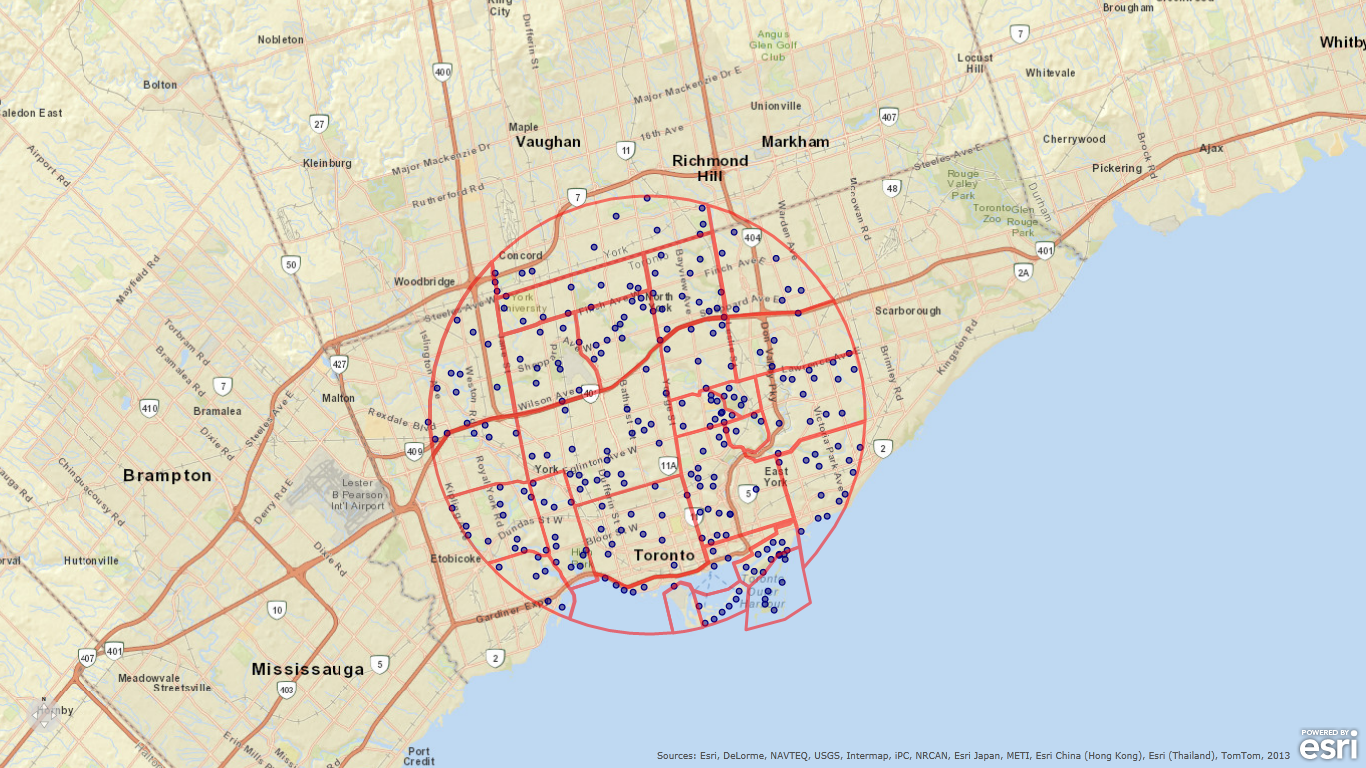
Spring is anxiously anticipated by most birders. The migrant stream arrives in a burst of colour and song, and although it peters out quickly as birds continue north, we are left with a sense of renewal and a few extra ticks on our lists. Although the subsequent summer is often considered the quiet “doldrums” period for birding, ecologically speaking, it is one of the most interesting times of year. Birds breed at this time, and although the majority of our migratory birds do so north of here, close to 200 species have (at one time or another) used Toronto as their nesting grounds. These birds truly share our city; requiring Toronto’s habitat and resources to raise their young.

During the 2013 field season, the TOC modified the “Summer Bird Count” (SBC) extensively in order to systematically count Toronto’s breeding birds. Point count locations from the 2nd Ontario Breeding Bird Atlas (OBBA) were re-sampled using an identical methodology. As during the Atlas, point count locations were visited for five minutes, and every bird seen or heard during that time was recorded. Counts were conducted in good weather before 11:00 AM between May 24 and July 10.

Comparing the results of the 2nd OBBA and the 2013 SBC gives an idea of how the intervening eight years has changed the city’s bird habitats and how our local avian breeders are faring.



**Point count locations surveyed by the 2013 SBC** consisted of 2nd OBBA point count locations falling within the Toronto Christmas Bird Count Circle. Additional point count locations added by SBC participants were left out of the comparison with Atlas data, as were any Atlas locations that were not visited in 2013.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | SUMMER BIRD COUNT | | | BREEDING BIRD ATLAS | | |
| species | total individuals | # points counted | Species  rank | total individuals | # points counted | Species rank |
| DCCO | 1724 | 19 | 1 | 657 | 14 | 4 |
| RBGU | 1620 | 147 | 2 | 1649 | 52 | 1 |
| EUST | 606 | 119 | 3 | 909 | 149 | 2 |
| HOSP | 606 | 127 | 4 | 687 | 132 | 3 |
| AMRO | 318 | 123 | 5 | 290 | 120 | 7 |
| CAGO | 257 | 15 | 6 | 380 | 15 | 6 |
| RWBL | 184 | 54 | 7 | 146 | 61 | 11 |
| RODO | 183 | 32 | 8 | 386 | 84 | 5 |
| AMGO | 124 | 69 | 9 | 70 | 36 | 15 |
| COGR | 123 | 54 | 10 | 272 | 103 | 8 |
| NOCA | 112 | 68 | 11 | 139 | 92 | 12 |
| CHSW | 101 | 47 | 12 | 40 | 18 | 23 |
| BARS | 82 | 29 | 13 | 88 | 24 | 14 |
| TRES | 69 | 19 | 14 | 45 | 17 | 20 |
| CEDW | 58 | 29 | 15 | 40 | 15 | 24 |
| MODO | 37 | 26 | 17 | 157 | 89 | 9 |
| AMCR | 13 | 8 | 29 | 152 | 64 | 10 |
| HOFI | 28 | 19 | 21 | 104 | 52 | 13 |

Overall, the results of the Summer Bird Count indicate that many of Toronto’s breeding bird populations remain stable. Eighty one species were detected when these points were originally sampled during the 2nd OBBA, compared to 76 species detected during the 2013 SBC. Certain notable changes include the total lack of House Wrens noted during the 2013 season, despite 15 detected during the OBBA, and a downturn in Kestrel numbers, with none detected during

**Table 1. Most common species detected during the 2nd OBBA and the SBC, and their relative rankings.** The top 15 species (in terms of total individuals detected) for both the 2nd OBBA and the 2013 SBC. Species rankings in terms total individuals detected are also listed.

the SBC protocol. Two other notable changes include null counts of both Bobolink and Wood Thrush in 2013, despite healthy numbers detected during the OBBA. This is especially interesting given the drastically different breeding habitat types of these species (open grassland and mature woods respectively).

Some observed changes were expected. Double-crested Cormorant numbers have exploded during the last eight years, and birds that were affected by West Nile Virus, such as American Crows, Blue Jays, and Chickadees, saw their numbers drop precipitously between the counts. The pronounced downturn in House Finch numbers also reflects the spread of conjunctivitis within their local population.

Statistically, there was no evidence that the breeding birds of Toronto have decreased or increased as a whole group. However, when certain bird groups were isolated and examined separately, patterns emerged. Below, the results of these targeted analyses are compiled.

**Table 2. Groups independently analyzed for population trends.**

|  |  |  |  |
| --- | --- | --- | --- |
| Group | Species included in group | Change Observed | P value |
| Aerial Insectivores | Bank Swallow  Barn Swallow  Chimney Swift  Cliff Swallow  Northern Rough-winged Swallow  Purple Martin  Tree Swallow | Overall increase, though not statistically  significant. | 0.133437326 |
| Non-aerial insectivores  Native species with more than a count of one individual over the two counts were used in this analysis. | Blue-gray Gnatcatcher  Carolina Wren  Eastern Kingbird  Eastern Phoebe  Eastern Wood Pewee  Great Crested Flycatcher  House Wren  Least Flycatcher  Red-eyed Vireo  Warbling Vireo  Willow Flycatcher  Yellow Warbler | Statistically significant **DECREASE** | 0.00408939 |
| Feeder Birds | American Goldfinch  Black-capped Chickadee  Blue Jay  Cedar Waxwing  Downy Woodpecker  Hairy Woodpecker  Northern Flicker  Mourning Dove  Northern Cardinal  Red-breasted Nuthatch  White-breasted Nuthatch | No significant difference | 0.170373817 |
| Water Birds | Black-crowned Night Heron  Mallard  Wood Duck  Gadwall  Double Crested Cormorant  Great Blue Heron  Great Egret | No significant difference | 0.382728635 |
| Species at Risk | Eastern Meadowlark  Bobolink  Barn Swallow  Chimney Swift  Wood Thrush  Red-headed Woodpecker  Eastern Wood-pewee | When CHSW is included, there is no overall statistical change. With CHSWs omitted, there is an overwhelmingly significant **DECREASE** | 0.0000829 |
| Invasive Species | House Finch  European Starling  Rock Dove  House Sparrow | Overall decrease, though not statistically significant | 0.055471584 |
| Tree Cavity Nesters  Owls were omitted because they are not easily detected through point count methods, and all detections were considered anecdotal | Downy Woodpecker  Hairy Woodpecker  Northern Flicker  Red-headed Woodpecker  Great Crested Flycatcher  White-breasted Nuthatch  Red-breasted Nuthatch  Black-capped Chickadee  House Wren  Carolina Wren | Statistically significant **DECREASE** | 0.033548035 |

**Paired double-tailed T tests** were performed on mean counts/point count location to determine if a bird group had significantly increased or decreased since the 2nd OBBA. Species absent from any of the groups indicate that none were recorded during either the OBBA or the SBC, OR that only one was detected over both those efforts.

**Table 3. Largest species increases and decreases since the 2nd OBBA**

|  |  |
| --- | --- |
| Largest INCREASES over last 8 yrs | Largest DECREASES over last 8 yrs |
| Double Crested Cormorant | European Starling |
| Chimney Swift | Rock Dove |
| American Goldfinch | Common Grackle |
| Red-winged Blackbird | American Crow |
| American Robin | Canada Goose |
| Northern Rough-winged Swallow | Mourning Dove |
| Tree Swallow | House Sparrow |
| Brown-headed Cowbird | House Finch |
| Cedar Waxwing | Baltimore Oriole |
| Cliff Swallow | Mallard |
| Red-breasted Nuthatch | Blue Jay |
| Great Egret | Northern Flicker |
| Chipping Sparrow | Black-capped Chickadee |
| Northern Mockingbird | Ring-billed Gull |
| Hairy Woodpecker | Northern Cardinal |

**Increases and decreases** were measured by absolute number changes rather than by changes in the proportion of the population. This was done so that single anecdotal accounts of rare species during one of the counts would not be given disproportionate importance.

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