot (rufa subspecies)	<i>Calidris canutus rufa</i>
Threatened	American White Pelican	<i>Pelecanus erythrorhynchos</i>
Threatened	Bobolink	<i>Dolichonyx oryzivorus</i>
Threatened	Cerulean Warbler	<i>Setophaga cerulea</i>
Threatened	Chimney Swift	<i>Chaetura pelagica</i>
Threatened	Eastern Whip-poor-will	<i>Caprimulgus vociferus</i>
Threatened	Least Bittern	<i>Ixobrychus exilis</i>
Threatened	Peregrine Falcon	<i>Falco peregrinus</i>
Special Concern	Bald Eagle	<i>Haliaeetus leucocephalus</i>
Special Concern	Black Tern	<i>Chlidonias niger</i>
Special Concern	Canada Warbler	<i>Cardellina canadensis</i>
Special Concern	Common Nighthawk	<i>Chordeiles minor</i>
Special Concern	Golden-winged Warbler	<i>Vermivora chrysoptera</i>
Special Concern	Hooded Warbler	<i>Setophaga citrina</i>
Special Concern	Horned Grebe	<i>Podiceps auritus</i>
Special Concern	Louisiana Waterthrush	<i>Parkesia motacilla</i>
Special Concern	Olive-sided Flycatcher	<i>Contopus cooperi</i>
Special Concern	Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>
Special Concern	Short-eared Owl	<i>Asio flammeus</i>
Special Concern	Yellow Rail	<i>Coturnicops noveboracensis</i>
Special Concern	Yellow-breasted Chat	<i>Icteria virens</i>

Red = Breeding or migratory range includes Greater Toronto Area  
(Source: Ontario Ministry of Natural Resources, 2011)

Birdlife International uses quantitative criteria set out by the International Union for the Conservation of Nature (IUCN) to classify bird species at risk of extinction as (critically) endangered, vulnerable, or near-threatened. The criteria consider population size, the rate of population decline, and the area that the species occupies. Bird Studies Canada provides bird checklists for countries and regions of the world (including one for Southern Ontario) that note the risk of extinction.

Using similar criteria, COSEWIC (Committee on the Status of Endangered Wildlife in Canada) assigns "at risk" status reflecting the risk of extirpation in Canada, under the authority of the Species at Risk Act (SARA). For more information on SARA and species at risk in Canada, visit [www.sararegistry.gc.ca](http://www.sararegistry.gc.ca)

COSSARO (Committee on the Status of Species at Risk in Ontario) classifies species at risk for Ontario, under the authority of the Ontario Endangered Species Act, 2007. The 31 bird species determined by COSSARO to be at risk in Ontario are shown at left, with those breeding in or migrating through the Toronto area listed in red. COSSARO classifies species at risk as extirpated (no longer lives in the wild in Ontario), endangered (facing imminent extirpation in Ontario), threatened (likely to become endangered if steps are not taken), or special concern (at risk of becoming threatened). The criteria used by COSSARO for assigning species into risk categories are detailed on the Ontario species at risk website of the Ministry of Natural Resources. COSSARO also maintains a Priority List of Species to be Assessed by COSSARO within the next 2 years, which includes 5 bird species not yet classified as at risk, and 4 whose classification is to be reassessed. Under the act, recovery strategies are developed for each endangered or threatened species within 1 or 2 years respectively, and these species and their habitats are protected when they are listed. For species of special concern, management plans are required within 5 years of listing. The act protects extirpated species if they return to Ontario.

"Extirpated" species no longer exist in the wild in Ontario, but are still known to occur elsewhere. Ontario's new Endangered Species Act, 2007 now automatically protects extirpated species if they reappear, whereas the previous Act only recognized "endangered" species for enhanced protection.

## Threats to Birds

Habitat loss is the single biggest threat to bird populations around the globe. Habitat loss occurs for a variety of reasons, but the majority is caused by people. It can take various forms, for example the replacement of all natural features with brick and concrete; the replacement of natural cover with agricultural crops or livestock or exotic invasive species; the thinning of a woodlot or the construction of a road through a large grassland. Birds, especially those that have specific habitat requirements, are often unable to cope with changes to their environment, populations decline and may even become locally extirpated.

Collisions with human made structures are the next biggest threat to bird populations in North America. Hundreds of millions of birds die each year because they fly into buildings, vehicles, communication towers, power lines and wind turbines. The design and location of buildings and other structures plays a huge role in how lethal they are to birds.

Hunting is a significant component of many cultures and cultural history, including Canada; however unregulated hunting threatens bird populations when they are harvested irresponsibly and unsustainably.

Domestic cats, however cute and cuddly, are bird killers. Even though you may never see your kitty's killer instinct, cats are biologically programmed to kill birds. Luckily, this unfortunate trait can be easily dealt with by always keeping your cat indoors (which also keeps



Bad weather with swallows in flight  
photo: Ann Gray

cats safe from cars, coyotes and other wildlife). In urban situations, subsidized predators like raccoons (common because of the abundant food provided by humans), can also have a significant effect on birds, destroying nests and killing adults and nestlings.

Internationally, over 5 billion pounds of pesticides are used every year. Pesticide poisoning directly affect birds depending on their exposure and the pesticide's toxicity. Effects can be lethal or sub-lethal, but both ultimately reduce bird populations. Pesticides also have indirect effects by changing habitat and reducing food availability. Insectivorous birds can be especially affected by pesticide use.



Climate change and increased weather severity can be a significant threat to birds. Insect populations may be reduced during prolonged cold snaps, affecting insectivorous birds, and seed and berry production may be affected during droughts, affecting food supplies for seed-eating birds. Severe summer storms can damage nests and increased tropical storms during migration can devastate entire flocks.

Birds also face natural threats such as predators, disease and food shortages, however the most significant threats to birds are the ones created or caused by people.

*Source: Smithsonian Migratory Bird Center, 2011*



### Hierarchy of Threats

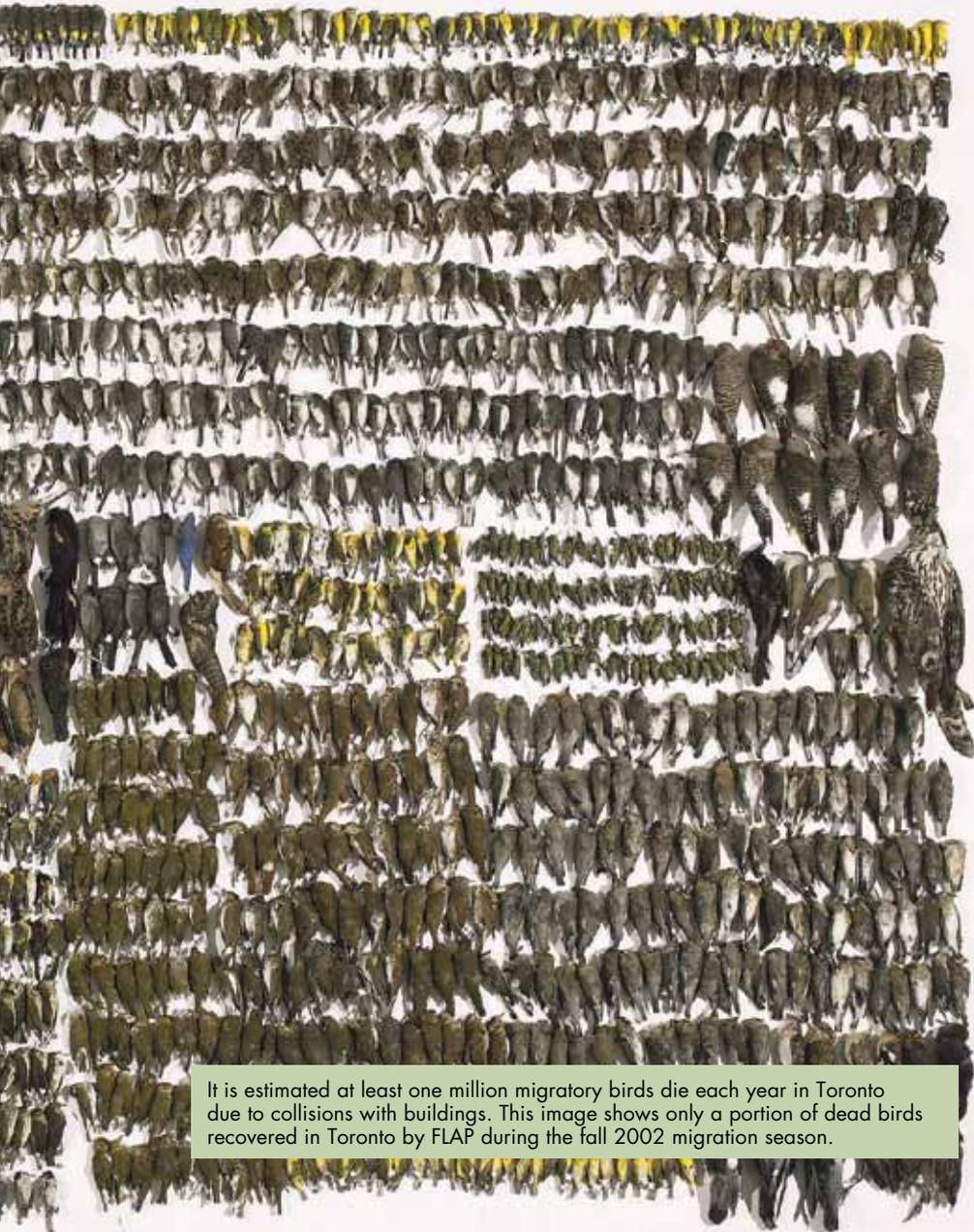
It is estimated that more than 1.5 billion birds are killed annually across North America as a direct result of human actions. This does not include impacts of habitat destruction from deforestation, agriculture, urban sprawl, the effects of climate change and invasive species. Simple changes in our daily lives can reduce these losses.

1. Collisions with:	Millions
– Buildings	100 - 1000
– Vehicles	60 - 80
– Communication towers	4 - 50
– Power lines	0.1 - 174
– Wind turbines	0.01 - 0.04
2. Recreational hunting	120
3. House cats	118
4. Indirect pesticide poisoning	72
5. Nuisance bird control	2
6. Electrocution	0.01 - 0.1
7. Scientific research	0.02
<b>TOTAL</b>	<b>476 - 1616</b>

Modified from *The Bird Almanac: A Guide to Essential Facts and Figures of the World's Birds*, David M. Bird, Key Porter Books (2004)



Dark-eyed Junco  
photo: Simon Luisi



It is estimated at least one 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 during the fall 2002 migration season.

photo: Mark Thiessen, National Geographic Society

### Top 25 Species of Building Collisions in Toronto, 1993-2010

White-throated Sparrow	7854
Golden-crowned Kinglet	5749
Ovenbird	4056
Dark-eyed Junco	2424
Brown Creeper	2364
Ruby-crowned Kinglet	2364
Hermit Thrush	1973
Common Yellowthroat	1951
Nashville Warbler	1668
Ruby-throated Hummingbird	1347
Magnolia Warbler	1345
Black-capped Chickadee	1137
Black-throated Blue Warbler	886
Black-and-white Warbler	866
Yellow-bellied Sapsucker	795
American Woodcock	709
Swainson's Thrush	695
Fox Sparrow	628
Song Sparrow	577
Black-throated Green Warbler	557
Lincoln's Sparrow	546
Northern Flicker	437
Chestnut-sided Warbler	435
Northern Waterthrush	412
Wood Thrush	357
<b>TOTAL</b>	<b>42,132</b>

Source: Fatal Light Awareness Program

## Bird Biology/Songs/Identification

With over 900 species of birds in North America and 399 species seen in Toronto alone, bird identification can be daunting for the beginner. With so many possibilities, the challenge is in knowing what to look for.

### Shape

First look at the bird's overall shape. Learn different bird silhouettes so that you can tell the difference between birds of the same size and colour. The silhouette of a nuthatch upside-down on the side of a tree trunk is much different than a similar-sized sparrow, standing upright on the ground. Next, note the head shape, bill shape, wing shape and so on.

### Size

Size is difficult to judge in the field. The same bird can appear dramatically different depending on its posture, how its feathers are arranged, and what its surroundings are. A good rule of thumb is to use familiar species for comparison. Try to figure out if your bird is bigger or smaller than a sparrow or pigeon, for example.

Size can also refer to characteristics like wing span, bulkiness, and body length. Try to use more specific words to describe the birds you see, such as “sleek” or ‘chunky.’ These observations can often be important clues.

### Proportions

Although size can be difficult to determine, you can always measure a bird against itself. Look at things like bill size relative to head size and wing length relative to body size.

### Posture

Different groups of birds often adopt different postures. Some birds perch horizontally while others take on a totally vertical shape. Become familiar with the typical postures of different bird families.

### Flight Pattern

Flight style varies substantially between groups of birds, and sometimes even between species. Finches are known for their bouncy flight whereas warblers fly in a straight line. Take note of how birds are flying and refer back to your field guides.

### Behaviour

When you see a bird, note what it is doing. If it is a songbird, is it hopping along the ground, flitting from branch to branch, or creeping down the trunk of a tree? If it is a raptor, is it circling high above the trees, diving, or zigzagging through the trees? Sometimes a behavioural clue will even give away a species, such as the constant bobbing of a Spotted Sandpiper.

### Colour

Not only is colour obvious, but people tend to notice and remember the pretty, colourful birds. Unfortunately some field guides only show the male plumage of some birds, so people can be confused when they see the duller-looking female. The bright blue male Indigo Bunting can easily be identified by the beginner, but the dull brown female of this species has been known to confuse even advanced birders. While colour is a valuable clue, it is only part of the puzzle.

## Sound

Birds have many ways of communicating with each other: songs, alarm calls, flight notes, and contact calls to name a few. Not only can a bird's vocalizations draw your attention to a well-hidden bird, but they can help you identify a species without even seeing it.

Although listening to recordings is helpful, the best way to learn is through observation. Birds have so much variation that simply isn't accounted for in typical bird CDs, and their voices can sound different depending on the time of day, the habitat they are in, and

even their mood. The more time you spend observing individual birds and watching them interact with each other, the more familiar you will become with their language.

Rather than trying to learn everything at once, become familiar with the common birds. When a new species shows up you will be more likely to pick it out of the crowd. When you hear a bird song or call, quiz yourself before you look at it. Do this until you are confident enough that you can identify a bird based on its sound alone.



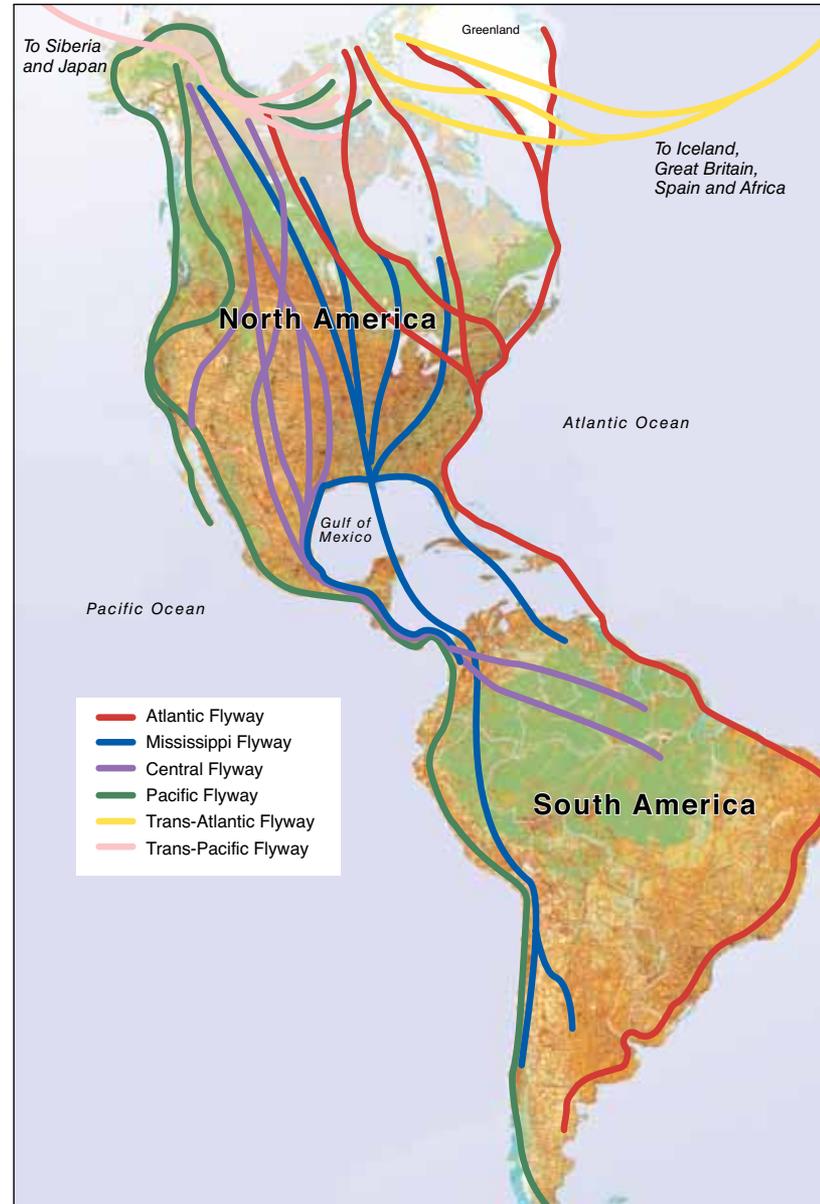
An organized bird hike  
photo: TRCA



American Redstart  
photo: Chris Henry

## North American Bird Migration Routes

Migratory birds travel through North America along four major paths – 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 by the various migratory bird species. 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 Tommy Thompson Park Bird Research Station (see page 43), 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.



# Birds of Toronto

## 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 yellow-golden 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!

Northern Flicker  
photo: Mark Peck



## Peregrine Falcon (*Falco peregrinus*)

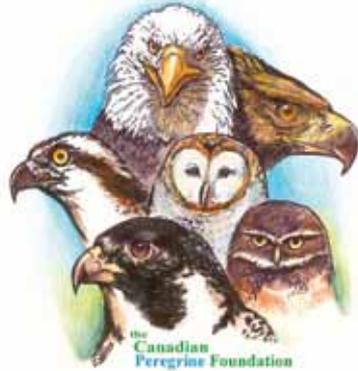
In 1995, Toronto became home to the first nesting family of Peregrine Falcons in its history.

Once found on every continent except Antarctica, the Peregrine Falcon is the fastest creature on earth, reaching speeds of up to 350 km/h as it dives, or stoops, to catch its prey. In the 1960s, it was discovered that the Peregrine Falcon and other raptors faced

extinction as a result of extensive use of the pesticide DDT after World War II. A ban of this chemical in the 1970s and captive breeding programs to reintroduce the Peregrine Falcon back into the wild have been remarkably successful. Today, the number of Peregrine Falcons has increased, and although still threatened, the species is no longer considered endangered in most areas.

Historically, the natural breeding habitat of the Peregrine Falcon has been cliffsides. But in today's urban landscape, high-rise office towers act as artificial cliffs and have become ideal nesting sites. The abundance of pigeons as food, along with the relative safety offered by the urban environment, have encouraged peregrines to remain in this habitat.

Southern Ontario hosts over a dozen urban nesting peregrine families, with the majority in the Greater Toronto Area (GTA). While all of Ontario's non-urban peregrine population migrates south each winter, urban peregrines usually remain in the city all year long.



Peregrine Falcon nest  
photo: Linda Woods

### Peregrine Falcon Nests

- Best viewing: - March to August (nesting season). Urban Peregrines remain in their territory year round.
- Nesting sites:
- King St./Victoria St. (view from King St/Leader Lane)
  - South side Sheraton Hotel (view from York St/Adelaide St.)
  - Yonge St./Eglinton Ave. West (southwest corner)
  - Bloor St./Islington Ave. (view from Bloor St/Eagle Rd, Etobicoke)
  - Duncan Mills Road and Don Mills Road
  - William Osler Health Centre (Hwy 27/Humber College Blvd.)
  - Yellow Pages Building (Milner Road/Markham Rd)
- Peregrine activity: - Bay St./Bloor St.

For more information, volunteer opportunities, webcams of the nests, visit the Canadian Peregrine Foundation: [www.peregrine-foundation.ca](http://www.peregrine-foundation.ca)



Peregrine Falcon nests  
photos: Linda Woods

### Get involved

The Toronto Ornithological Club runs the Greater Toronto Hawk Watch (GTHW) each fall where visitors at the three monitoring sites (High Park, Cranberry Marsh and Iroquois Shore) can learn about and experience the thrill of watching migrating hawks, falcons, eagles and vultures. GTHW also collects detailed data on a long-term basis allowing for analysis and comparison. Visit [www.greatertorontohawkwatch.com](http://www.greatertorontohawkwatch.com)

## American Crow (*Corvus brachyrhynchos*)

The American Crow is a member of the family of birds known as Corvidae. This family includes some of our largest songbirds including crows, ravens, jays and magpies.

With respect to humans, it has never been easy being a crow. In much aboriginal folklore, crows and ravens are often thought of as tricksters or thieves. Their collective noun is a “murder of crows”, decidedly negative and disrespectful terminology for one of the world’s most intelligent birds. During the latter half of the 19th and the first half of the 20th century, crows were thought of as agricultural pests and in several areas had a 10-cent bounty placed on their heads. Even today, crows remain unprotected under the Migratory Bird Convention Act in Canada and it continues to be legal to hunt them during much of the year. And, most recently, the crow and jay populations have declined in the GTA since the early part of this century having been greatly affected by West Nile Virus.

Despite man’s attempts to demonize crows, their continued success is greatly related to their close, albeit tenuous, relationship with humans and our man-made environment. Crows are distributed throughout most of North America, except the far north, in a wide range of habitats. They often select open areas with scattered trees or small woodlots and are most abundant in urban and rural landscapes. The American Crow is an opportunistic omnivore feeding on seeds, fruit, insects, invertebrates, bird eggs and nestlings, carrion and human garbage. They are also one of the few bird species observed using sticks as tools and will also hide and store food for later use.

In the GTA crows frequently begin nesting in April but can often be seen carrying sticks and building their nests in late March. Parks, ravines, gardens and cemeteries are common nest sites in



American Crow  
Barry Kent MacKay

the Toronto area. Crows do not breed before the age of two but, previous offspring from earlier years will often act as helpers at the nest, assisting parents with territorial defence, nest maintenance and the feeding of nestlings. After the breeding season crows begin to congregate in larger numbers, often near food sources. By winter, several thousand birds may be roosting communally, often in the same sites year after year. These roosts contain both local birds and short-distance migrants from farther north.

Today, crow numbers appear to be slowly increasing throughout the GTA as they rebound from West Nile Virus. In addition, the Common Raven, the crow's northern relative, is expanding its distribution southward and this species is now breeding in the GTA. Oh and by the way, the collective noun for the Common Raven is an "unkindness of ravens." Some birds just get no respect!

## The Tale of Two Swans

There are seven species of swans in the world today, all of which have been seen in the wild in Toronto, but four of these were escapes from wildfowl collections. Only two species are year-round frequenters of Toronto's waterways: the Mute Swan, introduced from Europe over a century ago, and the Trumpeter Swan, reintroduced to Ontario in the 1980s. The seventh species, the Tundra Swan, is an infrequent migrant in Toronto, mostly seen west of the city in March or April.

People visiting Toronto's waterfront or wandering the paths around the Humber and Rouge wetlands often come across one or more Mute Swans drifting majestically across calm waters. The Mute Swan first came to southern Ontario as an exhibit animal in zoos and to grace private ponds of aviculturists. In the 19th and early 20th century, people did not think of invasive species and young birds were not pinioned. Some of these birds escaped and became the first wild swans to live in southern Ontario since the Trumpeter Swan was extirpated here at least 200 years ago.

In the Great Lakes, Mute Swan was first recorded as breeding in the wild in 1958. However it was not until recently that their aggressive behaviour towards other birds and animals and their growing numbers led to conservationists seeing them as unwanted pests. This conflicted with the opinions of many citizens that viewed them as beautiful birds to be enjoyed and protected. The Mute Swan population in Southern Ontario is controlled by egg oiling and nest control. It is hoped that in this way, orange-and-black-billed Mute Swans will be gradually replaced by the native black-billed Trumpeter swan. In 1983, after some debate, it was decided that a program would be developed to reintroduce the Trumpeter Swan to Ontario. Through personal efforts and sacrifices, people such as Harry Lumsden and Bill Carrick gathered collaborators, with captive swans to provide the initial stock.



Trumpeter Swan family  
photo: Ken Ardill



Mute Swans  
photo: Tore Buchanan



Trumpeter Swan nest in Rouge Valley  
photo: Ken Ardill

This was followed by egg collection in western North America where populations were strong. Swans were bred, young reared in protected custody and then released into protected sites such as Wye Marsh, Frenchman's Bay and Cootes Paradise. Starting in 1993, ninety swans were released at Toronto Zoo. It took some time but the Trumpeters became adapted to the busy urbanized regions of southern Ontario. Many pairs are reproducing and presently over 1000 birds make Ontario their home. Although the Trumpeter is quite capable of defending its territory against the Mute Swan, it is more tolerant of other birds near its nest and young than the Mute Swan is.

So whether it be our native Trumpeter or the introduced Mute, enjoy the sight of these truly majestic birds as you walk our lakefront, and think of their interesting history in Toronto.

## Chimney Swifts and Swallows

### Chimney Swift

The Chimney Swift is best described as a cigar with wings. The grey, short-tailed, 12 cm long body appears round and stubby as the 30 cm narrow pointed wings carry the bird twisting and teetering rapidly through the air in search of insects. They are one of the most aerial of all landbirds, flying most of the day except when nesting or roosting at night, which they do by clinging to the sides of vertical surfaces since they lack the ability to perch upright like most other birds. Swifts are a migratory, aerial insectivore wintering in the Amazon Basin of northern South America and returning each spring and summer to breed throughout southern Ontario and much of eastern North America, below the Canadian Shield. During the breeding season, individuals or small numbers of swifts may be found twittering noisily above the parks and buildings of cities and towns. Prior to the arrival of Europeans, Chimney Swifts probably nested in the crevices of caves, cliffs and large, hollow trees throughout their range. As settlers arrived, built homes and cleared the land the swifts adapted well to the new man-made environments and became a common, well-established species.

In Toronto, Chimney Swifts arrive back in late April and early May, establish territories and begin building their unique nests a couple of weeks later. A swift nest is a loosely woven partial basket of small twigs, 4-8 cm in length cemented together using the birds glue-like saliva and placed on a vertical surface in a building, often the inside of a chimney. The swift incubates the 4-5 eggs for almost three weeks and the young remain in the nest for



Chimney Swift nesting structure and inside view  
photos: TRCA



Chimney Swift nest  
photo: George K. Peck





another 30 days. During migration in late summer, hundreds of swifts are found circling some of the larger chimneys disappearing into their night-time roosts as darkness approaches.

Unfortunately, during the last 20 years, Chimney Swift numbers have been declining rapidly throughout much of their range and they are now considered a threatened species (see page 11). Chimneys are disappearing or being lined; the loss of green space and an ever-decreasing urban insect biodiversity are considered three of the local issues. However, it is not simply a local problem. Many North American aerial insectivores like the Common Nighthawk (page 33) and swallows are showing similar declines, suggesting their troubles are more widespread and, of even greater concern than we previously thought.

### Swifts and Swallows

Toronto and Region Conservation's Habitat for Wildlife program provides nesting and roosting structures for a variety of species including Chimney Swifts. While the free-standing chimney design for swifts is experimental, the nest box program for cavity nesting species like Tree Swallows and Wood Ducks is a proven success. Structures are installed in appropriate habitat restoration sites through the city, often in partnership with local schools and naturalist groups. Boxes must be carefully placed to avoid takeover by more aggressive European Starlings, House Sparrows and House Wrens. In urban areas, nest boxes should always include predator exclusion guards to protect the parents, eggs and nestlings from predators like raccoons that have unnaturally high populations in cities. Volunteers are essential for the program, monitoring, cleaning and maintaining bird boxes, to help ensure the box is ready for the next season's family. For volunteer opportunities visit [www.trca.on.ca/get-involved](http://www.trca.on.ca/get-involved)



Tree Swallow

The good news is you can help. Before you renovate your chimney, check to see if it is home to swifts. If your chimney is a roost site in August and September swifts may visit for only a few days a year and, if your chimney is a nest site, your home plays a critical role in supporting the local population. Undertake chimney repairs outside of the migratory and nesting season and be careful how you renovate as metal liners and caps make the chimney unusable to swifts.

Volunteer with the Ontario SwiftWatch Program to look for swifts in your neighbourhood, so that we can better understand and protect their habitat. Visit [www.bsc-eoc.org/birdmon/chsw](http://www.bsc-eoc.org/birdmon/chsw)

## Owls

In Toronto, birds change with the seasons and winter is the owl's time to shine. Eleven species of owls have been observed in Toronto; several are permanent residents and others are winter migrants. Resident and most migrant species occupy various forest habitat types, but Snowy and Short-eared Owls prefer open landscapes.

Owls are vocal during the winter breeding season, and nighttime visits to the right habitat at this time of year can reward visitors with territorial calls from several individuals. Some owls, like the Eastern Screech-Owl nest and roost in tree cavities or nest boxes, while others like the Great Horned Owl nest in old crow or hawk nests.



Great Horned Owl



Long-eared Owl



Barred Owl

Owls are excellent hunters of insects, small rodents and rabbits using their specialized hearing and sight to locate, their camouflage and silent flight to surprise, and their sharp beak and talons to kill prey before eating them – usually whole. Indigestible parts (fur, bones, etc.) are regurgitated in the form of a dense pellet.

Most species are nocturnal and rest during the day – a behaviour that can make them vulnerable to disturbance. Owls that are repeatedly distracted by people coming too close can become less healthy, and may even die if they are unable to hunt successfully. Owls face significant threats to their survival, especially in winter, so respect owls by always staying at least five metres away and never distracting them.



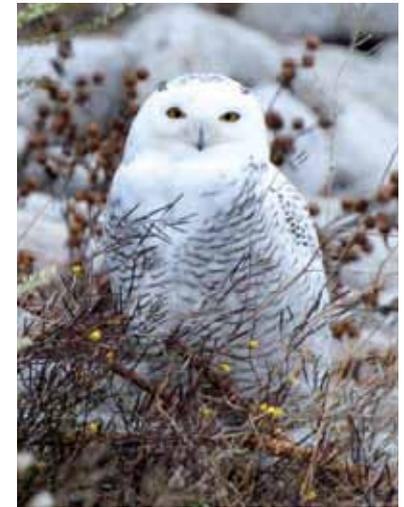
Northern Saw-whet Owl



Eastern Screech-Owl



Boreal Owl



Snowy Owl

**“Hoot and Howl”** – Toronto and Region Conservation (TRCA) hosts several “Hoot and Howl” events each winter at local conservation areas. Participants learn about owls and coyotes and call for them, hoping they’ll call back. For more information on free Family Nature Events visit [www.trca.on.ca/events](http://www.trca.on.ca/events)

## Eastern Wild Turkey (*Meleagris gallopavo silvestris*)

Eastern Wild Turkey populations in Ontario are the result of a successful reintroduction program started in 1984 after they were extirpated from the province in the early 1900s due to overhunting and loss of habitat. Better management has allowed the turkey to thrive in many areas of the province, and it has been observed in Toronto.

Wild Turkeys need a varied landscape to be successful. They like to forage in open areas such as grasslands and savannas, as well as agricultural fields, but need to remain close to forest cover for protection against predators and for nighttime roosting in trees. Turkeys use their large feet to scratch the ground to find food. As omnivores, they will consume almost anything, from insects and small amphibians, to flower buds, seeds and nuts. Predators of adult and especially young turkeys include coyotes, foxes and raccoons. Outside Toronto, turkeys are hunted for food and are closely managed by the Ministry of Natural Resources.

Turkeys are highly social, flocking together in same sex flocks in some seasons and mixed sex flocks at other times of year. Mating season begins in late spring, when males compete with other males for females using elaborate feather and head displays, strutting, spitting, hissing and even fighting using their beaks and sharp spurs. Nesting is usually along forest edges and shrubby areas, where a shallow depression is scratched in the ground and between 8 and 15 eggs are laid. Young are ready to leave the nest right after hatching, feeding themselves, and can fly at about 10 days old, but they usually remain with their mother until the following spring.

### What's that turkey called?

- Adult males are called Toms
- Juvenile males are called Jakes
- Adult females are called Hens
- Juvenile females are called Jennys
- Baby turkeys are called Poults

### Turkey trivia

- Turkeys are North America's largest game bird, weighing up to 25 lbs with some large Toms standing an intimidating 4 ft tall!
- Turkeys can run up to 40 km/h and can fly as fast as 90 km/h!
- A male turkey's gobble is so loud it can be heard almost 2 kms away!
- The fleshy growth on the top of the beak, which can grow very long on males, is called a "snood."

Wild Turkey  
photo: Glenn Coady



## Turkey Vulture (*Cathartes aura*)

Often mistaken for hawks when soaring, Turkey Vultures are without question magnificent gliders, using thermal updrafts to soar, seldom flapping their wings. In Toronto they are residents from the spring through the fall and can often be seen overhead foraging. Turkey Vultures search for food using their strong sense of smell to find freshly dead meat, and perform a vital ecosystem service by consuming it. They are social birds, often hanging out in small groups and feeding on the same carcass, although usually one at a time. They roost and sun on tall dead trees, power line towers and sometimes buildings, standing motionless and holding their wings out.



Turkey Vulture

Vultures are thought to form long-term bonds and court by repeatedly following each other through short twisting, turning flights. Nesting habitats vary, but they generally prefer open areas with scattered forest cover. Turkey Vultures nest well away from people, on cliffs and rocky outcroppings, in standing or hollow trees, in old hawk or heron nests and in caves and abandoned buildings. They don't construct nests, but scrape out a shallow depression and usually lay two eggs. Both parents incubate and help raise the young that remain in or near the nest for 60 to 70 days.

Vultures migrate relatively short distances to the southern U.S. in the winter. They form "kettles" of circling, soaring birds, sometimes numbering in the hundreds, a truly spectacular sight.

### Vulture Culture

- Their name comes from their resemblance to Wild Turkeys, the bald head and dark feathers, and from the Latin word "vellere," meaning "to tear."
- The wingspan of a Turkey Vulture is 1.8m, the second longest of common Toronto birds.
- Most birds lack a sense of smell, but Turkey Vultures can smell their food from about 180 m away.
- Many viruses and bacteria are destroyed when they are consumed by Turkey Vultures – and the vultures don't get sick when they eat them!

Turkey Vulture chicks  
photo: Paul Prior



## Breeding Birds

The most widespread and easily found breeding birds in Toronto are the Rock Pigeon, European Starling and House Sparrow, all of which are introduced species from Europe that are well adapted to the urban environment. However, an all-time total of 199 species has been confirmed as breeding in the Greater Toronto Area (including breeding evidence for 188 of these species in the recent *Atlas of the Breeding Birds of Ontario 2001-2005*), with 164 species confirmed as breeding within the City of Toronto limits. Although the Rock Pigeon may nest in any month, the breeding season for the majority of species occurs between April and August. Protection of all habitat types is essential to maintaining the diversity of local breeding birds.



Great Horned Owl



Canvasback



Double-crested Cormorant



Great Egret



Black-crowned Night-Heron



Northern Harrier



Red-tailed Hawk



American Kestrel



Virginia Rail



Killdeer



Spotted Sandpiper



American Woodcock



Ring-billed Gull



Common Tern



Rock Pigeon



Cedar Waxwing



Common Grackle



European Starling



Ruby-throated Hummingbird



Red-headed Woodpecker



Pileated Woodpecker



Red-eyed Vireo



Blue Jay



Red-breasted Nuthatch



Wood Thrush



Yellow Warbler



Field Sparrow



Baltimore Oriole



American Goldfinch



House Sparrow

## Feature Breeding Birds: 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 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 seedeaters and favourites at bird feeders, fruit and invertebrates make up an important part of their diet in late summer and autumn, when they require food sources rich in carotenoid pigments to replace their bright red feathers during their molt period.



Northern Cardinal  
photo: Mark Peck



Common Nighthawk  
photo: Glenn Coady

## Common Nighthawk (*Chordeiles minor*)

The Common Nighthawk was once a common breeding bird in Toronto, nesting on the city's many older, gravel-roofed buildings, and its courtship booming and nasal "peent" calls are well known to long-time birders in our area. The second Ontario Breeding Bird Atlas has demonstrated a serious decline of all aerial insectivores, including Common Nighthawk. 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 and increased nest predation by crows and gulls. Despite that this aerial insectivore is in 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 recorded 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 entirely to spend the winter months in northern South America.

## Wintering Birds

A total of 249 species of bird have been recorded all-time in the Greater Toronto Area in the traditional winter birding period from December to February. Most winters, 135 to 140 species can be found throughout the Greater Toronto Area, with about 115 to 120 species found within the City of Toronto limits. The Toronto Christmas Bird Count, a one-day tally of all the birds seen within a 12 kilometre (7.5 mile) radius of downtown Toronto, usually records 85 to 91 species each year. The moderating temperature influence of Lake Ontario, in combination with the wide variety of habitats (including many sheltered ravines) and the increased prevalence of bird feeders, serves to provide for a rich variety of winter bird species in the Toronto area.



Canada Goose



American Black Duck



Mallard



Redhead



Greater Scaup



Bufflehead



Common Goldeneye



Harlequin Duck



Long-tailed Duck



Red-breasted Merganser



Common Merganser



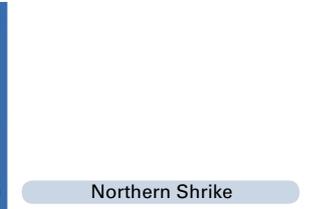
Herring Gull



Mourning Dove



Great Black-backed Gull



Northern Shrike



Bohemian Waxwing



Evening Grosbeak



Red Crossbill



Red-bellied Woodpecker



Downy Woodpecker



Hairy Woodpecker



Black-capped Chickadee



White-breasted Nuthatch



American Robin



Northern Mockingbird



American Tree Sparrow



Northern Cardinal



House Finch



White-winged Crossbill



Common Redpoll

## Feature Wintering Birds: Long-tailed Duck (*Clangula hyemalis*)

There is probably no more characteristic a winter anthem for the Toronto waterfront than the melodic yodeling of large flocks of wintering Long-tailed Ducks. Several hundred thousand Long-tailed Ducks routinely winter on Lake Ontario. The Toronto section of the Mid-Winter Waterfowl Inventory alone has tallied more than 23,000, and the entire Canadian shoreline of the lake has produced a total in excess of 220,000 birds. The record high count for the GTA was a single flock estimated at 80,000 birds on 1 March 1998 off Joshua Creek in east Oakville, Halton R.M. 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. It is typically found throughout our waterfront from mid-October to mid-May, when large numbers can be easily found off Humber Bay Park, Sunnyside, the Toronto Islands and the Leslie Street Spit.



Long-tailed Duck  
photo: Sam Barone



Pine Grosbeak  
photo: Rick Lauzon

## Pine Grosbeak (*Pinicola enucleator*)

This large and unwary finch is a secretive breeding bird found widely at low density in open riparian corridors across the northern boreal forest from Alaska to Newfoundland and in subarctic habitats at higher elevations in the Rocky Mountains. As a testament to its remoteness and penchant for secrecy around its nest, the first documented nest in Ontario was only discovered in 2003, even though its range in Ontario makes up a substantial portion of the continental range. Predominantly an insect-feeder during summer, in winter the Pine Grosbeak specializes in feeding on the berries of mountain-ash. In years in which the native mountain-ash berry crop is poor throughout its northern range, this species is known to irrupt southward in impressive flights to seek out alternate winter food sources. Such large scale irruptions (defined as a mass exodus of a species from an area of year-round range, most frequently due to food shortage) irregularly bring this species to the Toronto area, where it predictably appears at areas with fruitbearing ornamental trees such as crabapple and European mountain-ash. This very tame and beautiful finch allows Toronto-area observers excellent viewing opportunities during these southern irruptions.

## Migratory Birds

Even the most casual observer is likely to appreciate the amazing spectacle of sights and sounds associated with our migratory birds. Over 270 species of birds migrate annually through the Greater Toronto Area. The heaviest fallouts of migrant birds tend to occur in areas of natural habitat along the lakefront and in the major river valleys. Nocturnal migrants are often plentiful after southern warm fronts in the spring and northern cold fronts in the fall. Light to moderate overnight rain or persistent fog will often result in major groundings of migrants as well. Spring migrants rely on safe migration stopovers to effectively feed, so that they can reach their breeding areas in optimal physical condition for nesting. Likewise, fall migrants require secure habitat to replenish the energy needed for their rigorous migratory travels to their wintering quarters.



Gadwall



American Wigeon



Northern Shoveler



Pied-billed Grebe



Horned Grebe



Great Blue Heron



Green Heron



Wimbrel



Sharp-shinned Hawk



Sandhill Crane



American Coot



Red Knot



Sanderling



Short-billed Dowitcher



Yellow-billed Cuckoo



Yellow-bellied Sapsucker



Eastern Phoebe



Great Crested Flycatcher



Eastern Kingbird



Philadelphia Vireo



Blue-headed Vireo



White-eyed Vireo



Canada Warbler



Brown Creeper



Winter Wren



Golden-crowned Kinglet



Ruby-crowned Kinglet



Swainson's Thrush



Hermit Thrush



Gray Catbird



Brown Thrasher



American Pipit



Cedar Waxwing



Blue-winged Warbler



Golden-winged Warbler



Nashville Warbler



Chestnut-sided Warbler



Magnolia Warbler



Cape May Warbler



Black-throated Blue Warbler



Black-throated Green Warbler



Blackburnian Warbler



Palm Warbler



Blackpoll Warbler



Black-and-white Warbler



American Redstart



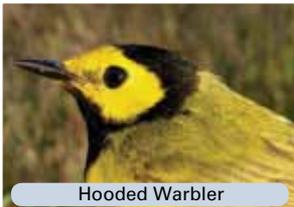
Ovenbird



Mourning Warbler



Common Yellowthroat



Hooded Warbler



Wilson's Warbler



Yellow-breasted Chat



Scarlet Tanager



Chipping Sparrow



Savannah Sparrow



Fox Sparrow



Song Sparrow



Lincoln's Sparrow



Swamp Sparrow



White-throated Sparrow



White-crowned Sparrow



Dark-eyed Junco



Rose-breasted Grosbeak



Indigo Bunting



Red-winged Blackbird



Rusty Blackbird

## Feature Migratory Bird: Blackpoll Warbler (*Setophaga striata*)

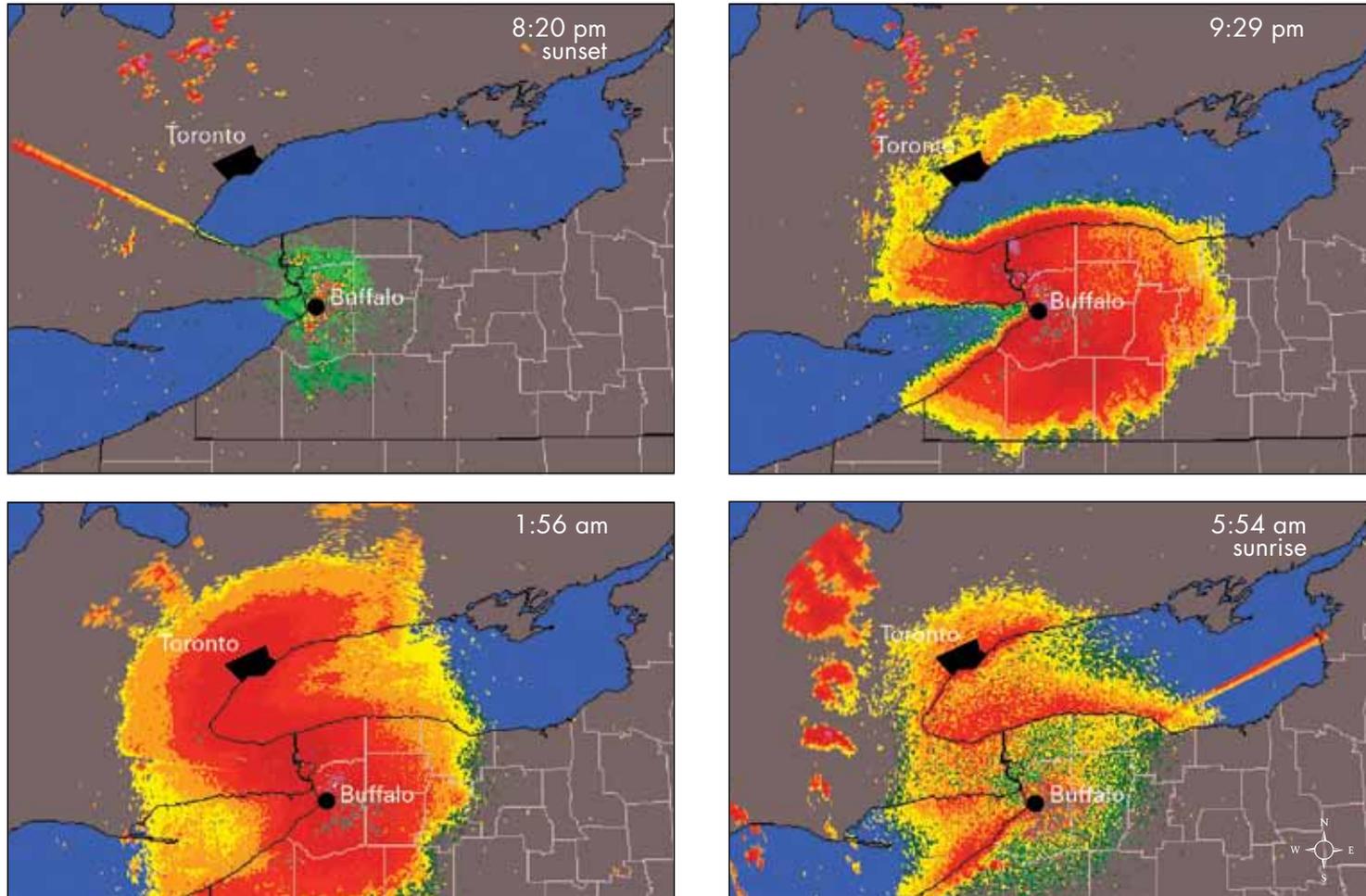
The Blackpoll Warbler is perhaps the most compelling example of songbird migration in the western hemisphere, illustrating the interconnection of environments and human activities across great distances. Each fall, Blackpoll Warblers migrate east across the boreal forest, past the Great Lakes, and on to the Atlantic coast in the northeast. Once there, they gorge on insects, doubling their weight from about 11 grams to 22 grams. After fattening up, they wait for suitable northwest winds and launch out over the Atlantic Ocean on a 4-day, non-stop journey, where the northeast trade winds in the tropics eventually deflect them toward the northern South American coast. They arrive exhausted, with little to no fat stores, allowing very little room for error, having traversed up to 3,500 kilometres on fat reserves weighing barely more than two Canadian quarters. The perils of migration are no more apparent than in this story of a tiny bird traveling over 8,000 kilometres from Alaska to South America in just a few short weeks. Here in Toronto, the Blackpoll Warbler is a common visitor in both spring and fall, when thousands feed on insects and rest in our green spaces in preparation for the next leg of their incredible migratory odyssey.



Blackpoll Warbler  
photo: Dan Derbyshire



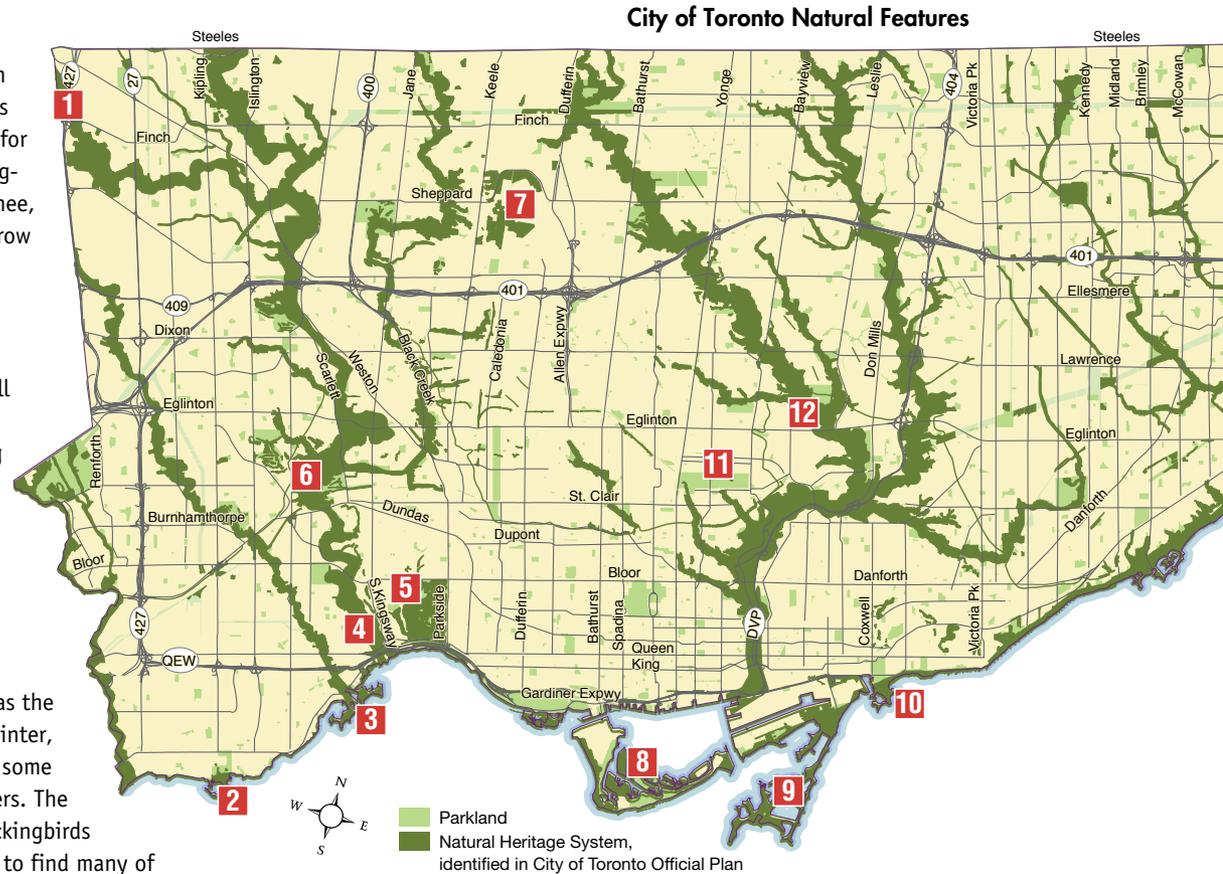
## Radar Images of Nocturnal Migration over Western Lake Ontario Unseen Natural Spectacle



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.

## Exceptional Bird Viewing Locations in Toronto

- 1 **CLAIREVILLE CONSERVATION AREA** – The interspersed meadow, marsh, deciduous forest and conifer plantations in this park in the city's northwest corner provides habitat for a remarkable diversity of breeding birds. These include Long-eared Owl, Willow Flycatcher, Brown Thrasher, Eastern Towhee, Indigo Bunting, Rose-breasted Grosbeak, Clay-colored Sparrow and Purple Finch.
- 2 **COLONEL SAMUEL SMITH PARK** – The marriage of the mature trees of the former Lakeshore Psychiatric Hospital grounds with the bays, marshes and meadows of the landfill created at the foot of Kipling Avenue, has served to make Colonel Samuel Smith Park one of Toronto's premier birding destinations. Its sheltered bays and excellent views of the lake have made it a favourite site for viewing winter waterfowl. Red-necked Grebes have nested in the public marina area, and the headlands on the southeast portion of the park are thought to be the best place in Toronto to observe large numbers of Whimbrel in spring migration.
- 3 **HUMBER BAY PARK** – This park is widely acknowledged as the best site in the city to see large numbers of waterfowl in winter, with as many as 20,000 ducks, geese and swans present in some years. The Harlequin Duck is reliably found here most winters. The conifer stands can be good for roosting owls. Northern Mockingbirds are easily found here at all seasons. It is also a good place to find many of the more northern species of gulls in winter.
- 4 **HUMBER MARSHES** – Although only five of the former eight marshes remain today, this site is still an exceptional area for migrant and breeding birds. Regular breeding birds here include Double-crested Cormorant, Wood Duck, Hooded Merganser, Green Heron, Great Horned Owl, Eastern Screech-Owl, Belted Kingfisher, Wood Thrush, and both cuckoos. This is one of the last reliable sites to find breeding Red-headed Woodpeckers within the city.



- 5 **HIGH PARK** – One of Toronto's best known and most heavily used parks, High Park still provides plenty of habitat for migrant and breeding birds. With its wide diversity of habitats, including Grenadier Pond, it is not unusual to find more than 100 species within the park during peak spring migration. Commonly found breeding species include Wood Duck, Gadwall, Cooper's Hawk, Eastern Screech-Owl, Warbling Vireo, Blue-gray Gnatcatcher and Orchard Oriole. Rarer breeding species found in recent years have



Toronto's many parks, ravines and natural areas provide ample opportunities for viewing birds. We encourage you to explore.

included Virginia Rail, Yellow-throated Vireo, Wood Thrush and Pine Warbler. The High Park Hawk Watch welcomes observers to view the fall migration of diurnal raptors over the hill north of the Grenadier Restaurant from September 1 to November 30. This is one of the best places in the city to see late fall concentrations of Northern Shoveler and Hooded Merganser.

### 6 LAMBTON WOODS / JAMES GARDENS / LAMBTON PARK –

This chain of parks along the Humber River presents one of the best areas in the city to find Eastern Screech-Owl and a variety of woodpecker species year-round. Great Horned Owl, Wood Duck, Wood Thrush and both species of cuckoo breed here.

**7 DOWNSVIEW PARK** – This large park provides a significant block of the grassland habitat that is so under-represented in contemporary Toronto. Specialties found here include 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.

**8 TORONTO ISLANDS** – This is far and away the best location in the city to see large numbers of migrant birds in both spring and fall. The most productive areas are 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. Breeding Blue-gray Gnatcatchers are a more common breeding species here than anywhere else in the city. In recent years, Canvasback has bred here annually. When weather fronts provide conditions that ground migrants, it is not unusual

to see many hundreds of warblers, kinglets, thrushes and sparrows here. Almost anything can turn up in migration, as demonstrated by the Variegated Flycatcher from South America that was found near the Gibraltar Point Lighthouse in October 1993.

### 9 LESLIE STREET SPIT / TOMMY THOMPSON PARK

- featured on page 42

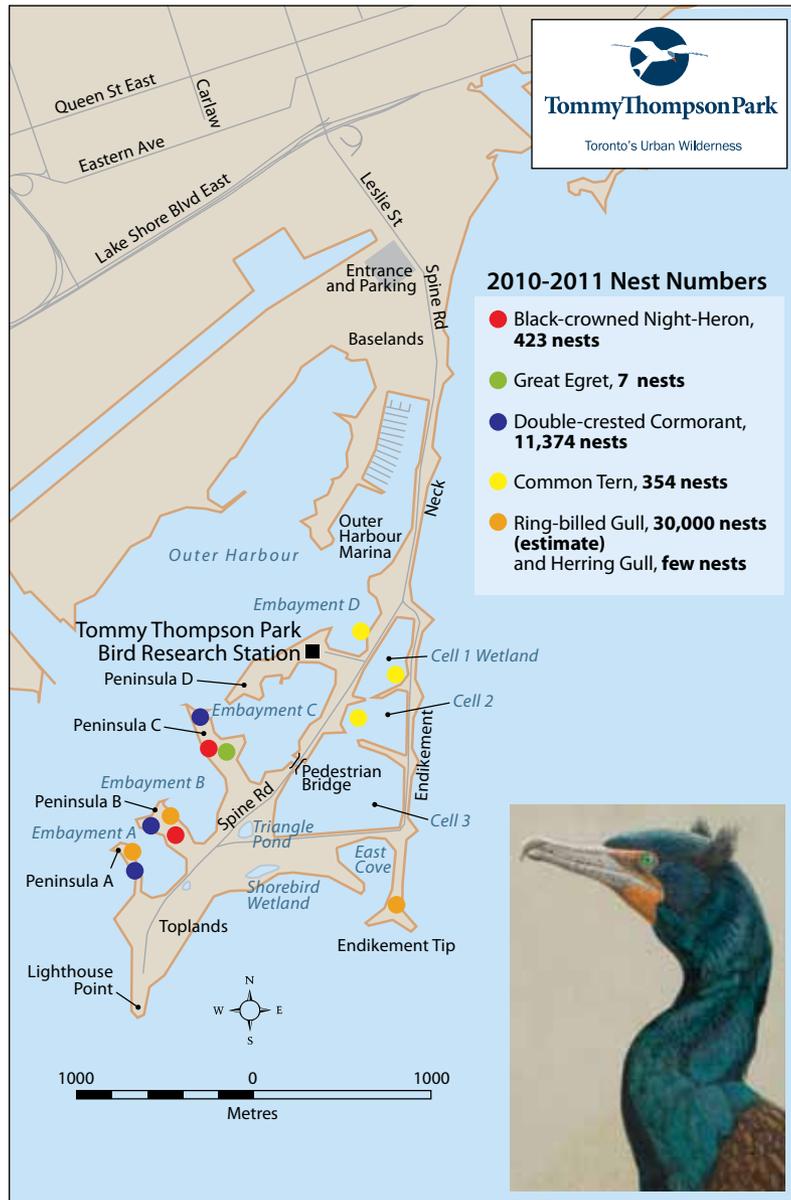
**10 ASHBRIDGE'S BAY PARK** – This small waterfront park is a good migrant trap in spring and fall. It presents an excellent vantage point to view waterfowl, loons and grebes in Lake Ontario. In recent years, the west side of the park, along the Coatsworth Cut, has been one of the most reliable spots to study Iceland, Glaucous and Thayer's Gulls in the winter.

**11 MOUNT PLEASANT CEMETERY / MOORE PARK RAVINE** – The wide diversity of mature trees at Mount Pleasant Cemetery, coupled with the funneling effect of the adjacent Moore Park Ravine, makes this area one of the best locations in the city centre for observing the migration of warblers and other passerines in spring. The large number of fruiting ornamental shrubs and trees provide both cover and food for many berry-eating species in winter.

### 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. Notable breeding species in this area include Great Horned Owl, Wood Thrush, Veery, Scarlet Tanager, American Redstart and both species of cuckoo.

**13 ROUGE PARK** – This largest of the city's parks, stretching from the lake well into York Regional Municipality, has a wide diversity of habitats, from the marsh at the Rouge River mouth, to the Eastern White Pine forest near Hwy 401, to the bottomland swamp forest in Glen Rouge Park, to the Scarborough-Pickering Townline Swamp, to the agricultural fields near Plug Hat Road, to the deciduous forest of Woodlands Park. This large corridor of natural habitats in eastern Scarborough has the richest diversity of breeding birds of any area within the city limits. Some forest interior species like the Northern Goshawk, Broad-winged Hawk, Ruffed Grouse, Acadian Flycatcher, Blue-headed Vireo, Winter Wren, Black-throated Green Warbler, Ovenbird, Northern Waterthrush and Scarlet Tanager still manage to occasionally breed here in the only suitable closed canopy areas left in the entire city.



## Leslie Street Spit/Tommy Thompson Park



Tommy Thompson Park (TTP), a human-built peninsula also known as the Leslie Street Spit, is owned by Toronto and Region Conservation (TRCA) and co-managed with the City of Toronto, and is the largest area of urban wilderness on the central Toronto waterfront. It has been designated as a globally significant Important Bird Area by Birdlife International and is also considered an Environmentally Significant Area. The geographical situation of the park and its natural features make it very suitable for a diversity of wildlife, including birds. To date, 312 bird species have been recorded at TTP. Songbirds assemble in large concentrations during migration seasons when thousands stop to rest and refuel before continuing on their journey. Large numbers of Arctic breeding shorebirds visit the park's wetlands and mudflats during spring and fall migration. At least 65 bird species have nested at the park, including the first Canvasback nest record in Ontario. In fact, waterfowl are a constant presence at TTP with resident breeders, migrants stopping over and thousands of ducks overwintering in the waters in and around the Spit. Ten species of owls have been recorded at the park, and late fall and winter are ideal times to view them. Remember to bird watch responsibly, staying quiet and not too close – never disturbing the owl.

The Park is open to the public on weekends and holidays except Christmas Day, Boxing Day and New Year's Day. For more information visit [www.trca.on.ca/ttp](http://www.trca.on.ca/ttp) or call 416-661-6600.



Double-crested Cormorant  
Barry Kent MacKay

## Colonial Waterbirds at TTP

If you visit TTP during breeding season you will likely encounter at least one of the six species of colonial waterbirds that regularly nest at the park. At one time, over six per cent of the world's breeding population of Ring-billed Gull nested at TTP, along with Herring Gull and occasionally Great Black-backed Gull. Common Tern have nested successfully on artificial floating "reef-rafts" for over three decades and are now nesting on the island designed for them in the Cell 1 Wetland. The largest breeding colony of Double-crested Cormorant on the Great Lakes nest in the cottonwood trees on three peninsulas at the park. Also nesting in the cottonwood trees are Great Egret and one of the largest breeding colonies of Black-crowned Night-Herons in Canada. From mid-April until September, the nesting areas used by these species are off limits to the public due to the sensitivity of the birds; however, most locations can be easily viewed with binoculars or a scope. All of these birds can be seen foraging throughout TTP and the entire Toronto waterfront.

Black-crowned Night-Heron and Double-crested Cormorant colonies at Tommy Thompson Park  
photo: Ainslie Willcock



### Tommy Thompson Park Bird Research Station

The Tommy Thompson Park Bird Research Station (est. 2003) is operated by the Toronto and Region Conservation Authority to address a need for avian monitoring, research and public education in the GTA. The core program of the station is the Migration Monitoring Program (MMP), which tracks populations of poorly understood boreal bird species. The MMP operates daily in spring and fall through a combination of standardized bird surveys and bird banding. Other programs include Nocturnal Owl Monitoring, Monitoring Avian Productivity and Survivorship and the Great Lakes Marsh Monitoring Program, as well as collaborative efforts with research and academic groups. Data from these programs help conservation agencies protect birds and their environments at local, national and international levels. For more information visit [www.ttpbrs.ca](http://www.ttpbrs.ca) or call 416-661-6600.



photo: TRCA

*"Look at a child gently holding an unfledged young robin that has fallen from its nest. Look in that child's eyes. The sweet bondage of wildness is recoverable."*

– John A. Livingston

# A Chronology of the Toronto Birding Year

## JANUARY

Apart from viewing year-round resident birds, mid-January is the time when numbers of wintering waterfowl reach their peak. More than forty-five species of waterfowl have been found wintering in the Greater Toronto Area (30+ species routinely), with total numbers of individuals in the 80,000 – 100,000 range. The best places to look for winter waterfowl include Humber Bay Park, Leslie Street Spit, Toronto Islands, Colonel Samuel Smith Park and Cliff Lumsden Park.

January is also the season to search for wintering northern owls. As many as ten species of owls can be seen in winters in which large numbers of owls irrupt southward due to crashes in prey populations within their northern boreal habitats. Excellent sites to look for wintering owls like Snowy Owl, Long-eared Owl, Short-eared Owl, Northern Saw-whet Owl, Boreal Owl and Great Gray Owl include Leslie Street Spit, Toronto Islands, Downsview Park, Humber Arboretum and Claireville Conservation Area.

This is the month to search for winter finches such as Purple Finch, Red Crossbill, White-winged Crossbill, Pine Grosbeak, Evening Grosbeak, Common Redpoll, Hoary Redpoll and Pine Siskin. Redpolls, siskins and Evening Grosbeaks are often found at bird feeders. Crossbills feed on seeds found in the cones of conifers. Pine Grosbeaks often feed on mountain-ash berries and crab-apples.

## FEBRUARY

In addition to opportunities to view irruptive winter finches, large flocks of wandering Bohemian Waxwings are often found in Toronto from January to March.

By mid-month, warm fronts from the south often bring early spring migrant waterfowl such as Tundra Swan, Northern Pintail, Green-winged Teal, Redhead and Canvasback. Ring-billed Gull, Red-necked Grebe and Horned Grebe may also return to Lake Ontario from the Atlantic coast on such warm fronts. Horned Larks and American Crows herald the first land bird migration by mid-month as well.

Later in the month Red-tailed Hawks begin the process of building nests, and Great Horned Owls begin to incubate eggs.

Warm fronts coming up from the Gulf of Mexico late in the month deliver the first migrant American Robins, Red-winged Blackbirds, and Killdeer to our area. Subsequent cold snaps can also result in impressive retreating reverse migrations by these species.

## MARCH

Many diurnal migrants, particularly waterfowl, hawks and blackbirds migrate through Toronto in March. Waterfowl species diversity reaches a peak in March, with wintering ducks still present as northbound migrant dabbling ducks, geese, swans and grebes arrive. Northern Harriers, Red-tailed Hawks, Red-shouldered Hawks

and Turkey Vultures are among the early arriving raptors first found in March.

Other species which arrive on warm fronts in the latter half of the month include Canada Goose, Green-winged Teal, Northern Pintail, Ring-necked Duck, American Woodcock, Song Sparrow, Lapland Longspur, Eastern Meadowlark, Common Grackle and Brown-headed Cowbird.

By the end of the month, the first hardy insectivores like Tree Swallows and Eastern Phoebe may begin to arrive.

## APRIL

The cast of migrants widens in early April, including Double-crested Cormorant, Great Blue Heron, Black-crowned Night-Heron, Blue-winged Teal, Ruddy Duck, loons, grebes, Osprey, Winter Wren, Brown Creeper, Golden-crowned Kinglet, Hermit Thrush, Eastern Towhee, Fox Sparrow, Swamp Sparrow, White-throated Sparrow and Rusty Blackbird.

By mid-month, further arrivals include Broad-winged Hawk, American Coot, Greater and Lesser Yellowlegs, Pectoral Sandpiper, Common Snipe, Bonaparte's Gull, Caspian Tern, Common Tern, Forster's Tern, Belted Kingfisher, Yellow-bellied Sapsucker, Northern Flicker, Purple Martin, Barn Swallow, Ruby-crowned Kinglet, Brown Thrasher, Yellow-rumped Warbler, Pine Warbler, Palm Warbler, Black-and-white Warbler, Chipping Sparrow, Field

Sparrow and Savannah Sparrow.

By late April, many of the wintering species of ducks, such as Common Goldeneye, Bufflehead, Greater Scaup, Lesser Scaup, Redhead and all three merganser species begin to depart northward. Likewise, northern breeding gull species like Glaucous Gull, Iceland Gull and Thayer's Gull leave our area, as do other wintering species such as Snowy Owl, Long-eared Owl, Short-eared Owl, Northern Shrike, American Tree Sparrow and the winter finches. The last week of April generally involves the appearance of several more species of early warblers, including Nashville Warbler, Black-throated Green Warbler, Hooded Warbler and Common Yellowthroat.

A unique highlight of the Toronto birding year includes a visit to Oshawa Second Marsh, where 50-100 Little Gulls stage and perform courtship displays annually in the last two weeks of April – a sight that is unique to our area throughout all of North America.

## MAY

This is the month when the majority of spring migrants pass through the Toronto area. It is the time that birders do not want to miss a single day in the field – since new species are arriving daily. The full complement of shorebirds, flycatchers, vireos, tanagers, thrushes, warblers and orioles all arrive in Toronto during the month of May. Sporting their finest breeding plumages and delivering a wide array of songs

to the dawn chorus, they provide a profusion of sights and sounds, just as the landscape is bursting forth with new greenery.

The peak of spring bird migration in the Toronto area, in terms of pure numbers of birds, occurs around 18 - 21 May, although peak diversity of species numbers may occur 4-5 days sooner. Warbler numbers peak in the period 15 - 22 May.

One of the highlights of the Toronto birding year is the spring passage of Whimbrel through our area in a narrow 22 - 27 May time frame. These large, charismatic shorebirds can pass by our area in numbers of several thousand, but miss them in this short span of May, and you are unlikely to see them all year. This spectacle (see cover photo) is perhaps best viewed from Colonel Samuel Smith Park and the Leslie Street Spit.

In the last week in May, some of the last northbound species to pass through our area include arctic shorebirds such as White-rumped Sandpiper, Sanderling, Ruddy Turnstone and Red Knot, and land birds such as Olive-sided Flycatcher, Yellow-bellied Flycatcher, both cuckoos, Tennessee Warbler, Canada Warbler, Blackpoll Warbler, Mourning Warbler, Connecticut Warbler.

Although most of the wintering ducks have long departed, Long-tailed Ducks remain throughout most of May, and are joined at the lakefront by large migrant flocks of Common Loon, Bonaparte's Gull, White-winged

Scoter and Red-breasted Merganser.

## JUNE

Though many late migrants (such as Sanderling, Ruddy Turnstone, Red Knot, Olive-sided Flycatcher, Black-billed Cuckoo, Yellow-billed Cuckoo, Blackpoll Warbler and Connecticut Warbler) are still arriving in the first ten days of June, by mid-June most local species are nesting. The last northbound high Arctic shorebirds often depart by 10 June; only about a week before the first failed sub-Arctic breeders like Least Sandpiper pass southbound through our area.

Arctic nesting birds migrate later than more southern nesters due to the later onset of spring and summer. In these northern latitudes birds have only one chance at nesting due to the short season and if that attempt fails they usually migrate south earlier than successful nesters who are busy caring for their young.

## JULY

For most locally breeding species, young birds are fledging in early July, or adults are busy tending to second broods. For the most part, territorial bird song ceases, and favourite habitats become much quieter, save for the persistent begging calls of young birds. Late in the month, migration begins to occur, with peak migration of adult shorebirds occurring in the last week of July. Some of the earliest hawks (Osprey), flycatchers (Least, Acadian) and warblers (Tennessee, Chestnut-sided,

Cerulean, and Prothonotary) often depart in late-July as well. Large numbers of wandering post-breeding Great Egrets and herons from more southern latitudes may occur in late July.

## AUGUST

By early August, blackbirds and swallows start congregating in large, conspicuous flocks prior to departure. A second pulse of shorebird migrants occurs when the first juvenile birds pass through in late August. Good numbers of most warbler species are passing through the area by the second half of August, where overnight groundings at lakefront sites can be quite impressive with the addition of young birds to the flight. Diurnal migrants such as the Chimney Swift and Ruby-throated Hummingbird depart in good numbers by the end of the month. Buff-breasted Sandpiper often appears at beaches or sod farms in late August.

Another annual highlight involves the large numbers of Common Nighthawks that can be seen passing to the southwest over the city in the last ten days of the month, particularly on warm nights immediately preceding the coming passage of a cold front.

## SEPTEMBER

With the addition of young birds to populations, the sheer number of migrants passing through in fall exceeds that in the spring. However, since the birds are not singing, and have largely lost their distinctive breeding plumages by early fall, both finding and identifying them

poses a much greater challenge than in the spring. Peak numbers of many migrant warbler species occur at lakefront sites in the first ten days of the month. Enormous flights of Blue Jays along the lakefront are a sure September sight. Good numbers of Eastern Kingbirds can also be seen at the beginning of the month.

September is the month when fall hawk watching begins in earnest, with fifteen regularly occurring species of raptor observed migrating over Toronto each fall. Most impressive is the highly synchronized passage of Broad-winged Hawks. The first opportunity with northwest winds, rising barometric pressure and significant thermal updraft from the land, within the period 12-18 September, often results in large "kettles" of migrating Broad-winged Hawks over the city. It is not unusual to see several thousand in a day at lakefront hawk watch locations under these conditions.

## OCTOBER

October provides opportunity to view the widest variety of species at hawk watch sites as later migrating species such as Red-shouldered Hawk, Northern Goshawk, Red-tailed Hawk, Rough-legged Hawk and Golden Eagle join the action.

Many of the short distance migrants that arrive early in spring also leave later in the fall. Cold, wet weather in mid-month can often result in large concentrations of short distance migrant species such as Eastern Phoebe, Winter Wren, Red-

breasted Nuthatch, Golden-crowned Kinglet, Ruby-crowned Kinglet, Eastern Bluebird, Hermit Thrush, American Pipit, Orange-crowned Warbler, Yellow-rumped Warbler, Chipping Sparrow, Fox Sparrow, White-throated Sparrow, White-crowned Sparrow, Dark-eyed Junco and blackbirds.

This has traditionally been a month in which out-of-range vagrant flycatchers may appear – examples in Toronto have included Vermilion Flycatcher and Variegated Flycatcher.

By the middle of the month all of the wintering duck species begin to arrive from their northern summering areas – a birder is well advised to spend most of their time along the lakefront for large concentrations of birds, unseasonably late migrants and rarities.

Species such as Brant, jaegers, Black-legged Kittiwake, Sabine's Gull, Red Phalarope and Northern Gannet should be watched for over the deeper waters of Lake Ontario.

## NOVEMBER

The cold and cloudy days of November bring with them some of the last of the fall migrants. At rocky headlands along the lake, the Purple Sandpiper may occasionally be found.

The birds of winter, such as Iceland Gull, Glaucous Gull, northern owls, Northern Shrike, American Tree Sparrow and Snow Bunting arrive on cold fronts out of the north.

The potential for incredibly rare, out-of-range birds, such as alcids and Cave Swallows is at its best in November, adding to the incentive to search for birds in inclement weather.

## DECEMBER

December is the time when a Christmas Bird Count or winter bird-feeding often turns up rare or unseasonably late birds. Like January, this is a period in which birders concentrate on adding as many waterfowl, owl and winter finch species as possible to their regular observations of year-round resident and wintering birds. The best concentrations of birds usually correspond with the moderating influence of the lake and the warmer microclimate provided by Toronto's many deeply-carved ravines.

It is the season of "winter listing," the object being to see as many species as possible in the traditional December to February winter period – a pleasant diversion from the inactivity that the onset of winter weather inevitably promotes.

On the rare occasions when strong warm fronts originating in the Gulf of Mexico reach our area in December, many waterfowl species (Snow Goose, Northern Pintail, Green-winged Teal) come north as "false start" spring migrants, only to retreat when the weather gets cold again.

## Checklist of the Birds of the Greater Toronto Area (2011)

The Greater Toronto Area encompasses the City of Toronto, the Regional Municipalities of Halton, Peel, York and Durham, and the corresponding Canadian waters of Lake Ontario. Since records have been kept, a total of 403 bird species has been recorded within this area and confirmed breeding evidence has been obtained for 199 of these species.

- \* - confirmed breeding species  
 (\*) - confirmed historical breeding species (pre-1960)  
 † - designated endangered, threatened or special concern by COSEWIC or OMNR

Source: Glenn Coady

### DUCKS, GEESE & SWANS

- Fulvous Whistling-Duck
- Greater White-fronted Goose
- Snow Goose
- Ross's Goose
- Brant
- Cackling Goose
- \*Canada Goose
- \*Mute Swan
- \*Trumpeter Swan
- Tundra Swan
- \*Wood Duck
- \*Gadwall
- Eurasian Wigeon
- \*American Wigeon
- \*American Black Duck
- \*Mallard
- \*Blue-winged Teal
- Cinnamon Teal
- \*Northern Shoveler
- \*Northern Pintail
- Garganey
- \*Green-winged Teal
- \*Canvasback
- \*Redhead
- Ring-necked Duck
- Tufted Duck
- Greater Scaup
- \*Lesser Scaup
- King Eider

- Common Eider
- Harlequin Duck
- Surf Scoter
- White-winged Scoter
- Black Scoter
- Long-tailed Duck
- Bufflehead
- Common Goldeneye
- Barrow's Goldeneye †
- \*Hooded Merganser
- \*Common Merganser
- \*Red-breasted Merganser
- \*Ruddy Duck

### NEW WORLD QUAIL

- (\*)Northern Bobwhite †

### PARTRIDGES, GROUSE & TURKEYS

- (\*)Gray Partridge
- \*Ring-necked Pheasant
- \*Ruffed Grouse
- Spruce Grouse
- Willow Ptarmigan
- Greater Prairie-Chicken †
- \*Wild Turkey

### LOONS

- Red-throated Loon
- Pacific Loon
- \*Common Loon

### GREBES

- \*Pied-billed Grebe
- Horned Grebe †
- \*Red-necked Grebe
- Eared Grebe
- Western Grebe

### SHEARWATERS & PETRELS

- Northern Fulmar
- Black-capped Petrel
- Great Shearwater
- Manx Shearwater

### GANNETS

- Northern Gannet

### CORMORANTS

- \*Double-crested Cormorant
- Great Cormorant

### PELICANS

- American White Pelican †
- Brown Pelican

### HERONS & BITTERNS

- \*American Bittern
- \*Least Bittern †
- \*Great Blue Heron
- \*Great Egret
- Snowy Egret
- Little Blue Heron
- Tricolored Heron
- Cattle Egret
- \*Green Heron
- \*Black-crowned Night-Heron
- Yellow-crowned Night-Heron

### IBISES

- White Ibis
- Glossy Ibis
- White-faced Ibis

### VULTURES

- Black Vulture
- \*Turkey Vulture

### OSPREYS

- \*Osprey

### HAWKS, KITES & EAGLES

- Swallow-tailed Kite
- Mississippi Kite
- \*Bald Eagle †
- \*Northern Harrier
- \*Sharp-shinned Hawk
- \*Cooper's Hawk
- \*Northern Goshawk
- \*Red-shouldered Hawk †
- \*Broad-winged Hawk
- Swainson's Hawk
- \*Red-tailed Hawk
- Ferruginous Hawk
- Rough-legged Hawk
- Golden Eagle †

### FALCONS

- \*American Kestrel
- \*Merlin
- Gyrfalcon
- \*Peregrine Falcon †

### RAILS, GALLINULES & COOTS

- Yellow Rail †
- \*King Rail †
- \*Virginia Rail
- \*Sora
- Purple Gallinule
- \*Common Gallinule
- \*American Coot

### CRANES

- \*Sandhill Crane
- Whooping Crane †

### PLOVERS

- Black-bellied Plover
- American Golden-Plover
- Semipalmated Plover
- Cattle Egret †
- \*Killdeer

### OYSTERCATCHERS

- American Oystercatcher

### STILTS & AVOCETS

- Black-necked Stilt
- American Avocet

### SANDPIPERS & PHALAROPEs

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

### GULLS, TERNS & SKIMMERS

- Black-legged Kittiwake
- Ivory Gull †
- Sabine's Gull
- Bonaparte's Gull
- Black-headed Gull
- \*Little Gull
- Laughing Gull
- Franklin's Gull
- Heermann's Gull
- Mew Gull
- \*Ring-billed Gull
- \*California Gull
- \*Herring Gull
- Thayer's Gull
- Iceland Gull
- Lesser Black-backed Gull
- Slaty-backed Gull
- Glaucous Gull
- \*Great Black-backed Gull
- \*Caspian Tern
- \*Black Tern †
- \*Common Tern
- Arctic Tern
- \*Forster's Tern
- Black Skimmer

### SKUAS

- Pomarine Jaeger
- Parasitic Jaeger
- Long-tailed Jaeger

### AUKS, MURREs & PUFFINS

- Dovekie
- Thick-billed Murre
- Razorbill
- Black Guillemot
- Ancient Murrelet

### PIGEONS & DOVES

- \*Rock Pigeon
- Band-tailed Pigeon
- Eurasian Collared-Dove
- White-winged Dove
- \*Mourning Dove
- (\*)Passenger Pigeon (Extinct)

### CUCKOOS & ANIS

- \*Yellow-billed Cuckoo
- \*Black-billed Cuckoo

### BARN OWLS

- Barn Owl †

**TYPICAL OWLS**

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

**GOATSUCKERS**

- \*Common Nighthawk †
- Chuck-will's-widow
- \*Eastern Whip-poor-will †

**SWIFTS**

- \*Chimney Swift †

**HUMMINGBIRDS**

- \*Ruby-throated Hummingbird
- Rufous Hummingbird

**KINGFISHERS**

- \*Belted Kingfisher

**WOODPECKERS**

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

**TYRANT FLYCATCHERS**

- Olive-sided Flycatcher †
- \*Eastern Wood-Pewee
- Yellow-bellied Flycatcher
- \*Acadian Flycatcher †
- \*Alder Flycatcher
- \*Willow Flycatcher
- \*Least Flycatcher
- Gray Flycatcher
- \*Eastern Phoebe
- Vermilion Flycatcher
- Ash-throated Flycatcher
- \*Great Crested Flycatcher
- Sulphur-bellied Flycatcher
- Variegated Flycatcher
- Western Kingbird

- \*Eastern Kingbird
- Scissor-tailed Flycatcher
- Fork-tailed Flycatcher

**SHRIKES**

- \*Loggerhead Shrike †
- Northern Shrike

**VIROES**

- White-eyed Vireo
- Bell's Vireo
- \*Yellow-throated Vireo
- \*Blue-headed Vireo
- \*Warbling Vireo
- Philadelphia Vireo
- \*Red-eyed Vireo

**CROWS & JAYS**

- Gray Jay
- \*Blue Jay
- Black-billed Magpie
- Eurasian Jackdaw
- \*American Crow
- \*Common Raven

**LARKS**

- \*Horned Lark

**SWALLOWS**

- \*Purple Martin
- \*Tree Swallow
- \*Northern Rough-winged Swallow
- \*Bank Swallow
- \*Cliff Swallow
- Cave Swallow
- \*Barn Swallow †

**CHICKADEES & TITMICE**

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

**NUTHATCHES**

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

**CREEPERS**

- \*Brown Creeper

**WRENS**

- Rock Wren
- \*Carolina Wren
- Bewick's Wren
- \*House Wren

- \*Winter Wren
- \*Sedge Wren
- \*Marsh Wren

**GNATCATCHERS**

- \*Blue-gray Gnatcatcher

**KINGLETS**

- \*Golden-crowned Kinglet
- \*Ruby-crowned Kinglet

**OLD WORLD FLYCATCHERS**

- Siberian Rubythroat
- Northern Wheatear

**THRUSHES**

- Siberian Rubythroat
- Northern Wheatear
- \*Eastern Bluebird
- Townsend's Solitaire
- \*Veery
- Gray-cheeked Thrush
- Swainson's Thrush
- \*Hermit Thrush
- \*Wood Thrush
- Fieldfare
- \*American Robin
- Varied Thrush

**MOCKINGBIRDS & THRASHERS**

- \*Gray Catbird
- \*Northern Mockingbird
- \*Brown Thrasher

**STARLINGS**

- \*European Starling

**PIPITS**

- American Pipit

**WAXWINGS**

- Bohemian Waxwing
- \*Cedar Waxwing

**SILKY-FLYCATCHERS**

- Phainopepla

**LONGSPURS & SNOW BUNTINGS**

- Lapland Longspur
- Chestnut-collared Longspur
- Snow Bunting

**WOOD-WARBLERS**

- \*Ovenbird
- Worm-eating Warbler

- \*Louisiana Waterthrush †
- \*Northern Waterthrush
- \*Golden-winged Warbler †
- \*Blue-winged Warbler
- \*Black-and-white Warbler
- \*Prothonotary Warbler †
- 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 †
- Cape May Warbler
- \*Cerulean Warbler †
- Northern Parula
- \*Magnolia Warbler
- Bay-breasted Warbler
- \*Blackburnian Warbler
- \*Yellow Warbler
- \*Chestnut-sided Warbler
- Blackpoll Warbler
- \*Black-throated Blue Warbler
- Palm Warbler
- \*Pine Warbler
- \*Yellow-rumped Warbler
- Yellow-throated Warbler
- \*Prairie Warbler
- Black-throated Gray Warbler
- Townsend's Warbler
- Hermit Warbler
- \*Black-throated Green Warbler
- \*Canada Warbler †
- Wilson's Warbler
- Painted Redstart
- \*Yellow-breasted Chat †

**SPARROWS**

- Green-tailed Towhee
- Spotted Towhee
- \*Eastern Towhee
- American Tree Sparrow
- \*Chipping Sparrow
- \*Clay-colored Sparrow
- \*Field Sparrow
- \*Vesper Sparrow
- (\*)Lark Sparrow
- Lark Bunting
- \*Savannah Sparrow
- \*Grasshopper Sparrow
- \*Henslow's Sparrow †

- (\*)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-eyed Junco

**CARDINALS & ALLIES**

- Summer Tanager
- \*Scarlet Tanager
- Western Tanager
- \*Northern Cardinal
- \*Rose-breasted Grosbeak
- Blue Grosbeak
- Lazuli Bunting
- \*Indigo Bunting
- Painted Bunting
- \*Dickcissel

**BLACKBIRDS**

- \*Bobolink †
- \*Red-winged Blackbird
- \*Eastern Meadowlark †
- \*Western Meadowlark
- Yellow-headed Blackbird
- Rusty Blackbird †
- \*Brewer's Blackbird
- \*Common Grackle
- \*Brown-headed Cowbird
- \*Orchard Oriole
- Bullock's Oriole
- \*Baltimore Oriole

**FINCHES**

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

**OLD WORLD SPARROWS**

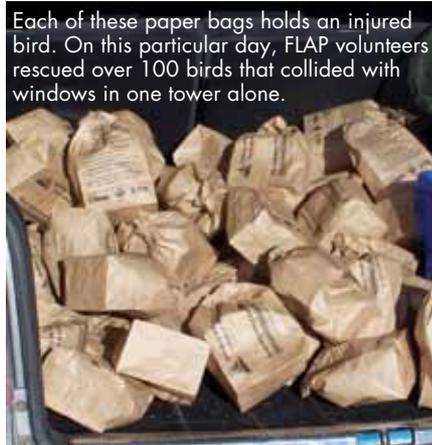
- \*House Sparrow

# Toronto – Innovative Migratory Bird Policies

When considering the welfare of wildlife and wildlife habitat, it is common to think only of nature reserves, parks and wilderness areas. However, as urban areas continue to expand, cities are becoming key places for wildlife conservation and the actions of city governments and urban residents will be critical to the survival of migratory birds. This is an excellent example of local actions with global consequences.

The City of Toronto adopted its first migratory bird protection policies in January 2006. They are the result of an initiative taken by City Council in April 2005 when it adopted Motion J(17) regarding the “Prevention of Needless Deaths of Thousands of Migratory Birds in the City of Toronto.”

The City subsequently launched “Lights Out Toronto!”, a public awareness campaign aimed at drawing attention to this issue and identifying ways that individuals, businesses, property owners and managers can help reduce migratory bird deaths. The City is also supporting the rescue, rehabilitation and release of injured migratory birds. In addition, the *Bird-Friendly Development Guidelines* were created and introduced in the spring of 2007 and the *Bird-Friendly Development Rating System and Acknowledgement Program* in the fall of 2007.



Each of these paper bags holds an injured bird. On this particular day, FLAP volunteers rescued over 100 birds that collided with windows in one tower alone.

photo: Michael Mesure

## Rescue, Rehabilitation and Release Efforts

The City of Toronto established a working group to address the ongoing issues involved in the rescue, rehabilitation and release of injured migratory birds and how to best coordinate the efforts of the stakeholders involved.

A Target Area in the downtown core (from Bloor Street to the waterfront and from University Avenue to Jarvis Street), was identified to be the focus of monitoring dead and injured migratory birds. The Target Area is divided into patrol zones and FLAP volunteers are assigned to a specific zone in which dead and injured birds are collected (visit [www.flap.org](http://www.flap.org)). The address, species and time of discovery are recorded for each bird. This information provides data that can be used to map the locations of addresses that will need to be the focus of rescue efforts in future migratory seasons. City Planning provides mapping and analysis of the data collected in the Target Area.

Injured birds in need of rehabilitation found by volunteers are gathered at ‘holding stations’ set up throughout the Target Area and then taken to Toronto Wildlife Centre (visit [www.torontowildlifecentre.com](http://www.torontowildlifecentre.com)) where they are given medical attention. Birds that are only stunned and determined not to be in need of rehabilitation are taken outside the city for release. Dead birds are collected and given to the Royal Ontario Museum for educational and research purposes.



Northern Flicker  
photo: Mark Jackson

## “Lights Out Toronto!”



*“The wonderfully fine-tuned system that migratory songbirds use to find their way in the darkness is a handicap in this modern world of sprawling cities... Celestial signposts become masked in cities where bright lights shine from skyscrapers and rooftops, literally blinding birds and confusing their navigation system. Especially on foggy nights and nights with low cloud cover, when they cannot see the real stars, birds stream toward the city lights and circle among the buildings and streets, disoriented and exhausted. Before long, the birds fall like rain... Toronto lies on a bird super-highway, and tens of thousands of birds pass overhead in a single hour during the peak of migration.”*

– Bridget Stutchbury, *Silence of the Songbirds*, Harper Collins (2007)

In January 2006, Council adopted a policy of an annual campaign known as “Lights Out Toronto!” (LOT!) in order to promote public awareness of migratory birds in the city and the dangers buildings and lighting pose to them, and promote options to mitigate these dangers.

Subsequently, a working group of concerned community stakeholders was formed to develop such a campaign.

Launched in April 2006, the campaign, which coincides with the spring and fall migratory seasons, includes ads in public transit vehicles and shelters, on City recycling bins, in various community publications, and on televisions in downtown office tower elevators. A comprehensive website (visit [www.toronto.ca/lightsout](http://www.toronto.ca/lightsout)) was also developed where people can go for detailed information on how to help and get involved.

Funding continues to be a crucial aspect of LOT! as an ongoing effort. As of 2009, Toronto Hydro, Canadian Wildlife Service, Building Owners and Managers Association of Toronto (BOMA-Toronto), Cadillac Fairview Corporation, Animal Alliance of Canada, Cormorant Defenders International, Humane Society International-Canada, Humane Society of the United States, Tridel Corporation, and World Society for the Protection of Animals have all contributed to the campaign.

## CITY OF TORONTO LIGHT POLLUTION POLICY

The alteration of naturally-present light levels in the outdoor environment by sources of artificial light may be considered a form of pollution in certain contexts. When artificial light is projected in unnecessary directions or at excessive levels this is considered "light pollution." As with all types of pollution, light pollution contaminates the natural environment and produces

side effects that should be mitigated or avoided if possible in order to create a balance between necessary urban light levels and a healthy environment.

There is a growing body of scientific research investigating the ecological effects of excessive urban light levels. Harmful side effects are not limited to birds. Mating choruses of frogs are interrupted by light levels adjacent to breeding areas. Artificial light attracts fish and excessive light on the shores of Toronto will affect feeding and breeding behaviour of local aquatic life. Insects are significantly affected by light at night, which affects the food supply of species that feed on insects including bats and birds. Even plants exhibit altered physiology when exposed to light in the night environment. In addition, research has linked exposure to light at night with suppression of the human body's melatonin production, which may be connected to increased cancer risk.

In April 2007, the City of Toronto began developing a Light Pollution Policy (LPP). A group including the City of Toronto, Toronto Hydro, Royal Astronomical Society of Canada, Toronto and Region Conservation Authority, Toronto Atmospheric Fund, Ontario Science Centre, Fatal Light Awareness Program, York University Astronomical Observatory, Toronto Association of Business Improvement Areas and lighting design experts, is working together to develop strategies to reduce light pollution in the specific context of Toronto.

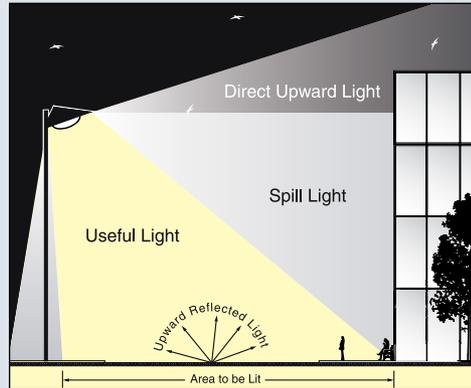


Illustration: Jason Harris



Toronto nightscape prior to "Lights Out Toronto!"  
photo: Vince Pietropaolo



Light pollution in North America

## Bird-Friendly Development Guidelines

In January 2006, City Council directed City Planning staff to develop a means of incorporating the “needs of migratory birds into the Site Plan Review process with respect for facilities for lighting, including flood lighting, glass and other bird-friendly design features and that guidelines be established for that purpose.” A working group was formed that included local architects, developers, building management corporations, academics, bird advocacy groups and City staff to achieve this.

Introduced in March 2007, the *Bird-Friendly Development Guidelines* provide strategies for developers, building managers and owners, architects, landscape architects, urban designers and professional planners wishing to make new and existing buildings less dangerous to migratory birds. The specific context of each development will influence the strategies selected. These strategies may be applied to any type of development including high and low rise residential,



**PROBLEM – HABITAT REFLECTED IN WINDOW:** Appropriate window applications for the first 12 metres above grade are essential for a building to be considered bird-friendly.  
photo: FLAP



**SOLUTION – VISUAL MARKERS:** This is a good example of a design that projects sufficient visual markers for birds to perceive as a solid object. Very few dead and injured birds are found at this facade.  
photo: FLAP

commercial, industrial and institutional projects. The *Bird-Friendly Development Guidelines* are a component of the *Toronto Green Standard*.

The City encourages innovation in the application and implementation of the *Bird-Friendly Development Guidelines*. Possibilities exist for developments to successfully address some objectives of City Planning’s Public Art Program by incorporating them. Also, by incorporating the Guidelines, a development could qualify for LEED (Leadership in Energy and Environmental Design) “innovation” credits. To download the *Bird-Friendly Development Guidelines* visit [www.toronto.ca/lightout/guidelines.htm](http://www.toronto.ca/lightout/guidelines.htm)



**Award Winning** – In May 2008, the Canadian Urban Institute (CUI) awarded the *Bird-Friendly Development Guidelines*’ working group an Urban Leadership Award for their “vision, tenacity, creativity, energy and ability to engage others.” Under the category “City Initiatives,” the CUI acknowledged the working group’s significant contribution to the public realm. Visit [www.canurb.com/awards/index.php](http://www.canurb.com/awards/index.php)

In September 2008, City Planning received an Excellence in Planning Award in the Communication/Public Education category from the Ontario Professional Planners Institute (OPPI) for the *Bird-Friendly Development Guidelines*. This award recognizes innovation, creativity, professionalism, problem-solving and communication initiative within the Province’s planning profession.

In June 2009, City Planning received an Award for Planning Excellence in Environmental Planning from the Canadian Institute of Planners (CIP) for the *Bird-Friendly Development Guidelines and Rating System*. This award recognizes significant achievement in the field of planning and, in particular, projects that reflect excellence, innovation, impact on the field of expertise, implementation potential and quality of presentation.

## Bird-Friendly Development Rating System and Acknowledgement Program

In September 2007, Toronto City Council adopted the *Bird-Friendly Development Rating System and Acknowledgement Program* which is the companion piece to the *Bird-Friendly Development Guidelines*. The *Rating System* is a tool for developers, building owners and managers that outlines the options and strategies that need to be incorporated into new or existing developments in order for it to be acknowledged by the City of Toronto as “bird-friendly.” The *Bird-Friendly Development Guidelines* are a component of the *Toronto Green Standard*, which requires the “Minimum” of the *Rating System*.

Through the *Acknowledgement Program* the City will endorse a developer’s intention and the post construction/renovation of developments verified as bird-friendly.

As acknowledgement for their efforts, the City will award building owners and managers limited-edition prints for their lobby. Created by artist Jillian Ditner specifically for the *Acknowledgement Program*, the artwork will be awarded to the first 20 projects that implement the *Bird-Friendly Development Guidelines*. This series of three screened prints take the plight of endangered migratory birds in the city as their theme.

To download the *Bird-Friendly Development Rating System and Acknowledgement Program* visit [www.toronto.ca/lightsout/guidelines.htm](http://www.toronto.ca/lightsout/guidelines.htm)



Flight Plan #1, 2008, Serigraph, 16x20", Jillian Ditner

Jillian Ditner – After earning a bachelor’s degree from the Ontario College of Art and Design, Jillian Ditner has been working as an artist and illustrator applying herself to a range of projects. She is passionate about providing an artistic voice for different community-based projects to encourage environmental awareness. Jillian has received numerous awards and her work has been exhibited internationally. To learn more about Jillian’s work, visit [www.paintedbynumbers.com](http://www.paintedbynumbers.com)

## Doing it for the Birds



The Toronto Zoo is owned by the City of Toronto and operated by a Board of Management. The Zoo is home to 350 captive birds, representing over 100 species. Nestled into the Rouge Park, the Zoo is proud of its mission to conserve natural habitat. Its 287 hectares (710 acres) supplies nesting space for over 70 species of native birds including warblers, Wood Thrush, Indigo Bunting, Baltimore Oriole and Rose-breasted Grosbeak. Conservation has become a focus in modern zoos. Besides working on Species Survival Plans and captive breeding programs for exotic birds, the Zoo has been a part of captive breeding and recovery of native species. The Zoo joined the Trumpeter Swan re-introduction program in 1993 and at least one pair has bred on the property since 1995. Since 1997, the Zoo has worked with the Eastern Loggerhead Shrike Recovery team in an attempt to bolster the species' flagging numbers in Canada. Up to 100 shrikes are released annually to aid the recovery efforts in Ontario. Collisions of birds with glass are a problem everywhere and the Zoo has worked on covering their most offensive windows with one way viewing film.

One of the aims of the Toronto Zoo is to show not just the animals, but the animals in their native environments. The organic form of the pavilions creates an exterior profile which flows naturally into the surrounding landscape. Other structures, such as restaurants and service buildings have all been designed in a similar manner. All the animals and plants are displayed zoogeographically, so they are placed with animals and plants from the same geographical region.



### Toronto Zoo is Open Year Round!

- Take Hwy 401 to Meadowvale Road in Scarborough (Exit #389 eastbound or westbound)
- Go north on Meadowvale Road. Follow signs to Zoo Main Parking Lot
- TTC (public transit) call 416-393-4636 or visit [www.ttc.ca](http://www.ttc.ca)
- GO Train information call 416-869-3200 or visit [www.gotransit.com](http://www.gotransit.com)
- For more information call 416-392-5929 or visit [www.torontozoo.com](http://www.torontozoo.com)

## Toronto's Bird Flyways Project

Toronto's ravine system attracts many bird species. During migration birds use them as travel corridors, and year round they are used as habitat for breeding and raising young. The City of Toronto has initiated the Toronto Bird Flyways Project which enhances bird habitat in three parks within the ravine system; Humberwood in the Humber Valley, Milne Hollow in the Don Valley and Woodlands in the Rouge Valley. The Project is expanding to include sites along the Toronto waterfront.

Initiated in 2004, the Toronto Bird Flyways Project includes planting native trees, shrubs and wildflowers and installing habitat structures to provide additional food and shelter for birds. The project complements other habitat restoration work by the City of Toronto and its partners at sites throughout Toronto and will enhance bird flyway corridors that connect to larger continental ecosystems.

The Toronto Bird Flyways Project also provides great opportunities for birdwatchers to learn about local and migratory birds through art and interpretive signage.

For information about this project call 416-392-LEAF (5323) or visit [www.toronto.ca/lightsout/flyways.htm](http://www.toronto.ca/lightsout/flyways.htm)



### Humberwood Bird Flyway

Humberwood Bird Flyway provides habitat for a variety of resident and migratory bird species with its diverse riparian landscape, whose trail connects with the larger Humber trail system. Delightful pieces of larger-than-life creative art representing bird nests, birds and their habitats are scattered across the landscape.



### **Colonel Samuel Smith Bird Sanctuary**

Colonel Samuel Smith Bird Sanctuary offers a 1 km trail through an extensive peninsula along the water where you can view waterfowl in the lake and songbirds in the meadows, leading to a wetland lookout.



### **Woodlands Bird Flyway**

The Woodlands Bird Flyway is located within Rouge Park, a unique urban park system. The trail through the Flyway meanders along the Little Rouge River and through a shady forest teeming with birds.



### **Milne Hollow Bird Flyway**

Milne Hollow Bird Flyway offers a 1 km trail circuit including a wetland lookout, and informative and interpretive signs. Located in the Don Valley watershed, this old ski hill has been restored to provide diverse habitat for many bird species.



### **East Point Bird Sanctuary**

East Point Bird Sanctuary, located on the eastern Torontowaterfront, is an ideal stopover location for birds migrating across LakeOntario in spring or autumn. A large portion of the 60-hectare park remains in a natural state, consisting of meadow, forest and wetland habitat.



## Federal and Provincial Policies

Bird migration routes cover vast areas throughout the Americas, often crossing international borders. Accordingly, the management and conservation of “our” migratory birds is a collective effort, primarily of Canada, the United States and Mexico, but also involving countries of Central and South America and the Caribbean. In Canada, the Migratory Birds Convention Act (MBCA) was originally enacted in 1917 to implement the Migratory Birds Convention agreed with the USA to stop over-hunting of birds perceived to be good, including waterfowl, herons and shorebirds. Pelicans, cormorants, raptors including vultures, falcons and owls, gallinaceous birds (grouse, partridge, pheasant, turkey, quail), kingfishers, and corvids (crows and jays) were excluded, but most were later protected by the provincial Fish and Wildlife Conservation Act (FWCA 2007). The current MBCA, updated in 1994, lists protected birds (not all migratory) and principles used for their protection. The MBCA is administered and enforced by Environment Canada. Harming, harassing or possessing a protected bird or its eggs or nest without the appropriate permit is a contravention of the Act, except temporary possession of a dead protected bird to allow members of the public

to deliver them to authorities for testing for disease. For more information on the MBCA, visit [www.laws.justice.gc.ca/en/m-7.01](http://www.laws.justice.gc.ca/en/m-7.01)

All wild bird species except American Crow, Brown-headed Cowbird, Common Grackle, Red-winged Blackbird, Rock Pigeon, European Starling, and House Sparrow are protected by either the federal MBCA or the provincial FWCA.

Hunting of gallinaceous birds (partridge, pheasant, grouse, ptarmigan, Wild Turkey, and Northern Bobwhite), ducks (except Harlequin), geese, woodcock, snipe and rails (including coot and moorhen) is permitted under provincial (gallinaceous birds) or federal regulation.

Taking or possession of protected birds, eggs, and nests is prohibited without a permit (hunting or scientific), except that you may temporarily possess birds that died naturally or by accident. You must report provincially protected dead birds to the Ontario Ministry of Natural Resources (MNR) within 5 working days, except birds of prey, which must be taken to the MNR within 2 working days. Federally protected dead birds should be reported to the Canadian Cooperative Wildlife Health Centre at 1-800-567-2033.

Except for species at risk, provincially regulated birds can be killed in defense of property.

It is illegal under the FWCA to:

- release in Ontario any wildlife that is imported into Ontario or originates from stock that is imported into Ontario,
- possess any wildlife that was captured in or removed from another jurisdiction contrary to the laws of that jurisdiction.



Wood Duck  
Barry Kent MacKay

Other laws that protect birds in Ontario include the Criminal Code, Ontario Prevention of Cruelty to Animals Act (PCAA), National Parks Act, Provincial Parks and Conservation Reserves Act (PPCRA 2006), Ontario Endangered Species Act (ESA 2007), and the federal Species at Risk Act (SARA).

Under the criminal code and the PCAA it is illegal to be cruel to animals or to harass wildlife: It is a criminal offence to willfully and without lawful excuse kill or injure, or to cause or permit unnecessary pain, suffering or injury to any animal, wild or domestic.

All wildlife, and crucially, wildlife habitat, is fully protected in national and provincial parks and crown game preserves, including those birds not protected elsewhere, except where hunting is permitted by regulation.

International bird conservation efforts in the Americas are carried out through the North American Bird Conservation Initiative (NABCI), Partners in Flight (North American Landbird conservation), the North American Waterfowl Management Plan (NAWMP), the North American Waterbird Conservation Plan (NAWCP for seabirds and colonial nesting waterbirds other than waterfowl), and the Pan American Shorebird Program.

Environment Canada also protects birds and other species through habitat conservation, and monitoring to determine bird populations and their trends, through collection of bird banding data, the breeding bird survey, the National Harvest Survey of hunters, and the Northwest Territories/Nunavut Bird Checklist Survey.



Yellow-billed Cuckoo  
photo: Ann Gray

See [www.ec.gc.ca/nature](http://www.ec.gc.ca/nature) for more information on Environment Canada programs to protect nature including migratory birds and their habitat. For information on species at risk see Birds at Risk (page 10).

## How You Can Help

Approximately one in eight bird species are threatened with extinction. Many common species are on the decline. These animals are declining because of human actions, but human actions can also help. Here are some things we can do.

### Bird-safe homes

Before you consider making your garden bird-friendly you should first start by making your home safe for birds. Windows pose one of the greatest dangers to birds as they reflect trees and other vegetation and birds often confuse reflections for the real thing and subsequently fly into windows.



Canada Warbler  
Barry Kent MacKay



Externally applied window decals  
photo: Allan Turner

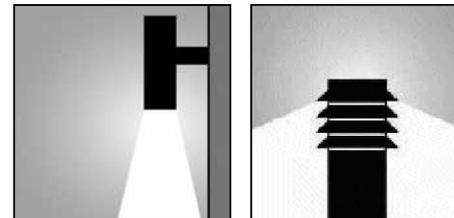
### Window treatments

Homeowners often affix a single, black hawk-shaped silhouette to their picture window in an attempt to protect birds. Unfortunately, this does not work. Birds do not perceive the hawk silhouette as a predator. The silhouette only covers a small portion of the window and unless the bird is headed for that particular spot, the silhouette will not deter the bird from hitting the window. Exterior screens, sunshades and grilles, perforated window film, multiple rows of ribbons, beads, even old CDs hung outside the window can help create visual markers for birds.

When windows at the front and back of your home face each other or when two windows meet at a corner they give the impression of a clear passage. Interior plants placed near windows also attract birds. To help reduce this dangerous illusion draw drapes and close blinds whenever possible.

### Lighting

Whenever possible, 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 with unnecessary light.



Examples of well designed lighting  
Illustrations: Jason Harris

*“What is the use of a house if you haven’t got a tolerable planet to put it on?”*

– Henry David Thoreau

## Bird feeders

The most popular way to help is to set up bird feeders. As habitat is eaten up by urban sprawl, feeders are an important source of food. Some people believe that birds should be fed only in winter while others feed all year round. This is your decision. Different feeders and seeds can control the type of animals that come to visit. Small seeds such as nyger and millet will attract finches, while cracked corn seems to be popular with blackbirds, pigeons and squirrels. In the summer, hummingbird feeders do work. No matter what you wish to feed, it is advisable to ensure that the feeders are clean and the feed is of good quality. If you decide to provide a feeder for birds, it is important to maintain it with feed throughout the winter season. Birds will visit a consistently stocked feeder as a routine but if the feeder is emptied in midwinter, the birds may have difficulty finding a new site to eat.

The placement of bird feeders in relation to windows is crucial. As the distance between bird feeders and windows increase, so do bird injuries. Placing your feeder less than one metre from any glass surface will reduce injuries from birds hitting the glass. Also always remember to clean up around your seed feeder. Birds can be messy eaters and leftover seed on the ground can attract unwanted pests like mice, so regularly rake under and around your feeder and compost any spilled seed and shells.

Bird feeders are a great way to supply food for wintering birds and early returning migrants. Project Feeder Watch is a winter survey of birds visiting backyard feeders in North America and the data collected helps scientists track changes in bird populations. For more information and to participate as a Citizen Scientist visit Bird Studies Canada at [www.bsc-eoc.org](http://www.bsc-eoc.org)

### 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

### Drink Bird-friendly Coffee

Many of Canada's boreal forest birds, like the Blackpoll Warbler, Magnolia Warbler, Olive-sided Flycatcher and Swainson's Thrush, spend their winters in tropical rainforests. Tropical deforestation is so widespread in Latin America that in many places the only forest remaining for our migratory songbirds is in traditional shade coffee farms. Shade coffee farms are teeming with birds who feed in the trees that shelter the coffee and fertilize the soil naturally with leaf litter. Most mass-produced coffee is grown in open fields with heavy inputs of fertilizers, herbicides, fungicides and insecticides. Organic, shade-grown and bird-friendly coffee is available at select stores or order online.



Blue Jay chicks  
Barry Kent MacKay

If you find an injured bird – showing signs of trauma (bleeding, swelling, apparent injury to the beak or any limb) or you suspect a cat attacked the bird, please follow these steps:

- If possible, wash your hands before and after handling the bird, or wear clean cloth gloves when handling.
- If the bird is smaller than your fist, you can contain it in an unwaxed paper bag with crumpled tissue or paper towel inside for it to perch on and to keep it dry. Fold the top of the paper bag and secure with a paperclip to prevent the bird from escaping. Do not puncture holes in the bag; the paper bag has sufficient airflow.
- If the bird is larger than your fist, it is important to learn more about rescue procedures for larger birds, as some birds can cause injury. Visit [www.torontowildlifecentre.com](http://www.torontowildlifecentre.com) or call your local wildlife rehabilitator for more information. If feasible, temporarily cover the bird with a container such as a cardboard box. Make sure not to handle the bird until you have received further instructions.
- Do not give the bird food or water, as this can be harmful to birds that are injured.
- 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.
- Contact your local wildlife rehabilitation facility immediately for more information on what to do next. For birds found in Toronto, contact the Toronto Wildlife Centre at 416-631-0662.

**If you find a fully-feathered bird near a window** – showing no obvious signs of trauma but does not fly away when approached, contain the bird in an unwaxed paper bag or cardboard box for one hour with no disturbance, making sure to follow the above steps. If the bird appears to be a baby (e.g., has bits of down sticking through the feathers, or is frequently chirping), see next section. Take the bag/box outside away from buildings to where the bird will have a clear path of flight such as a nearby public park. Open the container and stand back. If the bird does not attempt to fly away or its attempts to fly fail, recapture the bird and contact your local wildlife rehabilitator immediately. Head trauma (caused by hitting a window) is an urgent condition that must be cared for soon after the incident – receiving proper treatment could be a matter of life or death to the bird.

### **If you find a nestling or fledgling bird**

Many adult songbirds when encountered on the ground are often misidentified as babies due to their small size. An adult hummingbird only weighs 3 grams fully grown! It is very important to know the difference between an adult and baby bird before intervening. More often, baby birds have simply fallen or



European Starling  
Barry Kent MacKay

jumped from the nest, and a different course of action is required. For tips on how to identify baby birds and how you can help, visit [www.torontowildlifecentre.com](http://www.torontowildlifecentre.com) or contact your local wildlife rehabilitator.

### **If you find a dead bird**

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.

#### **Volunteer for Birds in the City**

There are many ways you can participate. Here are some organizations that would appreciate your involvement:

##### **Bird Rescue**

Fatal Light Awareness Program (FLAP) - [www.flap.org](http://www.flap.org)

Canadian Peregrine Foundation - [www.peregrine-foundation.ca](http://www.peregrine-foundation.ca)

##### **Bird Rehabilitation**

Toronto Wildlife Centre - [www.torontowildlifecentre.com](http://www.torontowildlifecentre.com)

##### **Education**

Toronto Field Naturalists - [www.torontofieldnaturalists.org](http://www.torontofieldnaturalists.org)

Royal Ontario Museum - [www.rom.on.ca](http://www.rom.on.ca)

Toronto and Region Conservation - [www.trca.on.ca](http://www.trca.on.ca)

Bird Studies Canada - [www.bsc-eoc.org](http://www.bsc-eoc.org)

Toronto Zoo - [www.torontozoo.com](http://www.torontozoo.com)

##### **Research**

Tommy Thompson Park Bird Research Station - [www.ttpbrs.ca](http://www.ttpbrs.ca)

Bird Studies Canada - [www.bsc-eoc.org](http://www.bsc-eoc.org)

Toronto Ornithological Club - [www.torontobirding.ca](http://www.torontobirding.ca)



Blackburnian Warbler  
Barry Kent MacKay



Black-throated Blue Warbler  
Barry Kent MacKay

### Bird-friendly gardens

Gardening for birds is an easy way to enjoy nature in your own backyard. The number and diversity of birds attracted will depend on the landscape type, maintenance practises and proximity to natural features. More birds will frequent yards with more natural landscapes, especially if located near natural features like woodlots, ravines, meadows or water bodies.

Birds spend much of their time foraging for seeds, nuts, fruit and insects. Diet depends on the species, changes with the seasons and the availability of natural food. By growing a diversity of native plants that fruit at different times and hold their seeds or berries into winter, gardeners can help feed birds naturally. Birds are exposed to pesticides through drift and food contamination, so it is critical for all birds, especially those that eat insects, to keep your backyard chemical-free. Chemical fertilizers reduce soil-dwelling insect and worm populations and should also be avoided. Replace your chemical arsenal with ecological knowledge and help the environment and birds. On 1 April 2004, the City of Toronto passed a bylaw banning the use of pesticides on all public and private property except in certain situations. The law applies to everyone, including homeowners, renters, lawn care companies, golf courses and property managers. To learn more visit [www.toronto.ca/health/pesticides/index.htm](http://www.toronto.ca/health/pesticides/index.htm)

Shelter from weather and predators is also important. Layers of vegetation, groupings of evergreens and dense shrubs, as well as brush piles, provide summer cover and excellent winter shelter. With a little research and planning, your backyard will become a small bird sanctuary in no time. To learn more, visit Fletcher Wildlife Garden at [www.ofnc.ca/fletcher.php](http://www.ofnc.ca/fletcher.php) and Project CHIRP! at [www.projectchirp.com](http://www.projectchirp.com)

### Avoid use of mirrors in gardens

Increasingly, landscape architects and garden designers are specifying mirrors (large and small) in their designs, with the intent to create a reflection, an infinite repetition of their design and the illusion of a larger space. Unfortunately, these surfaces kill and injure birds, as birds cannot distinguish the reflected habitat from the real habitat.

### Cats and Wildlife

Free-roaming outdoor cats have a devastating effect on wildlife populations. Research estimates that in North America outdoor cats annually kill well over a billion small mammals, including many native and some at-risk species. Cats are a domestic, non-native predator – this means that cats' predation on wild mammals is not sustainable, and can impair normal functioning of wild ecosystems. For example, when cats prey on wild birds and small mammals, it takes food away from wild predators that depend on those animals as a food source. With estimates of over 100 million outdoor cats in North America, the threat to wildlife is simply immense.

Additionally, outdoor cats themselves face many dangers, including predation by other animals, injury from cars, human cruelty, displacement, and exposure to poisonous chemicals and debilitating diseases. As a result of these dangers, the average life span of an outdoor cat is under five years, more than ten years less than their indoor counterparts. Because of these significant health risks, two out of three veterinarians recommend keeping pet cats indoors.

Keeping cats indoors or giving them outdoor play time in a protected enclosure help protect the health of your pet and the wildlife in your neighbourhood.

For more information on cats and wildlife, and keeping indoor cats happy visit  
[www.keepanimalssafe.ca](http://www.keepanimalssafe.ca)  
[www.abcbirds.org/abcprograms/policy/cats/index.html](http://www.abcbirds.org/abcprograms/policy/cats/index.html)



"Lucas Porch"  
© Robert Bateman

## Bird-friendly workplaces

There are many things that can be done to make any structure bird-friendly, as can be seen in this diagram taken from the City of Toronto's *Bird-Friendly Development Guidelines*.

### Lights Out!

- Building owners, managers, and tenants can help to ensure that their buildings are bird-friendly by turning off lights at night on unoccupied floors and in unused spaces.
- If you are working late, use task lighting at work stations and turn off ceiling lights closest to windows. Draw blinds or curtains.
- Turn off all exterior floodlights during bird migration seasons.

### Making glass visible to birds

To control the reflectivity and transparency of glass, use:

- window coverings or window film treatments
- stained, frosted or sandblasted glass, or glass block
- window netting or metal grillwork to prevent bird collisions by giving the birds an alternate point of focus

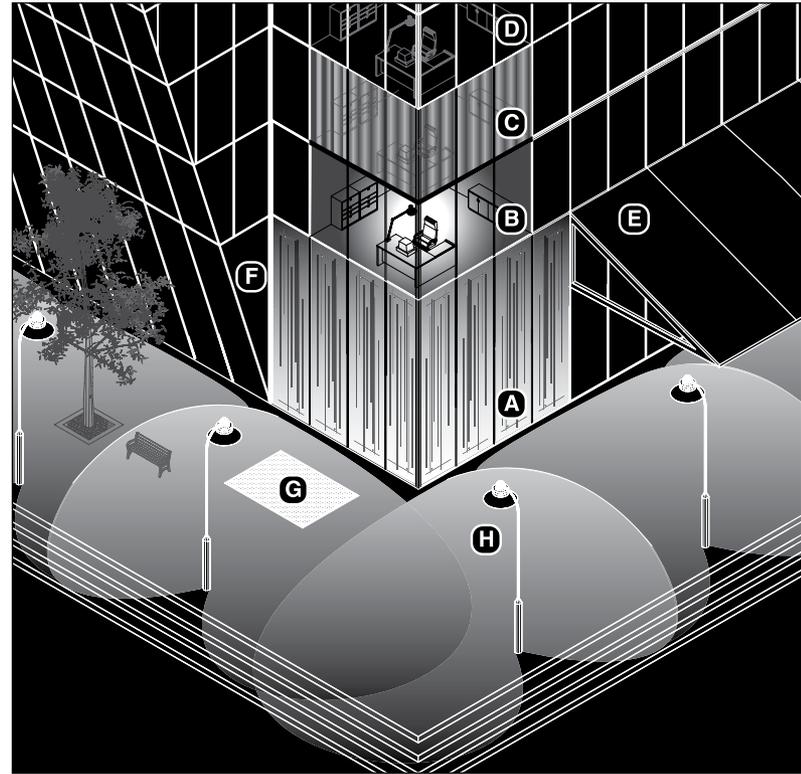


Illustration: Jason Harris

### Comprehensive Bird-Friendly Site Strategy

- A - Apply treatment to glass to make it visible to birds
- B - Use task lighting after dark
- C - Draw blinds after dark
- D - Turn lights off after work
- E - Use an awning to mute reflections on lobby windows
- F - Angle glass to project reflections downward
- G - Install bird-friendly ventilation grates
- H - Use fixtures that project light downward

# Conclusion

Birds have been living here 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 non-human worlds and help mitigate the negative impact of our built environment on the natural environment.



White-throated Sparrow  
Barry Kent MacKay



Red-bellied Woodpecker  
Barry Kent MacKay

## Select Birding Resources

### BOOKS

#### Field Guides

Sibley, D.A. 2000. *The Sibley Guide to Birds*. National Audubon Society, Alfred A. Knopf, Inc., New York. [ISBN 0-679-45122-6]

Dunn, J.L. and J. Alderfer (Eds.). 2006. *National Geographic Field Guide to the Birds of North America, Fifth Edition*. National Geographic Society, Washington, D.C. [ISBN 13:978-0-7922-5314-3]

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Barry Kent MacKay

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- Dunn, J.L. 2000. The Small Gulls of North America (2 DVD). Peregrine Video Productions.

### BIRDING SOFTWARE

- Avisys 6 bird listing software: [www.avisys.net](http://www.avisys.net)
- Thayer Birding software: [www.thayerbirding.com](http://www.thayerbirding.com)
- BirdBase – Santa Barbara Software Products: [www.birdbase.com](http://www.birdbase.com)
- iBird Pro – Field Guide to the Birds for the iPhone and iPod Touch: [www.ibirdexplorer.com](http://www.ibirdexplorer.com)

### WEBSITES

- Bird Links to the World: [avibase.bsc-eoc.org/links/links.jsp?lang=EN](http://avibase.bsc-eoc.org/links/links.jsp?lang=EN)
- Birding on the Net: Birding for the 21st Century: [birdingonthe.net](http://birdingonthe.net)
- Avibase – the World Bird Database: [avibase.bsc-eoc.org/avibase.jsp?lang=EN&pg=home](http://avibase.bsc-eoc.org/avibase.jsp?lang=EN&pg=home)
- Surfbirds – the world birding site: [www.surfbirds.com](http://www.surfbirds.com)
- Birdzilla: [www.birdzilla.com](http://www.birdzilla.com)
- The Virtual Birder: [www.virtualbirder.com](http://www.virtualbirder.com)
- Ornithology – the science of birds: [www.ornithology.com](http://www.ornithology.com)
- eNature: [www.enature.com/home](http://www.enature.com/home)
- Fat Birder: [www.fatbirder.com](http://www.fatbirder.com)
- Internet Bird Collection: [ibc.lynxeds.com](http://ibc.lynxeds.com)
- WildBirds: [www.wildbirds.com](http://www.wildbirds.com)



American Kestrel  
Barry Kent MacKay

**Greater Toronto Area Birding/Natural History Clubs**

Toronto Ornithological Club: [www.torontobirding.ca](http://www.torontobirding.ca)  
 Toronto Field Naturalists: [www.torontofieldnaturalists.org](http://www.torontofieldnaturalists.org)  
 Hamilton Naturalists' Club: [www.hamiltonnature.org](http://www.hamiltonnature.org)  
 South Peel Naturalists' Club: [www.spnc.ca](http://www.spnc.ca)  
 Halton/North Peel Naturalist Club: [hnpnc.com](http://hnpnc.com)  
 West Humber Naturalists Club: [whnforum.pbworks.com](http://whnforum.pbworks.com)  
 Richmond Hill Naturalists: [www.rhnaturalists.ca](http://www.rhnaturalists.ca)  
 South Lake Simcoe Naturalists: [yorknorth.cioc.ca/record/GEO0082](http://yorknorth.cioc.ca/record/GEO0082)  
 York-Simcoe Naturalists: [www.smudgeworks.ca/york\\_simcoe\\_naturalists.htm](http://www.smudgeworks.ca/york_simcoe_naturalists.htm)  
 Pickering Naturalists: [www.pickeringnaturalists.org](http://www.pickeringnaturalists.org)  
 Durham Region Field Naturalists: [www.drfn.ca](http://www.drfn.ca)  
 Tommy Thompson Park Bird Research Station: [www.ftpbsr.ca](http://www.ftpbsr.ca)

**Ontario/Canada web resources**

Ontario Field Ornithologists: [www.ofo.ca](http://www.ofo.ca)  
 Ontario Breeding Bird Atlas: [www.birdsontario.org/atlas/index.jsp](http://www.birdsontario.org/atlas/index.jsp)  
 Ontario Nest Records Scheme: [www.birdsontario.org/onrs/onrsmain.html](http://www.birdsontario.org/onrs/onrsmain.html)  
 Ontario Nature: [www.ontarionature.org](http://www.ontarionature.org)  
 Ontario Bird Banding Association: [ontbanding.org/index.php](http://ontbanding.org/index.php)  
 Committee on the Status of Species at Risk in Ontario (COSSARO):  
[www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/244543.html](http://www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/244543.html)  
 Bird Studies Canada: [www.bsc-eoc.org](http://www.bsc-eoc.org)  
 Wildspace: [wildspace.ec.gc.ca](http://wildspace.ec.gc.ca)  
 Committee on the Status of Endangered Wildlife in Canada (COSEWIC):  
[www.cosewic.gc.ca](http://www.cosewic.gc.ca)  
 Canadian Boreal Initiative: [www.borealcanada.ca](http://www.borealcanada.ca)

**North American web resources**

Birds of North America online (by subscription): [bna.birds.cornell.edu/bna](http://bna.birds.cornell.edu/bna)  
 Bent's Life Histories of North American Birds online: [www.birdsbybent.com](http://www.birdsbybent.com)  
 Dendroica: An aid to identifying North American birds:  
[www.natureinstruct.org/dendroica](http://www.natureinstruct.org/dendroica)  
 American Birding Association: [www.aba.org](http://www.aba.org)  
 American Ornithologists' Union Checklist: [www.aou.org/checklist/north](http://www.aou.org/checklist/north)  
 Patuxent Wildlife Research Center: [www.pwrc.usgs.gov/birds](http://www.pwrc.usgs.gov/birds)  
 Cornell Lab of Ornithology: [www.birds.cornell.edu](http://www.birds.cornell.edu)  
 Bird Source: [www.birdsource.org](http://www.birdsource.org)  
 eBird: [ebird.ca](http://ebird.ca)  
 American Bird Conservancy: [www.abcbirds.org](http://www.abcbirds.org)

North American Bird Conservation Initiative: [www.nabci-us.org](http://www.nabci-us.org)  
 State of the Birds Reports (2009): [www.stateofthebirds.org](http://www.stateofthebirds.org)  
 Boreal Songbird Initiative: [www.borealbirds.org](http://www.borealbirds.org)  
 Save Our Boreal Birds: [saveourborealbirds.org](http://saveourborealbirds.org)  
 Searchable Ornithological Research Archive (SORA): [elibrary.unm.edu/sora](http://elibrary.unm.edu/sora)  
 International Ornithological Congress World Bird List: [www.worldbirdnames.org](http://www.worldbirdnames.org)

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 Cornell Lab of Ornithology, 2011  
 Seattle Audubon Society, 2005



Rose-breasted Grosbeak  
 Barry Kent MacKay

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### Partners

Canadian Peregrine Foundation: [www.peregrine-foundation.ca](http://www.peregrine-foundation.ca)  
 Conservation Foundation of Greater Toronto: [www.trca.on.ca/foundation](http://www.trca.on.ca/foundation)  
 Cormorant Defenders International: [www.zoocheck.com/cormorant](http://www.zoocheck.com/cormorant)  
 Environment Canada: [www.ec.gc.ca](http://www.ec.gc.ca)  
 Fatal Light Awareness Program (FLAP): [www.flap.org](http://www.flap.org)  
 Humane Society of the United States: [www.hsus.org](http://www.hsus.org)  
 Humane Society International-Canada: [www.hsicanada.ca](http://www.hsicanada.ca)  
 "Lights Out Toronto!": [www.toronto.ca/lightout](http://www.toronto.ca/lightout)  
 Ontario Science Centre: [www.ontariosciencecentre.ca](http://www.ontariosciencecentre.ca)  
 Royal Ontario Museum: [www.rom.on.ca](http://www.rom.on.ca)  
 Toronto Field Naturalists: [www.torontofieldnaturalists.org](http://www.torontofieldnaturalists.org)  
 Toronto and Region Conservation Authority: [www.trca.on.ca](http://www.trca.on.ca)  
 Toronto Ornithological Club: [www.torontobirding.ca](http://www.torontobirding.ca)  
 Toronto Zoo: [www.torontozoo.com](http://www.torontozoo.com)



Song Sparrow  
Barry Kent MacKay

### Photographers

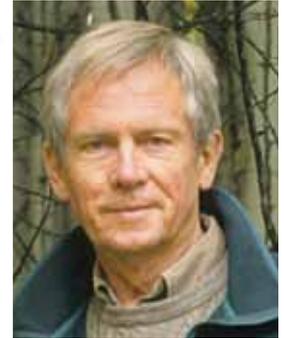
Ken Ardill, Sam Barone, Gord Belyea, Tore Buchanan, Lynnette Browne, Glenn Coady, Dan Derbyshire, Carol Edwards, FLAP, Gail Fraser, Ann Gray, Amanda Guercio, Chris Henry, Jean Iron, Mark Jackson, Rick Lauzon, Seabrooke Leckie, Simon Luisi, Paul Marshman, Karen McDonald, Michael Mesure, George Peck, Mark Peck, Vince Pietropaolo, Teresa Santos, Ian Sturdee, Mark Thiessen, Allan Turner, Brett Tyron, Ainslie Willock, Linda Woods.

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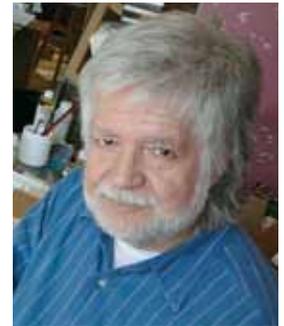
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### Contributing Artists

**Robert Bateman** – Robert's 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 Canadian Representative of Born Free USA.



### Financial Contributors

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- Toronto Field Naturalists: [www.torontofieldnaturalists.org](http://www.torontofieldnaturalists.org)
- The Schad Foundation
- MacFeeters Family Fund at the Toronto Community Foundation
- Ministry of Natural Resources: [www.ontario.ca/speciesatrisk](http://www.ontario.ca/speciesatrisk)
- Conservation Foundation of Greater Toronto: [www.trca.on.ca/foundation](http://www.trca.on.ca/foundation)
- Toronto and Region Conservation's Paddle the Don Fund: [www.paddledhedon.ca](http://www.paddledhedon.ca)

Back cover: "Fallen Willow"  
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