

APPENDIX C: Birds of Swan Lake Park

In November 2024, Birds Canada and Environment and Climate Change Canada released a study, the State of Birds in Canada¹⁸. The following summaries on the state of the various bird populations are extracted from the State of the Birds Report.

FOSLP integrated the species information from the State of Birds in Canada report and the species at risk assessment by the Toronto and Region Conservation Authority (“TRCA”) with a listing of 184 bird species sighted in Swan Lake Park as reported on eBird.org in November 2024 and by local bird watchers.

The TRCA ratings for specific species were taken primarily from the Phase 1 Report, Markham Natural Heritage Inventory and Assessment Study¹⁵ submitted by North-South Environmental to Markham Council in April 2021. The TRCA ratings of L2, L3 and L4 are applied to species of concern within the TRCA’s jurisdiction. The TRCA ratings are relevant to those species that nest within the TRCA jurisdiction. Detailed information on the species nesting in Swan Lake Park was not available so further analysis is required to more closely identify specific nesting species of concern in Swan Lake Park.

Due to the increasing urbanization of the area of particular concern for Swan Lake Park are species designated L3, species that can withstand minor disturbance and L4, those that can withstand some disturbance. The long-term objective is to find approaches that can stabilize these species.

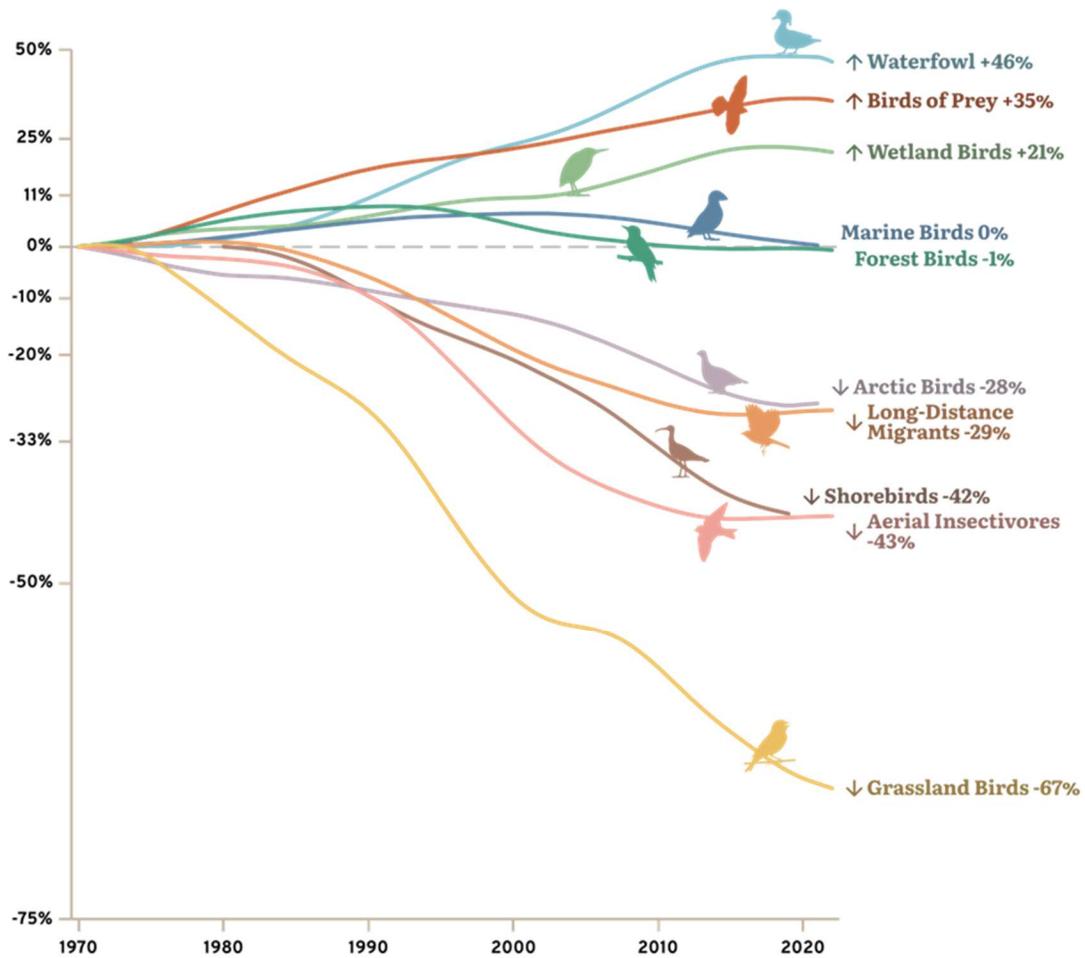
TRCA Rating of Birds	
Species at Greatest Risks	Secure or Non-Native Species
L2: Of concern regionally, probably rare in TRCA jurisdiction	L5: Species that are considered secure throughout the region
L3: Of concern regionally, able to withstand minor disturbance	L+: Introduced species, not native to the region
L4: Of concern in urban matrix, able to withstand some disturbance	LV: Sporadic breeder, species not recorded in region for past 10 yrs

The State of the Birds Report identified long-distance migrants as a separate group. These birds migrate primarily to tropical regions, and they have declined by 29% since 1970. Habitat loss threatens them in all parts of their annual cycle, and their long journeys expose them to other risks. International cooperation is key to their conservation.

Over 70% of the species sighted in Swan Lake Park are categorized as either Forest Birds, Wetland Birds or Aerial Insectivores. The national change in these species since 1970 is summarized below.

National Change Since 1970 in Types of Birds Sighted in Swan Lake Park					
Grouping	# Swan Lake Species	Increasing	Little Change	Decreasing	No Data
Forest Birds	120	33%	30%	34%	3%
Wetland Birds	63	38%	30%	25%	6%
Aerial Insectivores	30	17%	10%	67%	7%

Population change since 1970



The following table summarizes the TRCA ratings for the different species reported in Swan Lake Park using the groupings outlined in the State of Birds Report.

ALL BIRDS SIGHTED	TRCA Ratings of Birds Recorded in Swan Lake Park								
Nature Counts Canada and eBird.org Groupings	Species at Greatest Risk					Not Rated	Total	% of Total	% At Risk
	L2	L3	L4	L5	LV & L+				
Forest Birds	4	29	15	18	6	17	89	48%	54%
Wetland Birds	4	12	9	3	2	2	32	17%	78%
Aerial Insectivores	1	2	8	2	1	1	15	8%	73%
Birds of Prey	3	3	4	2			12	7%	83%
Grassland Birds	1	3	2				6	3%	100%
Not Categorized	0	1	2	1	1	2	7	4%	43%
Marine, Shorebirds, Arctic Birds	1	5	2			15	23	13%	35%
Total	14	55	42	26	10	37	184	100%	60%
% of Total Species At Risk	8%	30%	23%	14%	5%	20%	100%		

Source: ebird.org, Nature Counts Canada, TRCA

The table highlights that 60% of all of the recorded species in Swan Lake Park are considered to be at risk in the TRCA’s jurisdiction with over 70% of the wetland birds and aerial insectivores rated to be at risk.

Swan Lake has been described by ecologists from the University of Toronto as a “constructed wetland”, so the 32 Wetland Birds reported in Swan Lake Park are of particular concern.

In Swan Lake Park, 55 species or 30% of all species are categorized as L3 - those able to withstand only minor disturbance.

i) Forest Birds¹⁸

Forest birds live in Canada's coniferous, deciduous, and mixed forests. The birds in this group are as varied as the forests themselves. This large group contains mostly songbirds like vireos, warblers, thrushes, flycatchers, finches, and sparrows. A few birds of prey and several gamebirds like grouse are also forest dwellers.

Nationally, forest bird populations appear stable overall, but only because roughly the same number of species are increasing as are decreasing. Understanding which species are declining and why is key to taking conservation action for this group.

Like many long-distance migrants, forest birds that migrate from Canada's forests to those in the tropics have declined as a group by 17% since 1970. These birds’ long journeys expose them to many risks, and the loss of forests in Central and South America is a significant threat.

In contrast, birds that spend their entire year in Canada's forests have shown a modest increase of 19% since 1970. This suggests that many of Canada's forests are doing okay, though some regions and forest types are facing more threats than others.

FOREST BIRDS	TRCA Ratings of Birds Recorded in Swan Lake Park									
	Nature Counts Canada and eBird.org Groupings	Species at Greatest Risk			L5	LV & L+	Not Rated	Total	% of Total	% At Risk
		L2	L3	L4						
Total Long Distance Migrants	3	14	6	4	0	8	35	39%	66%	
Wood Warblers	3	9	1	1	0	5	19	21%	68%	
Thrushes	0	2	0	0	0	2	4	4%	50%	
Vireos	0	1	1	1	0	1	4	4%	50%	
All Other Long-distant	0	2	4	2	0	0	8	9%	75%	
Total of Other Forest Birds	1	15	9	14	6	9	54	61%	46%	
New World Sparrows	0	2	1	2	0	5	10	11%	30%	
Wood-Warblers	0	2	1	0	0	4	7	8%	43%	
Woodpeckers	0	3	3	1	0	0	7	8%	86%	
All Other Forest Birds	1	8	4	11	6	0	30	34%	43%	
Total All Forest Birds	4	29	15	18	6	17	89	100%	54%	

Long distant migrants represent 39% of the Forest Birds found in Swan Lake Park but represent the highest level of at risk (66%). Other Forest Birds not categorized as long-distant migrants represent 61% of the species. While only 46% are flagged as a risk, it still represents the same number of species (25) as long distant migrants (23).

Threats

The loss or alteration of forests threatens the birds that rely on them. Logging, mining, urbanization, and development impact forests both in Canada and where these birds spend their nonbreeding seasons. Climate change is affecting forests too, altering the timing of seasonal events and worsening wildfires.

Predation by outdoor cats is a major threat to many birds in this group, especially when migration brings them into urban and rural areas. Window collisions also take a heavy toll on migrating forest birds.

ii) Wetland Birds (Increase 21%)¹⁸

Wetland birds are a diverse group of species that live in vegetated, freshwater habitats. This group includes some ducks and geese, as well as other swimming and diving birds like loons and grebes. There are also species that wade at the water's edge or skulk through vegetation, like herons and rails, and a few water-loving songbirds too. This report focuses on wetlands that lie south of the boreal forest, which face the greatest pressure from human activity.

Overall, wetland bird populations have increased slightly since 1970. There has been much investment in wetland conservation and stewardship since the mid-1900s, and these efforts likely underpin this rise. Despite the positive group trend, some species have declined. Continued action is needed to preserve wetland habitat for these and other members of this group.

Canada's wetland bird populations show a slight increase of 21% since 1970. This upward trend is hopeful, but it is strongly influenced by several ducks and geese whose populations have grown substantially. Some other birds in this group have not benefited as much from past conservation work and have more worrying trends that must be addressed.

Wetland Waterfowl (Increase 74%)

Waterfowl that rely on freshwater wetlands have increased by 74% since 1970, likely as a result of both waterfowl conservation efforts and the availability of waste grain on their migratory routes. Some of these birds have begun to decline recently, but their trends still raise the average for wetland birds as a whole.

Other Wetland Birds (Increase 1%)

Besides waterfowl, populations of other birds that rely on wetlands have not changed much at all. This diverse group includes gulls, herons, grebes, songbirds, and others.

Population Changes by species

Wetland bird population trends are highly variable among species. Many populations are increasing, likely as a result of wetland conservation efforts in the last half-century. Many others are declining though, as wetland loss and degradation is still a threat in many areas. Ongoing work to preserve wetlands is vital for this group.

As a "constructed wetland", Swan Lake plays an important role in supporting both migratory wetland species and those that chose to reside in the park.

Wetland Birds	TRCA Ratings of Birds Recorded in Swan Lake Park								
Nature Counts Canada and eBird.org Groupings	Species at Greatest Risk			L5	LV & L+	Not Rated	Total	% of Total	% At Risk
	L2	L3	L4						
Total Wetland Birds	4	12	9	3	2	2	32	36%	78%
Ducks	2	4	2	1	1	2	12	13%	67%
Hérons, Ibis and Allies	0	4	1	0	0	0	5	6%	100%
Waterfowl	0	1	1	1	1	0	4	4%	50%
All other species	2	3	5	1	0	0	11	12%	91%

Threats

The biggest threat to wetland birds is the destruction or degradation of the wetlands they rely on. About 70% of wetlands in southern Canada were lost to development and agriculture by 1990. These sensitive habitats are also particularly vulnerable to the effects of climate change and pollution.

Healthy and abundant wetlands are critical for this group. Wetlands also help us fight climate change by storing more carbon than any other ecosystem and acting as sponges that buffer nearby communities from floods and droughts.

iii) Aerial Insectivores¹⁸

Aerial insectivores are linked by their unique feeding strategy of catching insects in flight. Many are among Canada's fastest and nimblest fliers and put on spectacular displays in their aerial pursuits. This group includes the swallows, swifts, nightjars, and flycatchers.

Canada's aerial insectivore populations have declined since 1970, and we are only just beginning to understand why. Their population freefall has leveled off in recent years, but while this is a hopeful sign, population levels are far below where they should be. Conservation action is needed to reverse the losses in these vulnerable birds.

Aerial Insectivores (Decline 43%)

Aerial insectivore populations in Canada have declined by 43% since 1970. That decline appears to have gradually leveled off in recent decades, but populations are now much lower than they were 50 years ago.

Flycatchers (Decline 23%)

Flycatchers catch flying insects by flitting out from a perch. They have declined by 23%. Trends within this group are varied: some species are increasing but others, like the [Olive-sided Flycatcher](#), are in steep decline.

Swifts, swallows, and nightjars (Decline 60%)

These three families capture insects, falling most steeply in the 1990s. The decline seems to have leveled off, and some populations are beginning to increase.

Aerial Insectivores benefit from the wetland features of Swan Lake. Swan Lake Park hosts 15 different species of which 11 (73%) are listed as at risk.

AERIAL INSECTIVORES	TRCA Ratings of Birds Recorded in Swan Lake Park								
Nature Counts Canada and eBird.org Groupings	Species at Greatest Risk			L5	LV & L+	Not Rated	Total	% of Total	% At Risk
	L2	L3	L4						
Total Long Distance Migrants	0	2	6	1	1	1	11	12%	73%
Tyrant Flycatchers	0	0	4	0	1	1	6	7%	67%
Martins and Swallows	0	1	1	1	0	0	3	3%	67%
All Other Long-distant	0	1	1	0	0	0	2	2%	100%
Total Other Aerial Insectivores	1	0	2	1	0	0	4	4%	75%
Total All Aerial Insectivores	1	2	8	2	1	1	15	17%	73%

Threats

The threats affecting aerial insectivores are complex and not entirely understood. Declines in insect populations are likely a driving factor. These may be caused by pesticide use, farming practices, wetland drainage, introduced plant species, and the effects of climate change. Many of these birds also rely on wetland or grassland habitats, which are disappearing or being degraded. Threats to these species occur throughout their life cycles, during breeding, roosting, migration and on the nonbreeding grounds.

iv) Ontario and Federal Bird Species at Risk

Fifteen bird species reported in Swan Lake Park are listed on the Ontario (“SARO”) and the Federal government’s official listing of species at risk in Canada (“SARA”) and on the listing of species of concern by the Committee on the Status of Endangered Species in Canada (“COSEWIC”). Six of the species are Forest Birds of which 5 are rated L2 or L3 within the TRCA jurisdiction. Another six species are Aerial Insectivores of which 3 are rated as L2 or L3 by the TRCA.

SARA//COSEWIC/SARO Ratings of Birds Recorded in Swan Lake Park						
Common Name	Scientific Name	LD Migrant	SARA	COSEWIC	SARO	TRCA
FOREST BIRDS						
Prothonotary Warbler	Protonotaria citrea		END	END	END	L2
Barn Swallow	Hirundo rustica	Yes	THR	THR	SC	L4
Red-headed Woodpecker	Melanerpes erythrocephalus		END	END	END	L3
Wood Thrush	Hylocichla mustelina	Yes	THR	THR	SC	L3
Canada Warbler	Cardellina canadensis	Yes	THR	THR	SC	L2
Golden-winged Warbler	Vermivora chrysoptera	Yes	THR	THR	SC	L2
AERIAL INSECTIVORES						
Olive-sided Flycatcher	Contopus cooperi	Yes	SC	SC	SC	LV
Chimney Swift	Chaetura pe/agica	Yes	THR	THR	THR	L4
Eastern Wood-Pewee	Contopus virens	Yes	SC	SC	SC	L4
Bank Swallow	Riparia riparia	Yes	THR	THR	THR	L3
Common Nighthawk	Chordeiles minor	Yes	THR	SC	SC	L3
Eastern Whip-poor-will	Antrostomus vociferus		THR	SC	THR	L2
GRASSLAND BIRDS						
Eastern Meadowlark	Sturnella magna		THR	THR	THR	L3
Bobolink	Dolichonyx oryzivorus	Yes	THR	THR	THR	L2
WETLAND BIRDS						
Least Bittern	Ixobrychus exilis		THR	SC	THR	L2
SARA: Federal Species at Risk			SC	Species of Concern		
COSEWIC: Committee on Status of Endangered Species in Canada			THR	Threatened		
SARO: Ontario Species at Risk			END	Endangered		