

2.0

BIRDS IN MARKHAM



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Birds in Markham consist of:

- Those that generally move through Markham on migration on their way to breeding grounds further north, which may stop to rest and feed on the way (migrant birds);
- Those that live all year round in Markham (resident birds); and,
- Those that breed in Markham but migrate south in the winter (breeding birds).

The following provides a brief description of habitat use of each of those groups and explains why each group may be vulnerable to collisions with glass. **Appendix D** provides an existing conditions summary on BWCs in the GTA and Markham, and **Appendix E** provides a brief description of how to identify the “top 10” birds that are involved in collisions in Markham.

2.1 Migrant Birds

As can be seen in the radar image of migrating birds in **Figure 2-1**, migrants depart staging areas in high densities and move north around the Great Lakes, staying close to the north edge of Lake Erie, along the Niagara Peninsula and the north shore of Lake Ontario in very large numbers. They move north along the north shore of Lake Ontario in a dense band which is densest within approximately 1km of the lake shore (as shown by the colour purple and dark red) but is still very dense (shown by lighter red) as it passes through Markham. Birds appear to become more dispersed as they move north of Markham, as is shown by the yellow colour band.

Select groups of birds, such as hawks, falcons, waterfowl, swallows and nightjars, migrate during the day while most songbirds migrate at night.

Table 2-1 shows the top 10 species involved in collisions in Markham.

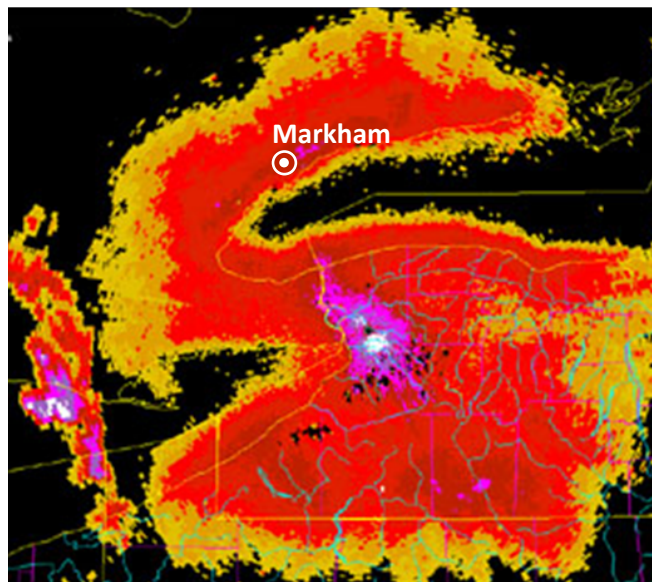


Figure 2-1: Radar image of night migration route around Lake Ontario
 Photo adapted from NEXRAD by FLAP Canada

Bird	Number of BWCs	Status
Nashville Warbler	97	Migrant
Golden-crowned Kinglet	82	Migrant
White-throated Sparrow	69	Migrant
Ruby-throated Hummingbird	55	Migrant and Breeding
Ruby-crowned Kinglet	52	Migrant
Dark-eyed Junco	50	Migrant
Yellow-bellied Sapsucker	29	Migrant
Black-capped Chickadee	23	Resident
Mourning Dove	21	Resident and Migrant
Ovenbird	21	Migrant

Table 2-1: Bird-Window Collisions recorded in Markham from 2000-2012 by FLAP Canada

Birds are vulnerable to collisions with buildings not because they hit them during flight, (as they migrate well above the height of buildings), but because they drop out of migration before dawn to rest and feed. As shown in **Figure 2-2**, migrants have been observed stopping to rest and feed in many locations around Markham. There are few reports of areas where songbirds consistently stop in large numbers; rather, they seem to spread out and use a wide variety of habitats.

Nocturnal migrants tend to depart staging areas at dusk. Their departure is governed by a combination of weather factors, but generally birds prefer to migrate in good weather with southerly winds as they move north and with northerly winds as they move south. In good weather, birds may fly through the night until they land before dawn, and then feed at first light. In bad weather, or at times when birds' fat stores are depleted (for example in unusually cold weather or strong winds) birds may make an emergency stop well before dawn, landing wherever they can. These emergency stops are unpredictable. They often result from a combination of circumstances such as adverse winds, rain and fog where visibility is poor.

2.2 Resident Birds

Resident birds are those that reside in Markham year-round. These consist of species that do not migrate, with the most common including Northern Cardinal, Black-capped Chickadee, American Crow, Blue Jay, Downy and Hairy Woodpecker, Mourning Dove and American Goldfinch. These species do not appear to be commonly involved in BWCs in the GTA, though the resident Mourning Dove and Black-capped Chickadee are two of the top 10 in Markham with regard to collisions. However, even these resident species are mainly involved in BWCs during the migration periods (spring and fall). It is known that some Mourning Doves migrate, though some are residents, and that young Black-capped Chickadees move around extensively in the fall as they search for winter habitat, so it is likely that the BWCs involving these species also reflect birds that do not stay in the area for long periods.

2.3 Breeding Birds

Breeding birds are those that nest and raise their young to fledge in Markham. Locations of habitat-sensitive breeding birds surveyed by the Toronto & Region Conservation Authority (TRCA) are shown in **Figure 2-3**. Adults and young then fly south in the fall. Again, these species are less likely to be involved in collisions in Markham than are migrant birds, though Ruby-throated Hummingbirds, some of which breed in Markham while others fly through Markham on their way north to breed, are one of the top 10 species involved in collisions.

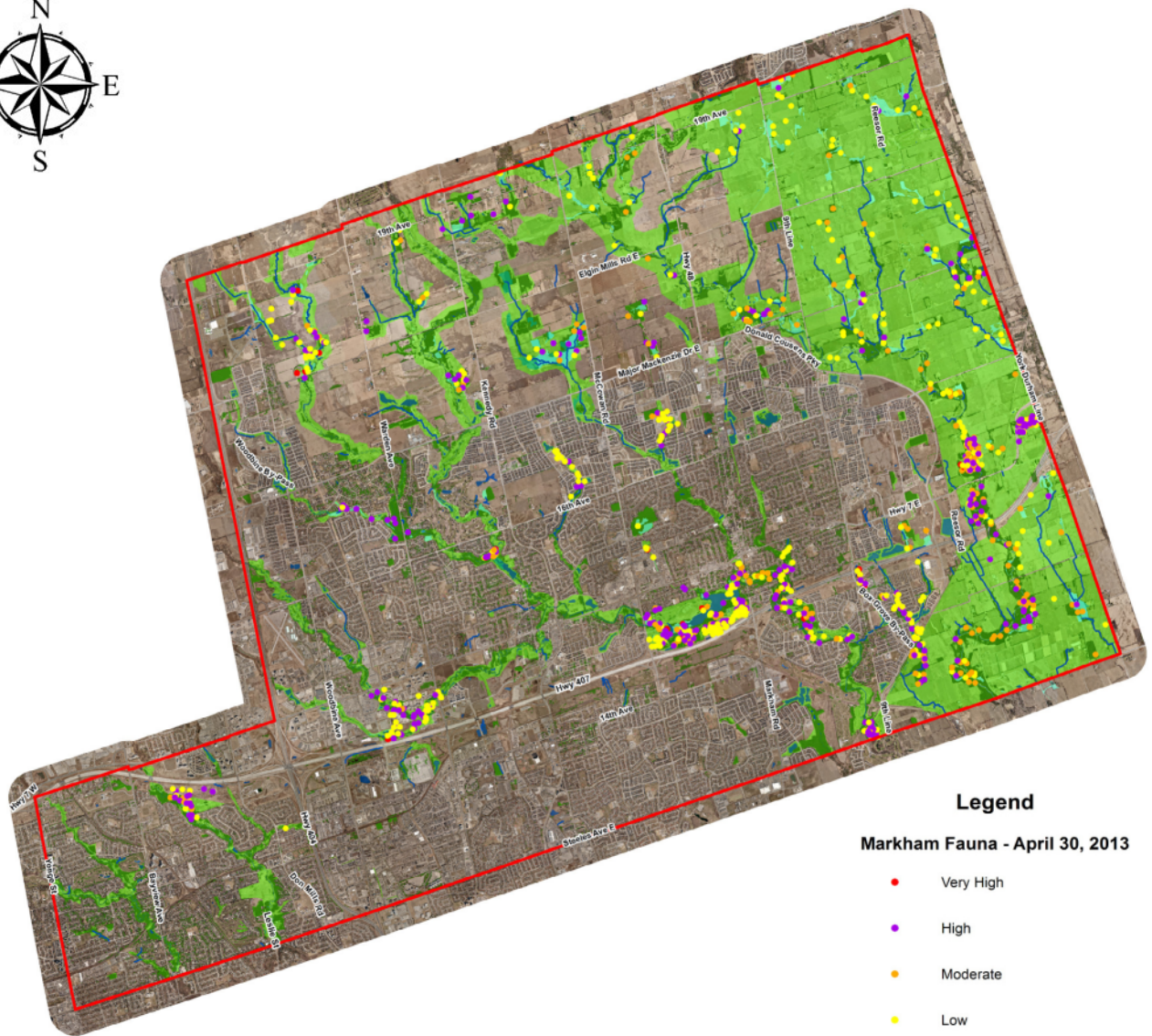
2.4 Markham's Greenway System

Threading through both the urban and rural landscapes of Markham are several major river valleys: the Rouge and the Don being the largest, as well as the smaller Petticoat and Duffins Creek in the east. Each river and creek is surrounded by varying widths of riparian vegetation that provides habitat for migrating, resident and breeding birds. Tributaries of each of these rivers also thread through the urban and rural fabric of the City. **Figure 2-2** provides an aerial photo view of the City overlaid with the Greenway System that protects, enhances and connects the significant natural heritage of the City. Breeding birds are well-documented within the Greenway System (**Figure 2-3**). They probably also breed in smaller patches of habitat outside the Greenway System; bird surveys shown in the figure (conducted by the TRCA) included mainly public property. Other areas may not necessarily receive the same level of effort. There is evidence that many migrants are found throughout the City in smaller patches of vegetation outside the Greenway System, so breeding birds would inhabit these areas as well.



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Figure 2-2: Markham's Greenway System in relationship to areas where migrants have been observed and BWCs
 Photo by North-South Environmental Inc.



Legend

Markham Fauna - April 30, 2013

- Very High
- High
- Moderate
- Low
- Greenway System
- Woodlands
- Wetlands PSW
- Wetlands TRCA
- ~ Creeks
- Rivers and Ponds
- City of Markham

Figure 2-3: Markham's Greenway System and locations of breeding birds classified according to their susceptibility to BWCs
 Photo by North-South Environmental Inc.

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