

# The Breeding Birds of Tommy Thompson Park

2020



Female Canvasback with Young (D. Johnston)

## Toronto and Region Conservation Authority



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# 1. Introduction

## 1.1 Study Area



**TTP Aerial View (TRCA, 2014)**

Tommy Thompson Park (TTP) is located on the Leslie Street Spit, a 471-ha, 5-km long man-made peninsula extending into Lake Ontario in Toronto. When construction of the Spit began in 1959 by the Toronto Harbour Commission (now PortsToronto), the intention was to create new lands for port related facilities. However, for a variety of reasons port related expansion did not occur and natural succession was allowed to progress. As such, the Province of Ontario awarded Toronto and Region Conservation Authority (TRCA) the responsibility of creating a Master Plan for a public park. Landform construction was ongoing until 2015, and while the final size of the Spit (including waterlots) is complete, occasional works will be required into the future to maintain shoreline stability.

natural succession and habitat enhancement projects by TRCA. A variety of vegetation communities, including successional forests, meadows, coastal wetlands and sand dunes, provide diverse habitats for a wide range of species. Gulls and terns began nesting in the early 1970s, and continued nesting by these species and night-herons earned TTP the designation of an *Environmentally Significant Area* in 1982. Further, in 2015, this designation was extended to the entire Spit due to rare species and/or rare communities, and significant ecological functions.

The diverse habitats at the park, along with the geographical position have made it a critical site for birds throughout the year. To date, 323 species have been recorded at the park, and in 2000, the Leslie Street Spit/TTP was named an *Important Bird Area* by BirdLife International. This designation is due to the globally significant populations of nesting colonial waterbirds, the continentally significant numbers of overwintering waterfowl, and nationally significant numbers of migratory birds.

Over the years, the Spit evolved into the largest area of natural habitat on the Toronto waterfront, both through

## 2. Colonial Waterbirds and Managed Waterfowl

### 2.1 Project Background



Colonial waterbirds have a long history at Tommy Thompson Park and are one of the reasons the park was designated a globally significant *Important Bird Area* in 2000 (Wilson et al., 2001).

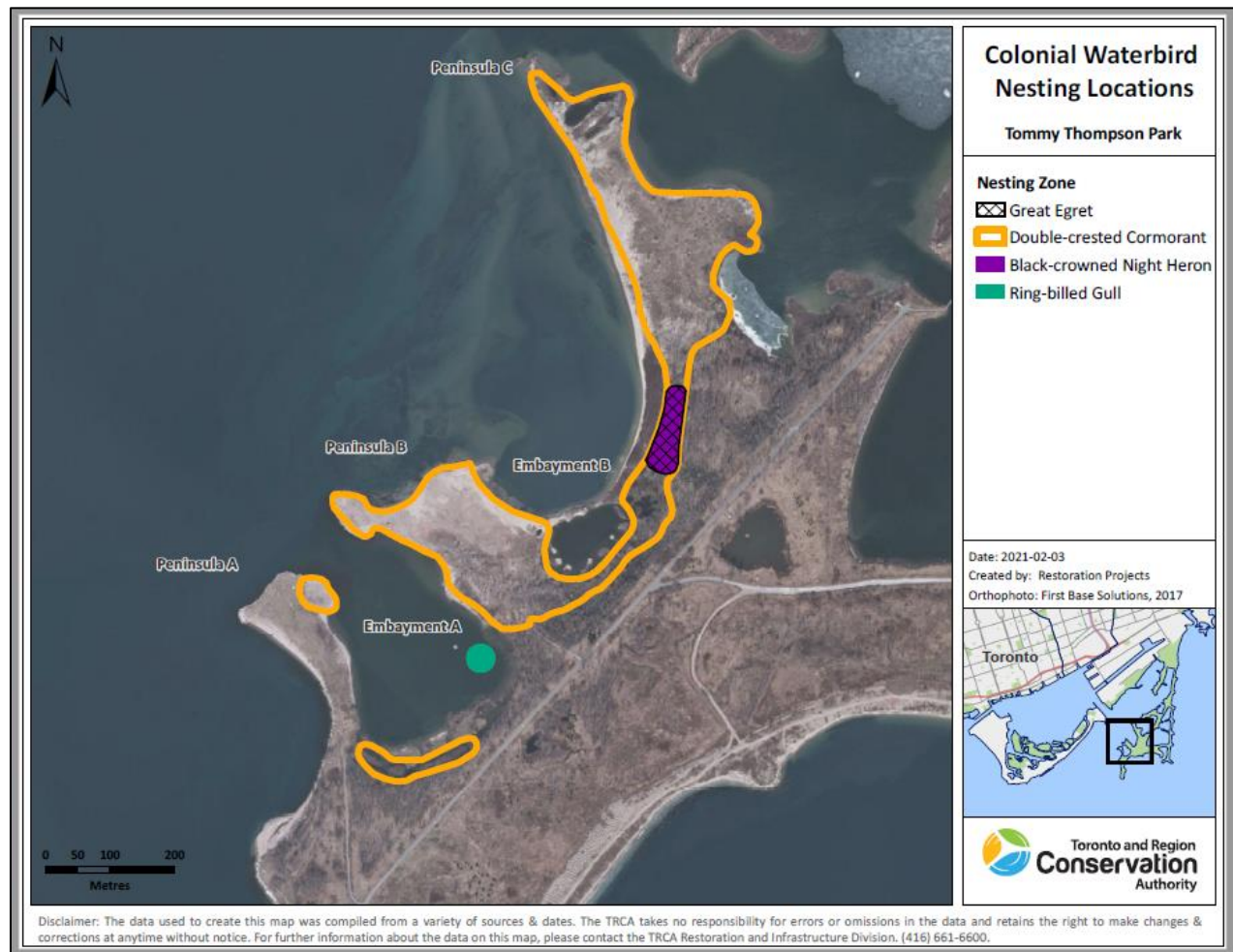
In 2020, five species of colonial waterbirds nested at Tommy Thompson Park, namely two species of tree-nesters (Black-crowned Night-Heron and Great Egret), two species of ground-nesters (Common Tern and Ring-billed Gull), and one species which nests both in trees and on the ground (Double-crested Cormorant).

**Great Egrets on Nest (D. Johnston)**



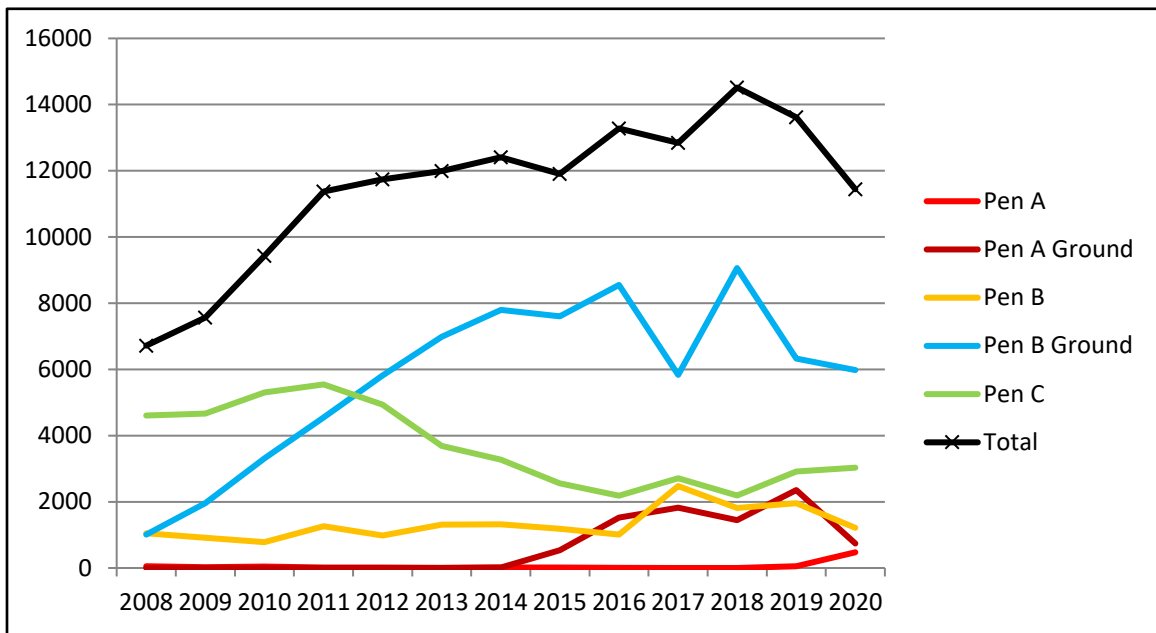
## 2.2 Results in 2020

In 2020 Double-crested Cormorants nested in trees on Peninsulas A, B and C, as well as on the ground on Peninsulas A and B. Black-crowned Night-Herons nested on Peninsulas B and C, and Great Egrets nested on Peninsula C. Ringed-billed Gull nesting was only confirmed on the Embayment A Common Tern raft (which was not occupied by terns). The nesting areas of cormorants, night-herons, egrets and Ring-billed Gulls are illustrated in Figure 2.A. Common Terns nested on the artificial nesting raft in Embayment D, and predated eggs were found in the Cell 2 wetland. Caspian Tern and Herring Gull nesting attempts were not observed.



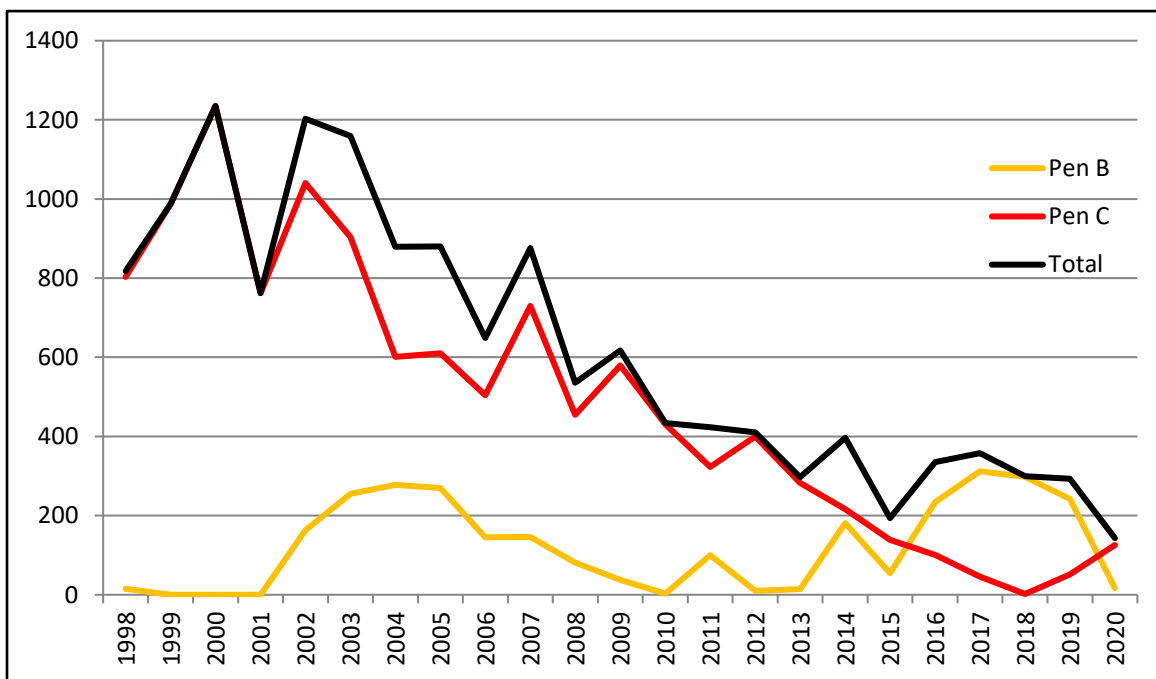
**Figure 2.A. Colonial Waterbird Nesting Areas, 2020**

Cormorant nests numbered 11,446, including 6,723 ground nests (Figure 2.B). The percent of the overall colony represented by ground-nesting decreased to 59% compared to 64% in 2019 as management was not undertaken during the breeding season due to COVID-19 restrictions. The total number of tree-nests decreased by 747 on Peninsula B compared to 2019 but increased on Peninsulas A and C by 421 and 116 respectively. Tree nesting density decreased in all locations with 2.52 nests/tree on Peninsula A, 5.96 nests/tree on Peninsula B and 4.91 nests/tree on Peninsula C.



**Figure 2.B. Double-crested Cormorant Nests at TTP by Sub-colony, 2008 - 2020**

Black-crowned Night-Heron nests numbered 143, a decrease of 51% compared to 2019 year (Table 2.1). Most night-heron nesting occurred at the base of Peninsulas B and C, where they face less competition from cormorants.



**Figure 2.C. Black-crowned Night-Heron Nests at TTP by Sub-colony, 1998 - 2020**



**Double-crested Cormorant Nests – Left on Ground and Right in Trees (D. Johnston)**

**Table 2.1. Colonial Waterbird Nests at TTP, 2010 – 2020**

|      | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016            | 2017   | 2018    | 2019   | 2020   |
|------|---------|---------|---------|---------|---------|---------|-----------------|--------|---------|--------|--------|
| DCCO | 9,434   | 11,374  | 11,741  | 11,990  | 12,409  | 11,908  | 13,275          | 12,841 | 14,515  | 13,614 | 11,446 |
| BCNH | 431     | 423     | 410     | 297     | 397     | 194     | 335             | 358    | 300     | 293    | 143    |
| GREG | 5       | 7       | 8       | 4       | 6       | 6       | 6               | 11     | 5       | 10     | 20     |
| RBGU | 28,000* | 32,000* | 32,000* | 35,000* | 35,000* | 35,000* | 35,000*         | NC     | 15,000* | NC     | NC     |
| HEGU | <20*    | NC      | NC      | NC      | NC      | NC      | NC              | NC     | NC      | 0      | NC     |
| COTE | 231     | 54      | 24*     | 0       | 179     | 176     | 142             | 142    | 70      | 90     | 84*    |
| CATE | 0       | 0       | 5*      | 98      | 263     | NC      | 56 <sup>a</sup> | 0      | 0       | 0      | 0      |

a - Nesting attempts failed

\*- Estimate

NC – no count

During 2020 Common Terns nested successfully on the raft in Embayment D. Two other rafts were available, in Embayment C and Embayment A, but were in a poor state of repair and unused. Early in the breeding season it appeared that nesting would occur on the Cell 1 island but it was abandoned in early June (likely due to predators). A group of adult Common Terns loafed on a low island in the Cell 2 wetland throughout the summer; staff found 20-25 predated nests in this area. A total of 84-89 nests were recorded.



Gull population counts were not undertaken in 2020. Ring-billed Gulls were not observed nesting on Peninsula A or B, but staff presence was limited due to COVID-19 restrictions. Ring-billed Gull nesting was confirmed on the Embayment A Common Tern nesting raft. Nesting was not observed on the Endikement. Herring Gulls typically nest among the Ring-billed Gulls in much lower numbers, however, none were observed in 2020. TRCA does not undertake a Herring Gull census due to their low numbers and the involvement of the Canadian Wildlife Service in individual nest monitoring for contaminant research.

**Black-crowned Night-Herons (J. Alvo)**

### **2.2.1 Managed Waterfowl**

Canada Geese and Mute Swans regularly nest at TTP and are monitored and managed by TRCA. The Mute Swan is an introduced species and all nests encountered are managed to reduce reproduction. Canada Goose nests are also managed due to the high number of human-wildlife conflicts on the Toronto waterfront. Management includes egg addling by removal to eliminate or reduce reproduction. This technique mimics natural predation events, after which the adults typically leave the nest site and forgo nesting until the next breeding season. In 2020 there were a total of 16 Canada Goose nests and six Mute Swan nests at TTP.

## **3. Landbirds and Non-colonial Waterbirds**

### **3.1 Project Background**

Until 2005, comparatively little effort had been put toward TTP's nesting bird species other than the colonial waterbirds of the previous section. The project detailed in this section of the report was initiated in 2005 as a method of monitoring and documenting landbirds and non-colonial waterbirds for the site.

#### **3.1.1 Rationale**

The project is organized around monitoring of breeding landbird and non-colonial waterbird density and diversity in response to habitat succession and restoration. Regular surveys of breeding landbird and non-colonial waterbird species at TTP provide the following:

- \* Relative abundance data
- \* Detailed and accurate nest records
- \* A measurement of breeding bird abundance and diversity in relation to landscape level change
- \* Assessment of nesting success including parasitism and predation rates
- \* Data that can help steer habitat restoration work

This project is appropriate for TRCA because the labour and material cost is low, and the expertise is both readily available and able to provide monitoring of avian response to habitat restoration efforts. TRCA volunteers, with some staff support, have carried out the project annually in spring and summer since 2005.

#### **3.1.2 Change in Data Reporting**

Commencing with the 2016 Breeding Bird Report, project data are presented on a rolling 10-year basis. (Data from earlier years, commencing with 2005, the first year of the project, are available in earlier annual reports.)

### **3.2 Results in 2020**

#### **3.2.1 Variable Circle Plot Point Count Results**

##### **3.2.1.1 VCP Station Vegetation Survey**

Table 3.1 depicts the result of the triennial vegetation surveys conducted in 2010 and 2019 for each station. In addition, Appendix A contains a habitat map and photographs for each station in 2019. (The habitat maps and photographs from 2010 can be found in the Breeding Bird Reports of 2010 – 2012, those from 2013 can be found in the reports of 2013 – 2015, and those from 2016 can be found in the reports of 2016 – 2018.) See Appendix F for an explanation of variable circle plot point counts.

As can be seen from Table 3.1, several changes in habitat occurred between 2010 and 2019. This is not surprising, however, since most of TTP is intentionally left to naturally succeed on its own. Changes of note included:

- Station 2: The meadow areas observed in 2010 have been completely overtaken by dogwood and willow.
- Station 3: Some meadow has been replaced by the Martin Goodman Trail and the link trail.



Station 4: A portion of the meadow has been replaced by a wider link trail, as well as forest and thicket expansion.

Station 5: The area along the shoreline has been largely rebuilt, resulting in less shoreline and water, and more reeds. The dogwood and forest have also increased significantly.



**Figure 3.A** Annotated Map of TommyThompson Park with VCP Stations

Station 8: Some thicket has been replaced by forest growth and wetland.

Station 9: Station 9 is located within the previous tree-nesting cormorant colony, and the result of the birds' excrement has been the loss of many trees and other vegetation. As the trees were lost, the tree nests largely disappeared within the Station area, and the previously barren soil has started to show signs of regeneration.

**Table 3.1. 2010 - 2019 VCP Station Vegetation Analysis**

| 2010 OBSERVATIONS   |             |     |     |     |     |     |     |     |     |
|---|-------------|-----|-----|-----|-----|-----|-----|-----|-----|
|   | VCP Station |     |     |     |     |     |     |     |     |
|   | 1           | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   |
| % of Major Habitats Within 100 m Radius of Each VCP Station |             |     |     |     |     |     |     |     |     |
| Meadow (tree cover ≤ 25%; shrub cover ≤ 25%)                | 55          | 40  | 70  | 95  | 10  |     | 85  | 5   | 5   |
| Thicket (tree cover ≤ 25%; shrub cover ≥ 25%)               | 15          | 20  | 20  |     | 65  | 20  |     | 20  | 20  |
| Deciduous Forest (tree cover ≥ 60%)                         | 25          | 40  | 5   |     | 10  | 50  |     | 65  | 60  |
| Mixed Forest (tree cover ≥ 60%; conifers ≥ 25%)             |             |     |     |     |     |     |     |     |     |
| Wetland (permanently saturated; water ≤ 2 m)                | 5           |     |     |     |     |     |     |     |     |
| Vegetation Sub-total (see detail below)                     | 100         | 100 | 95  | 95  | 85  | 70  | 85  | 90  | 85  |
| Sand Dune/Sand Barren (incl active shorelines)              |             |     |     |     |     | 5   |     |     |     |
| Roads/Trails  |             |     | 5   | 5   | 5   |     | 10  |     |     |
| Lake Ontario Shoreline (open water)                         |             |     |     |     | 10  | 25  | 5   | 10  | 15  |
| Non-vegetation Sub-total                                    |             |     | 5   | 5   | 15  | 30  | 15  | 10  | 15  |
| Total of All Habitats                                       | 100         | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Dominant Vegetation Within 100 m of Each VCP Station        |             |     |     |     |     |     |     |     |     |
| Poplars (e.g., Eastern Cottonwood)                          | 20          | 35  | 5   | 5   | 10  | 40  | 5   | 55  | 45  |
| Dogwoods (e.g., Red-osier Dogwood)                          | 10          | 15  | 10  |     | 20  | 15  |     | 5   | 15  |
| Honeysuckles  |             |     |     |     |     | 10  |     |     |     |
| Shrub Willows   | 10          | 5   | 5   | 5   | 30  | 5   | 5   | 5   |     |
| Grasses and Sedges  | 55          | 40  | 65  | 60  | 15  |     | 45  | 20  | 10  |
| Goldenrods and Asters                                       |             | 5   | 10  | 20  | 10  |     | 20  |     | 5   |
| Reeds (e.g., Cattails, Bulrushes)                           | 5           |     |     | 5   |     |     |     | 5   |     |
| Miscellaneous Herbs (e.g., Vetch, Nettles, etc.)            |             |     |     |     |     |     | 10  |     | 10  |
| Vegetation Sub-total  | 100         | 100 | 95  | 95  | 85  | 70  | 80  | 90  | 85  |
| 2019 OBSERVATIONS   |             |     |     |     |     |     |     |     |     |
|   | VCP Station |     |     |     |     |     |     |     |     |
|   | 1           | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   |
| % of Major Habitats Within 100 m Radius of Each VCP Station |             |     |     |     |     |     |     |     |     |
| Meadow (tree cover ≤ 25%; shrub cover ≤ 25%)                | 51          |     | 56  | 72  | 4   | 3   | 81  | 5   | 44  |
| Thicket (tree cover ≤ 25%; shrub cover ≥ 25%)               | 7           | 59  | 22  | 2   | 67  | 23  |     | 9   | 20  |
| Deciduous Forest (tree cover ≥ 60%)                         | 22          | 41  | 9   | 6   | 18  | 51  | 3   | 70  | 16  |
| Dead Deciduous Forest                                       |             |     |     |     |     |     |     |     | 1   |
| Mixed Forest (tree cover ≥ 60%; conifers ≥ 25%)             |             |     |     |     |     |     |     |     |     |
| Wetland (permanently saturated; water ≤ 2 m)                | 18          |     |     | 9   | 5   |     | 2   | 5   |     |
| Vegetation Sub-total (see detail below)                     | 98          | 100 | 87  | 89  | 94  | 77  | 86  | 89  | 81  |
| Sand Dune/Sand Barren (incl active shorelines)              |             |     |     |     |     |     |     | 2   | 3   |
| Roads, Trails and other man-made areas                      | 2           |     | 13  | 11  | 4   |     | 14  |     |     |
| Lake Ontario Shoreline (open water)                         |             |     |     |     | 2   | 23  |     | 9   | 16  |
| Non-vegetation Sub-total                                    | 2           |     | 13  | 11  | 6   | 23  | 14  | 11  | 19  |
| Total of All Habitats                                       | 100         | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Dominant Vegetation Within 100 m of Each VCP Station        |             |     |     |     |     |     |     |     |     |
| Trees (e.g., Eastern Cottonwood)                            | 25          | 35  | 5   | 5   | 15  | 40  | 7   | 60  | 10  |
| Dogwoods (e.g., Red-osier Dogwood)                          | 18          | 40  | 13  |     | 50  | 15  |     | 3   | 20  |
| Honeysuckles  |             |     |     |     |     | 12  |     |     |     |
| Shrub Willows   |             | 5   | 5   | 5   | 20  | 5   | 5   | 4   |     |
| Grasses and Sedges  | 25          | 20  | 32  | 40  | 4   | 5   | 44  | 15  | 6   |
| Goldenrods and Asters                                       | 10          |     | 5   | 30  |     |     | 10  |     |     |
| Reeds (e.g., Cattails, Bulrushes, Phragmites)               | 20          |     |     | 8   | 5   |     | 5   | 7   |     |
| Miscellaneous Herbs (e.g., Vetch, Nettles, etc.)            |             |     | 27  | 1   |     |     | 15  |     | 45  |
| Vegetation Sub-total  | 98          | 100 | 87  | 89  | 94  | 77  | 86  | 89  | 81  |



While some VCP locations have not seen a major change in vegetation over the course of the project, others have demonstrated significant change. The following photographs demonstrate one station (4) which is an example of the former and two stations (2 and 9) which are examples of the latter.

The south view at Station 4 (dry meadow) continues to see little change over the life of the project other than changes in the make-up of the ground cover.



2010



2016



2019

Station 2 (forest – north view) showed significant shrub growth between 2010 and 2016 and has now become completely surrounded by tall shrubs.



2010



2016



2019

Station 9 (forest – north view) is located within the Double-crested Cormorant colony, and the effect of the birds' excrement on both the trees and the ground-level vegetation can be seen in 2016. In 2020, with the trees and nests almost gone in this view, excrement is no longer a problem, and ground cover is returning.



2010



2016



2019

### 3.2.1.2 VCP Observations

Analysis of VCP count data presented here is a basic summation of results. More sophisticated analysis will require the use of analytical software that allows users to estimate the size or density of biological populations.

**Table 3.2. VCP Species Lists and Total Birds Detected by Species Within 100 Metres**

| Species        | 2011       | 2012       | 2013       | 2014       | 2015       | 2016       | 2017       | 2018       | 2019       | 2020       | AVG        |
|----------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| ALFL           | 1          |            |            |            |            |            |            |            |            |            |            |
| AMGO           | 35         | 8          | 14         | 19         | 7          | 37         | 36         | 19         | 19         | 30         | 22         |
| AMKE           |            |            |            |            |            |            | 1          |            |            |            |            |
| AMRE           |            |            |            |            |            |            |            |            | 2          | 1          |            |
| AMRO           | 41         | 40         | 22         | 15         | 25         | 23         | 27         | 26         | 19         | 27         | 27         |
| AMWO           |            |            | 1          |            |            |            |            |            |            | 1          |            |
| BANS           | 14         | 35         | 7          | 22         | 4          | 106        | 7          | 9          | 3          | 8          | 22         |
| BAEA           |            |            | *          |            |            |            |            |            |            |            |            |
| BAOR           | 28         | 22         | 26         | 21         | 25         | 15         | 23         | 19         | 9          | 18         | 21         |
| BARS           | 32         | 31         | 22         | 15         | 55         | 48         | 41         | 68         | 76         | 46         | 43         |
| BCCH           | 3          | 1          | 3          |            | 5          | 7          | 2          | 3          |            |            | 2          |
| BEKI           |            |            |            | 1          |            |            |            |            | 1          |            |            |
| BGGN           |            |            |            | 3          | 2          | 3          | 2          |            |            |            | 1          |
| BHCO           | 10         | 17         | 12         | 5          | 3          | 6          | 7          | 3          |            | 5          | 7          |
| BLJA           |            | 1          |            |            |            |            | 1          |            | 1          | *          |            |
| BLPW           |            |            |            |            |            |            |            |            | 1          |            |            |
| BRTH           |            |            | 1          | 3          | 1          |            |            |            | 1          |            | 1          |
| CANG           |            |            |            | *          |            |            | 7          |            | 3          |            | 1          |
| CEDW           | 31         | 47         | 17         | 16         | 12         | 18         | 12         | 1          | 12         | 3          | 17         |
| CHSW           | 2          |            | 3          | 2          | 2          |            |            |            | 1          | 5          | 2          |
| CLSW           |            |            |            |            |            |            |            | *          | 1          | 6          | 1          |
| COGR           | 23         | 8          | 12         | 5          | 17         | 5          | 11         | 14         | 6          | 9          | 11         |
| COHA           |            |            |            |            | 1          |            |            |            |            | 1          |            |
| COYE           | 2          |            |            | 4          |            |            | 1          |            | 3          |            | 1          |
| DOWO           | 2          | 1          | 1          | 1          |            |            | 2          | 1          | 4          | 1          | 1          |
| EAKI           | 18         | 12         | 7          | 2          | 9          | 3          | 6          | 8          | 2          | 3          | 7          |
| EAWP           | 8          | 6          | 8          | 6          | 9          | 7          | 2          | 2          |            |            | 5          |
| EUST           | 52         | 39         | 8          | 44         | 9          | 46         | 18         | 18         | 4          | 5          | 24         |
| GADW           | 16         |            | *          | 2          |            |            | *          | 2          | 1          | 1          | 2          |
| GBHE           |            |            |            |            |            |            | *          |            |            |            |            |
| GCFL           |            |            |            |            |            | 1          |            | 1          |            |            |            |
| GRCA           | 16         | 21         | 16         | 21         | 12         | 18         | 22         | 18         | 33         | 16         | 19         |
| HOFI           | 1          |            |            |            |            |            |            |            |            |            |            |
| HOWR           |            |            | 2          | 1          |            | 1          |            | 1          |            | 1          | 1          |
| KILL           |            | 2          | 5          | 4          | 5          | 2          | 7          |            | 2          | 2          | 3          |
| LEFL           | 11         | 8          | 10         | 4          | 5          | 1          | 3          | 6          | 7          | 1          | 6          |
| MALL           |            | *          | *          | 2          |            |            | 5          | 1          | 11         | *          | 2          |
| MODO           |            |            | 3          |            |            | 1          | 2          | 1          |            |            | 1          |
| NOCA           | 1          | 2          | 5          | 3          | 3          | 10         | 21         | 17         | 4          | 7          | 7          |
| NOFL           | 2          |            |            |            |            |            | 2          | 4          |            |            | 1          |
| NOMO           |            |            |            | 1          | 1          |            | 1          |            |            |            |            |
| NRWS           | 14         | *          | 4          | *          | 9          | 10         | 5          | 7          | 6          | 5          | 6          |
| OROR           |            | 1          | 1          | 1          |            | 2          | 2          | 5          | 1          |            | 1          |
| RBNU           |            |            |            |            |            | 1          |            |            |            |            |            |
| REVI           |            |            |            | 1          |            |            |            |            |            |            |            |
| RWBL           | 244        | 295        | 265        | 276        | 247        | 192        | 214        | 316        | 215        | 237        | 250        |
| SAVS           |            |            |            |            |            | 1          |            |            |            |            |            |
| SOSP           | 46         | 50         | 66         | 47         | 51         | 59         | 57         | 102        | 93         | 81         | 65         |
| SPSA           | 4          | 2          | 1          | 5          | 7          | 2          | 2          | 1          | 8          | 2          | 3          |
| TEWA           |            |            |            |            |            | 1          |            |            |            |            |            |
| TRES           | 24         | 11         | 25         | 30         | 52         | 41         | 54         | 37         | 47         | 46         | 37         |
| TRFL           |            |            |            | 2          |            |            | 2          |            | 2          |            | 1          |
| WAVI           | 39         | 50         | 53         | 46         | 32         | 46         | 27         | 44         | 40         | 29         | 41         |
| WIFL           | 25         | 16         | 17         | 20         | 18         | 16         | 27         | 24         | 15         | 10         | 19         |
| YEWA           | 168        | 136        | 146        | 166        | 155        | 169        | 181        | 201        | 177        | 168        | 167        |
| <b>Birds</b>   | <b>913</b> | <b>862</b> | <b>783</b> | <b>816</b> | <b>783</b> | <b>898</b> | <b>840</b> | <b>979</b> | <b>830</b> | <b>775</b> | <b>848</b> |
| <b>Species</b> | <b>30</b>  | <b>28</b>  | <b>34</b>  | <b>37</b>  | <b>29</b>  | <b>32</b>  | <b>38</b>  | <b>32</b>  | <b>35</b>  | <b>32</b>  | <b>33</b>  |

\* Species observed beyond 100 metres and/or flying over



The total number of birds recorded at all VCP stations was 775, the lowest of the past 10 years. Only Chimney Swift and Cliff Swallow exceeded the average count for the most recent 10 years. Cliff Swallow sightings on VCP counts have been increasing since the species first began nesting on the Nature Centre in 2018. (Prior to 2015, swallows were recorded differently by different project participants during the VCP counts, with the result that swallow numbers in Table 3.2 are somewhat understated for the years 2010 – 2014.)

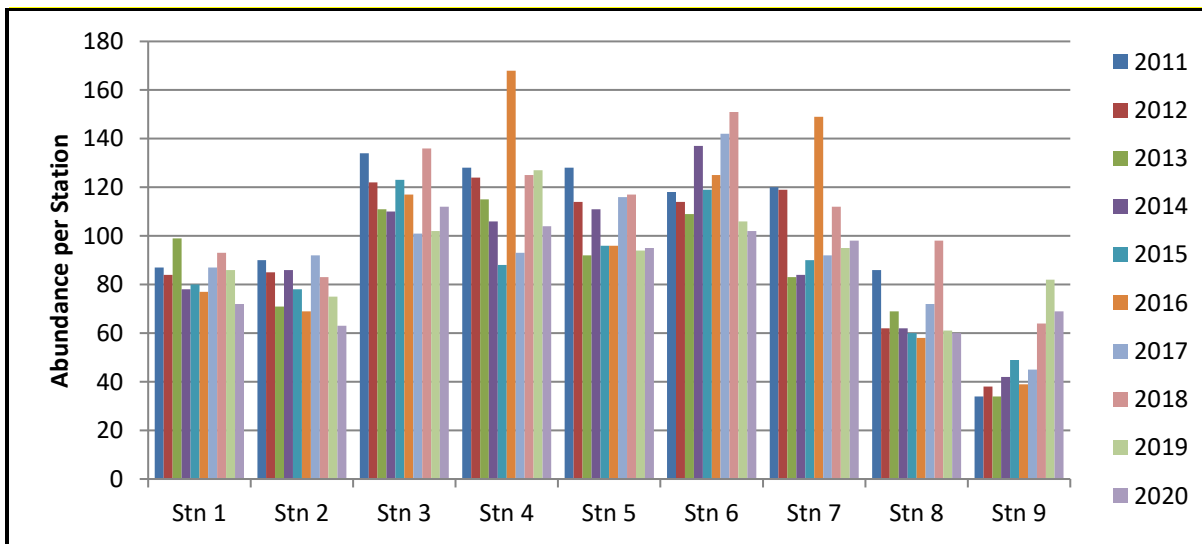
A summary of abundance per species detected by VCP counts (<100 meters) is presented in Table 3.2. Some of the unusually high numbers (e.g., 106 Bank Swallows in 2016, 68 Barn Swallows in 2018 and 78 Barn Swallows in 2020) are attributable to one or a few large flocks recorded in one or more of the visits. The higher than usual number of Mallards in 2019 is a result of the area around Station 9 becoming more open and permitting a view of Embayment C. As shown in Table 3.2, 32 species were detected for all counts in 2020, slightly below the average of 33 species for the past 10 years.

Points worth noting about the VCP observations include:

- The number of Brown-headed Cowbirds observed continues to be much lower than the numbers observed in earlier years of the project, which corresponds to the lower rate of nest parasitism by these birds (see Section 3.2.2.6.).
- Since the nests of Song Sparrows are very difficult to find, this species is recorded much more frequently on VCP counts than the number of nests would suggest.
- Cedar Waxwing nests are generally more numerous than VCP sightings as the waxwings are late nesters and are not present in large numbers when VCP counts are conducted.
- Eastern Kingbird VCP sightings are always lower than the number of nests would suggest because very few VCP stations are close to kingbirds' preferred habitat. Similarly, VCP sightings of Red-winged Blackbirds and Yellow Warblers have become fewer than the number of their nests as the growth in the number of nests has largely occurred in areas separate from the VCP locations.
- The number of birds recorded each year on VCP counts for many of the species is largely a matter of chance since only five minutes are spent at each station. (Note that the sequence of stations visited is intentionally different for each of the six VCP counts, so that the possibility of observing, or not observing, certain species at certain times is minimized.)

As can be seen in Figure 3.B below, with the exception of Station 9, the total number of birds recorded at each VCP station was below the most recent 10-year average for that station, particularly for Stations 1 (85% of average), 2 (80%), 6 (83%) and 8 (87%). These four stations have seen significant growth in thick adjacent vegetation in recent years, which would have contributed to the decrease in bird activity. In keeping with the significant decrease in vegetation at Station 9, the number of birds recorded there has increased dramatically the last three years (2020 being 139% of the most recent 10-year average).

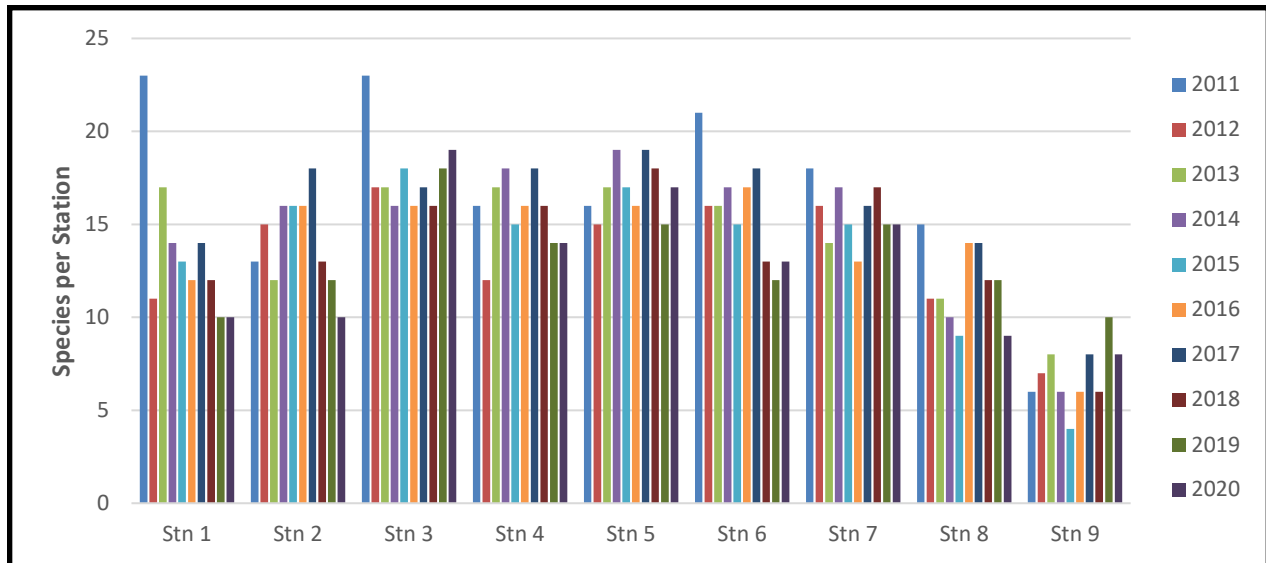
See Figure 3.A and Appendix A for station locations.



**Figure 3.B. Total Bird Abundance per VCP Station**

Species richness, or diversity, is shown in Figure 3.C below. In 2020, the results for diversity were very similar to those for abundance. Diversity was significantly lower than the most recent 10-year average for Stations 1 (74% of average), 2 (71%), 6 (82%) and 8 (77%). Again, similar to the abundance experience, Station 9 diversity was considerably higher (116%) than its most recent 10-year average. As described above, Stations 1, 2, 6 and 8 have all experienced thicker vegetation in the past few years, which helps to account for the decrease in diversity. The vegetation around Station 9 has become much more bird friendly as it became more open, and the other stations were all within 10% of the 10-year average for the station.

Both the bird abundance and species diversity at Stations 8 and 9 suffer in comparison to the other stations. This is due at Station 8 to its dense vegetation and nesting Double-crested Cormorants and Black-crowned Night-Herons. Despite its improving habitat, Station 9 is still hampered by lack of biodiversity caused by the cormorants.



**Figure 3.C. Species Richness per VCP Station**

### 3.2.2 Nest Searching and Monitoring Results

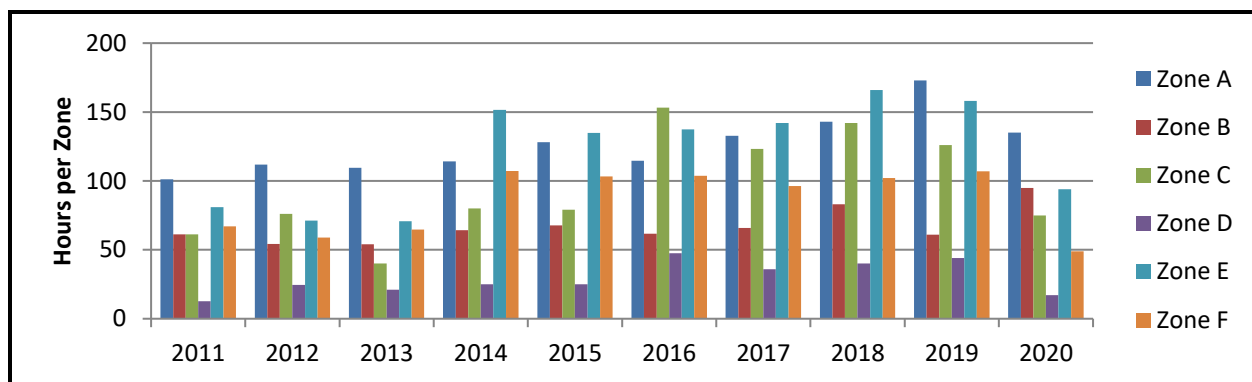
In 2020, the arrival of the coronavirus COVID-19 resulted in the Province of Ontario introducing a provincial lockdown at the end of March. This meant that nest searching was not able to commence until the lockdown was lifted in late May, roughly a month after the normal start. Nevertheless, six volunteers still contributed a total of 555 hours to the project. Although less than in previous years due to the late start, this level of participation still reflects recent years' volunteer experience, which has been a major contributor to the number of nests being found.

Figure 3.D shows the breakdown of effort per zone. Due primarily to its lack of suitable habitat, Zone D continues to have the fewest number of nests by far, with the result that little monitoring time is required in that zone, as is reflected in the lowest level of effort expended.

See Appendix B for a map of the TTP breeding bird survey zones.



**Red-winged Blackbird Nest (J. Alvo)**



**Figure 3.D. Nest Searching Effort per Zone from 2011 to 2020 (hours)**

In 2020, 918 nests were discovered, higher than the most recent 10-year average of 899 despite the late start in the spring. Of the total, 564 nests were monitored and reported to Project Nestwatch (see Tables 3.4 and 3.5).

The reasons for the continued high number of nests compared to the early years of the project include: (a) extensive tree and shrub planting by TRCA over recent years; (b) the natural spreading and maturation of appropriate breeding habitat in some areas, particularly dogwood, honeysuckle and reeds, which represent the most common hosts for Red-winged Blackbirds and Yellow Warblers, the most prolific non-colonial-waterbird nesters at TTP; (c) the ever-increasing nest-searching skills in the project participants; and (d) the discovery of areas rich in nests that had not been explored until recent years.

Table 3.3 lists those species realizing new nest highs for the project in 2020.

**Table 3.3. Species Reaching New Nest Highs in 2020**

| Species           | Increase in Number of Nests over Previous High |
|-------------------|--|
| Barn Swallow      | 6%   |
| Orchard Oriole    | 25%  |
| Willow Flycatcher | 5%   |



**Least Bittern Nest (M. Dupuis-Desormeaux)**



**Blue-Gray Gnatcatcher Nest (D. Johnston)**

**Table 3.4. Total Nests by Species from 2011 to 2020**

| Species      | 2011       | 2012       | 2013       | 2014       | 2015       | 2016         | 2017         | 2018         | 2019         | 2020       | AVG        |
|--------------|------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|------------|------------|
| AMGO         | 23         | 13         | 17         | 18         | 16         | 23           | 26           | 14           | 13           | 19         | 16         |
| AMRO         | 115        | 93         | 93         | 89         | 78         | 113          | 125          | 104          | 122          | 106        | 104        |
| AMWO         | 1          | 1          |            |            | 1          |              | 1            |              |              |            |            |
| BANS         | 1          |            |            |            |            | 15           | 16           |              | 1            |            | 3          |
| BAOR         | 17         | 16         | 15         | 35         | 17         | 18           | 24           | 16           | 13           | 14         | 19         |
| BARS         | 4          | 11         | 26         | 31         | 24         | 29           | 49           | 51           | 51           | 54         | 33         |
| BBCU         |            |            |            | 1          |            | 1            |              |              |              |            |            |
| BCCH         |            | 1          | 2          | 1          |            | 2            | 2            |              | 2            |            | 1          |
| BEKI         |            |            |            | 1          |            |              |              |              |              |            |            |
| BGGN         |            | 2          | 4          | 6          | 7          | 6            | 4            | 4            | 4            | 2          | 4          |
| BRTH         |            | 2          | 1          | 2          | 2          |              | 2            | 1            |              | 1          | 1          |
| CANV         |            |            |            | 1          |            |              |              |              |              |            |            |
| CEDW         | 21         | 23         | 19         | 37         | 40         | 49           | 33           | 35           | 18           | 36         | 31         |
| CLSW         |            |            |            |            |            |              |              | 24           | 11           | 13         | 5          |
| COGR         | 4          | 2          | 3          | 2          | 5          | 5            | 1            | 7            | 6            | 4          | 4          |
| DOWO         | 1          | 1          | 1          |            | 1          | 2            | 3            | 1            |              | 1          | 1          |
| EAKI         | 12         | 27         | 21         | 20         | 27         | 24           | 25           | 21           | 14           | 21         | 21         |
| EAPH         |            |            |            |            |            |              |              |              |              | 1          |            |
| EAWP         | 1          | 1          |            | 1          |            |              |              |              |              |            |            |
| EUST         | 4          | 5          | 8          | 4          | 5          | 3            | 1            | 2            |              | 2          | 3          |
| GADW         | 3          | 4          | 1          | 2          | 1          | 1            |              |              |              | 1          | 1          |
| GRCA         | 16         | 21         | 24         | 34         | 30         | 46           | 33           | 21           | 35           | 20         | 28         |
| HOFI         |            |            |            |            |            |              |              | 2            | 3            |            | 1          |
| HOWR         | 1          |            |            |            |            |              | 1            | 3            | 2            | 3          | 1          |
| KILL         | 2          | 4          | 3          | 4          | 3          | 4            | 5            | 1            |              | 1          | 3          |
| LEBI         |            |            |            |            |            |              | 2            |              |              | 1          |            |
| LEFL         |            |            |            | 3          | 2          |              |              | 1            |              | 2          | 1          |
| MALL         | 6          | 9          | 8          | 5          | 5          | 8            | 5            | 2            | 6            | 3          | 6          |
| MODO         |            | 1          |            |            |            | 1            | 1            | 3            |              |            | 1          |
| NOCA         |            | 1          | 1          | 3          | 2          | 4            | 14           | 12           | 5            | 6          | 5          |
| NOFL         | 3          |            |            | 1          |            | 1            | 5            | 3            | 2            | 1          | 2          |
| NOMO         |            |            |            |            |            |              |              | 2            |              |            |            |
| NRWS         | 1          |            |            | 1          | 2          |              | 2            |              | 5            |            | 1          |
| OROR         | 1          | 2          | 3          | 2          | 1          | 2            | 1            | 3            | 4            | 5          | 2          |
| RWBL         | 232        | 268        | 310        | 361        | 404        | 356          | 464          | 418          | 357          | 287        | 346        |
| SOSP         | 2          | 3          | 2          | 8          | 10         | 7            | 4            | 10           | 4            | 8          | 6          |
| SPSA         | 4          | 5          | 6          | 3          | 6          | 3            | 5            | 4            | 2            | 2          | 4          |
| TRES         | 5          | 5          | 12         | 13         | 20         | 20           | 28           | 15           | 18           | 20         | 16         |
| TRUS         |            |            |            | 1          | 1          | 1            | 1            | 2            | 2            | 2          | 1          |
| VIRA         |            |            |            |            |            |              |              |              | 2            |            |            |
| WAVI         | 15         | 12         | 13         | 31         | 12         | 18           | 21           | 18           | 19           | 27         | 19         |
| WIFL         | 12         | 14         | 13         | 18         | 15         | 19           | 18           | 15           | 19           | 20         | 16         |
| WODU         |            |            |            |            |            |              |              | 1            |              |            |            |
| YEWA         | 88         | 86         | 127        | 164        | 189        | 237          | 253          | 211          | 320          | 235        | 191        |
| <b>Total</b> | <b>595</b> | <b>633</b> | <b>733</b> | <b>902</b> | <b>926</b> | <b>1,018</b> | <b>1,175</b> | <b>1,027</b> | <b>1,060</b> | <b>918</b> | <b>899</b> |

|                                |             |             |             |             |             |             |             |             |             |             |             |
|--------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Total Effort (hours)</b>    | <b>385</b>  | <b>397</b>  | <b>360</b>  | <b>542</b>  | <b>538</b>  | <b>618</b>  | <b>596</b>  | <b>676</b>  | <b>669</b>  | <b>555</b>  | <b>534</b>  |
| <b>Efficiency (nests/hour)</b> | <b>1.54</b> | <b>1.59</b> | <b>2.04</b> | <b>1.67</b> | <b>1.72</b> | <b>1.65</b> | <b>1.97</b> | <b>1.52</b> | <b>1.59</b> | <b>1.65</b> | <b>1.68</b> |

Note: A Trumpeter Swan nest was observed in 2014, but not included in these reports until 2015 when another nest was observed and reported to NestWatch. The unreported 2014 nest has been included in subsequent reports for completeness. The Trumpeter Swan is the species of swan native to the Toronto region. Nearly extirpated in the early-mid 1900s, recovery efforts in southern Ontario are seeing success. From 2013 through 2017, there was one nest annually at TTP, fledging between five and seven cygnets. For the last three years, there were two successful nests.



The following species nesting in 2020 are noteworthy:

- Barn Swallows (listed as Threatened in Ontario) continued to take advantage of the buildings at TTP with appropriate overhangs to reach a new high nest count of 54 for the project.
- Eastern Phoebe nested at TTP for the first time, making it the 72<sup>nd</sup> confirmed species to breed at TTP.
- Gray Catbird nests were only 71% of the most recent 10-year average. There is no apparent reason for this, but it is interesting to note that the lower number in 2020 follows the flood of 2019, just as the dip in number in 2018 followed the flood in 2017.
- Orchard Orioles, who announce themselves with their distinctive song, continue to build their presence at TTP, reaching a new high of five for the project. This is a species whose nests can be difficult to locate.
- The 27 Warbling Vireo nests came close to matching the previous high (31 in 2014) and were 42% above the average for the past 10 years. These tiny nests, almost always high in the trees, are most easily found when the male is singing on the nest. Without the singing, they can be extremely difficult to locate.
- The late start to nest searching in 2020 meant that the early-nesting species of American Robin, Red-winged Blackbirds and, to a lesser extent, Yellow Warblers achieved lower numbers than would have been realized with a normal start at the end of April. This was particularly applicable to Red-winged Blackbirds, whose nests were notably scarce in the southern areas of TTP for unexplained reasons.

Nest-searching efficiency figures (Table 3.4) can be misleading, as they are highly dependent on an area's vegetation (e.g., forest versus shrubland), the species found in the dominant habitat (e.g., shrub nesters versus high tree nesters) and the time spent on monitoring as opposed to finding nests. The efficiency realized in 2020 was slightly below the 10-year average, but an increase from 2018 and 2019 as newer volunteers continue to gain experience.

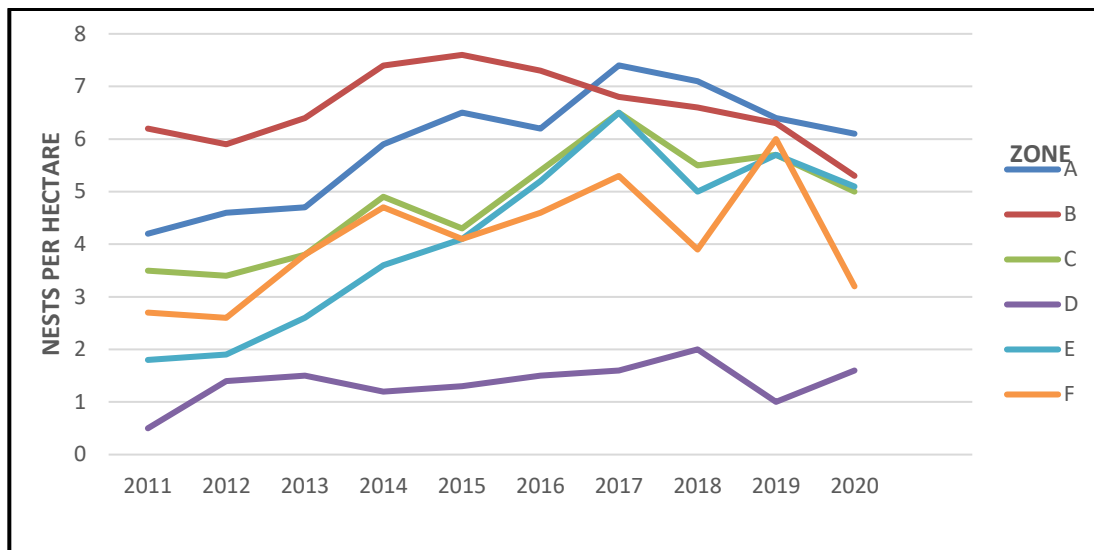


Young Cliff Swallow in Nest (J. Alvo)



Least Flycatcher Nest (D. Johnston)

### 3.2.2.1 Changes in Nest Density for Each Zone



**Figure 3.E Nest Density by Zone**

In Figure 3.E, the nest density for each zone is determined by the number of nests per hectare. (In this chart, the number of hectares for Zone F has been reduced to eliminate the area occupied by the colonial waterbirds.) A map of the zones can be found in Appendix B.

- The nest density in 2020 continued to converge for Zones A, B, C and E, although at a lower level due to the late start to nest searching. All four zones achieved a density of 5 – 6 nests per hectare.
- Although nest density for Zone F was in line with Zones A, B, C and E in 2019, the density in F decreased significantly in 2020 to 3 nests per hectare. The two species which normally represent the most numerous shrub nesters, i.e., Red-winged Blackbird and Yellow Warbler, all experienced a significant decrease in nests in F in 2020. There is no obvious explanation as to why this would be. In particular, a number of areas which were home to several Red-winged Blackbird nests in previous years saw few or none in 2020. A partial explanation might lie in the extensive flooding of 2017 and 2019 in F. This resulted in several trees dying while many dogwoods and willows flourished, creating very dense shrubbery in some areas, possibly discouraging birds looking to nest. It will be interesting to see what 2021 holds for this zone.
- Surprisingly, given the late start in the spring, Zone D experienced a modest increase in nest density, going from one nest per hectare in 2019 to 1.5 in 2020. The vegetation in this zone has suffered in recent years from the Cell 2 construction and storm damage along the eastern side of TTP, but Red-winged Blackbirds have increased nesting in the cattails planted in Cells 1 and 2 by TRCA, even fastening their nests to the fences used to protect the plants. This increase is an encouraging sign.

### 3.2.2.2 Nest Productivity

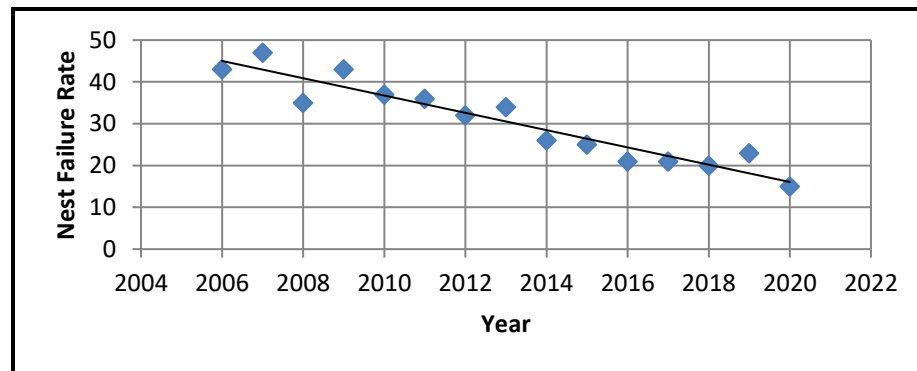
In 2020, 564 nests were recorded online with Project NestWatch (Table 3.5). In terms of nest productivity, of the 399 nests which had known outcomes, 61 (or 15%) failed, while 338 (or 85%) were successful in fledging young. The remaining 165 nests which were monitored and reported to NestWatch, but had unknown outcomes, represented 29% of the nests reported to NestWatch. (The nests with unknown outcomes included all ground nests from Gadwall, Killdeer, Mallard, Song Sparrow and Spotted Sandpiper, which, commencing in 2012, were not monitored once found.)

As can be seen in Table 3.5, the 2020 nest failure rate of 15% is the lowest of the past 10 years. A possible contributing factor to this is the late start to nest searching in 2020, as the early nests that were missed may have been more prone to predation due to less leaf cover. Of the 61 failures, 17 occurred at the egg stage, eight at the young stage and 36 at either the egg or the young stage.

**Table 3.5. Nest Productivity from 2011 to 2020**

|   | 2011 | 2012 | 2013 | 2014 | 2015 | 2016  | 2017  | 2018  | 2019  | 2020 | AVG |
|---|------|------|------|------|------|-------|-------|-------|-------|------|-----|
| Nests discovered                        | 595  | 633  | 733  | 902  | 926  | 1,018 | 1,175 | 1,027 | 1,060 | 918  | 899 |
| Nests monitored & reported to NestWatch | 430  | 464  | 549  | 690  | 657  | 702   | 801   | 663   | 736   | 564  | 626 |
| • Unknown outcome                       | 155  | 213  | 266  | 232  | 226  | 211   | 301   | 244   | 243   | 165  | 226 |
| • Known outcome                         | 275  | 251  | 283  | 458  | 431  | 491   | 500   | 421   | 493   | 399  | 400 |
| ➤ Successful                            | 177  | 171  | 186  | 338  | 323  | 388   | 394   | 335   | 382   | 338  | 303 |
| ➤ Failed                                | 98   | 80   | 97   | 120  | 108  | 103   | 106   | 86    | 111   | 61   | 97  |
| ➤ <b>Failure rate</b>                   | 36%  | 32%  | 34%  | 26%  | 25%  | 21%   | 21%   | 20%   | 23%   | 15%  | 24% |

Figure 3.F demonstrates how the known nest failure rate decreased significantly in 2020. Since the rate was relatively constant at about 20% for the previous four years, it will be interesting to see whether 2020 was an anomaly or not.

**Figure 3.F. Known Nest Failure Rate Trend**

### 3.2.2.3 Nest Predation in 2020

Nest predation continues to be the most common cause of nest failure. Possible predators at TTP, in addition to other bird species, include raccoons, gartersnakes, mink, coyotes and, rarely, squirrels. Of the 61 failed nests noted in Table 3.5, a total of 43 nests were predated, representing 11% of nests with a known outcome (down from 15% in 2019). Eight species had at least one nest predated in 2020, with the most common being Red-winged Blackbird at 20% of nests with a known outcome, Yellow Warbler at 16%, Willow Flycatcher at 8%, and American Robin at 5%. These four species were also the most commonly predated in 2019.

### 3.2.2.4 Species Detected During the Breeding Season from all Studies

As can be seen in Table 3.6, the 45 confirmed breeders in 2020 are the highest of the last 10 years, while the 76 total species detected in 2020 are the second highest of the last 10 years. These numbers are a good reflection of the general health of TTP for a diversity of species.

The first section of Table 3.6 provides a breakdown of the 45 confirmed breeders in 2020. Nests of 35 species of landbirds, including Brown-headed Cowbird, were found in 2020. To this were added three other species confirmed as breeders by the presence of recently fledged young: American Woodcock, Canvasback and Wood Duck. When the five confirmed colonial waterbird nesters (i.e., Black-crowned Night-Heron, Common Tern, Double-crested Cormorant, Great Egret and Ring-billed Gull), as well as Canada Goose and Mute Swan, are added, the total becomes 45 species nesting at TTP in 2020.

**Table 3.6. Summary of Species Detected During Breeding Season from All Studies**

|   | 2011      | 2012      | 2013      | 2014      | 2015      | 2016      | 2017      | 2018      | 2019      | 2020      | AVG       |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Breeding Species:                           |           |           |           |           |           |           |           |           |           |           |           |
| Colonial Waterbirds                         | 6         | 7         | 7         | 7         | 5         | 7         | 5         | 6         | 5         | 5         | 6         |
| Managed Waterfowl                           | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         |
| Sub-total                                   | 8         | 9         | 9         | 9         | 7         | 9         | 7         | 8         | 7         | 7         | 8         |
| Landbirds                                   | 28        | 29        | 26        | 32        | 29        | 30        | 33        | 33        | 29        | 35        | 30        |
| Nests confirmed by young                    | 0         | 2         | 5         | 2         | 3         | 0         | 1         | 3         | 4         | 3         | 2         |
| Sub-total                                   | 28        | 31        | 31        | 34        | 32        | 30        | 34        | 36        | 33        | 38        | 33        |
| Confirmed Breeding Species (total of above) | 36        | 40        | 40        | 43        | 39        | 39        | 41        | 44        | 40        | 45        | 41        |
| Probable Breeding Species                   | 4         | 3         | 5         | 5         | 3         | 4         | 3         | 2         | 6         | 2         | 4         |
| Possible Breeding Species                   | 3         | 6         | 4         | 8         | 14        | 11        | 8         | 5         | 4         | 7         | 7         |
| Other Species Observed                      | 14        | 17        | 11        | 8         | 15        | 12        | 17        | 20        | 29        | 22        | 17        |
| <b>Total Species Detected</b>               | <b>57</b> | <b>66</b> | <b>60</b> | <b>64</b> | <b>71</b> | <b>66</b> | <b>69</b> | <b>71</b> | <b>79</b> | <b>76</b> | <b>68</b> |

### 3.2.2.5 Examples of Birds Reusing and Recycling Nests or Nest Material

Many species at TTP demonstrate the ability to reuse or recycle nests or nest material.

- The cavity-nesting Black-capped Chickadee, House Wren, Bank Swallow, Tree Swallow and Northern Rough-winged Swallow all reuse old woodpecker holes, natural cavities or nest boxes at TTP. Woodpeckers normally create a new hole each year, but occasionally reuse old holes or nest boxes.
- As reported in 2019's report, a Red-winged Blackbird nest containing Gray Catbird eggs was discovered. This was the second such discovery during the project.
- In an earlier year of the project, a Yellow Warbler pair was observed reusing its nest after successfully fledging its first brood.
- On another occasion in an earlier year of the project, a Cedar Waxwing (a late nesting species) was seen recycling nest material from a Baltimore Oriole nest which was no longer in use.

Examples noted in 2020:

- Eastern Phoebe constructed their nest using a previous year's Barn Swallow nest as a base.
- Similarly, an American Goldfinch nest was built on top of a finished Yellow Warbler nest.
- A female Yellow Warbler was observed visiting an active Eastern Kingbird nest several times to steal nest material from the bottom of the nest when the kingbirds were absent.



**Left: Eastern Phoebe nest built on top of Barn Swallow nest (l. Sturdee)**



**Right: American Goldfinch nest built on top of Yellow Warbler nest (l. Sturdee)**



### 3.2.2.6 Parasitism by Brown-headed Cowbirds

Brown-headed Cowbird parasitism is a major issue for small landbird populations in more open habitats and forest fragments. In 2020, a total of 11 nests of three species were parasitized by Brown-headed Cowbirds (Table 3.7). (For purposes of this report, a nest was considered parasitized if a cowbird egg was observed, regardless of what happened to that egg.) The parasitism rates in Table 3.7 were calculated as the ratio of parasitized nests to the total parasitized and non-parasitized nests. (Note that nests of parasitized species were not included in this table unless evidence of parasitism, or lack thereof, could be confirmed.)

**Table 3.7. Brown-headed Cowbird Parasitism Data and Rates from 2011 to 2020.**

| Brown-headed Cowbird Parasitism |                     |                    |                |              |             |                   |                      |              |                   |                |        |
|---------------------------------|---------------------|--------------------|----------------|--------------|-------------|-------------------|----------------------|--------------|-------------------|----------------|--------|
|                                 |                     | American Goldfinch | American Robin | Gray Catbird | House Finch | Northern Cardinal | Red-winged Blackbird | Song Sparrow | Willow Flycatcher | Yellow Warbler | Totals |
| 2011                            | Nests checked*      | 13                 | 26             | 16           | 0           | 0                 | 81                   | 2            | 11                | 36             | 185    |
|                                 | No. parasitized     | 2                  | 0              | 0            | 0           | 0                 | 18                   | 0            | 0                 | 10             | 30     |
|                                 | % parasitized       | 15%                | 0%             | 0%           | 0%          | 0%                | 22%                  | 0%           | 0%                | 28%            | 16%    |
| 2012                            | Nests checked*      | 8                  | 17             | 19           | 0           | 1                 | 77                   | 2            | 8                 | 33             | 165    |
|                                 | No. parasitized     | 0                  | 0              | 0            | 0           | 0                 | 30                   | 0            | 2                 | 7              | 39     |
|                                 | % parasitized       | 0%                 | 0%             | 0%           | 0%          | 0%                | 39%                  | 0%           | 25%               | 21%            | 24%    |
| 2013                            | Nests checked*      | 9                  | 26             | 20           | 0           | 1                 | 145                  | 2            | 11                | 75             | 289    |
|                                 | No. parasitized     | 1                  | 1              | 0            | 0           | 0                 | 33                   | 0            | 1                 | 22             | 58     |
|                                 | % parasitized       | 11%                | 4%             | 0%           | 0%          | 0%                | 23%                  | 0%           | 9%                | 29%            | 20%    |
| 2014                            | Nests checked*      | 10                 | 27             | 27           | 0           | 3                 | 134                  | 6            | 13                | 96             | 316    |
|                                 | No. parasitized     | 0                  | 0              | 0            | 0           | 0                 | 22                   | 0            | 2                 | 11             | 35     |
|                                 | % parasitized       | 0%                 | 0%             | 0%           | 0%          | 0%                | 16%                  | 0%           | 15%               | 11%            | 11%    |
| 2015                            | Nests checked*      | 5                  | 18             | 21           | 0           | 2                 | 181                  | 7            | 7                 | 82             | 323    |
|                                 | No. parasitized     | 0                  | 0              | 1            | 0           | 0                 | 27                   | 1            | 0                 | 8              | 37     |
|                                 | % parasitized       | 0%                 | 0%             | 5%           | 0%          | 0%                | 15%                  | 14%          | 0%                | 10%            | 11%    |
| 2016                            | Nests checked*      | 7                  | 38             | 18           | 0           | 4                 | 133                  | 3            | 12                | 123            | 338    |
|                                 | No. parasitized     | 0                  | 0              | 1            | 0           | 0                 | 26                   | 0            | 1                 | 28             | 56     |
|                                 | % parasitized       | 0%                 | 0%             | 6%           | 0%          | 0%                | 20%                  | 0%           | 8%                | 23%            | 17%    |
| 2017                            | Nests checked*      | 12                 | 45             | 20           | 0           | 7                 | 182                  | 4            | 12                | 128            | 410    |
|                                 | No. parasitized     | 1                  | 0              | 0            | 0           | 1                 | 24                   | 1            | 1                 | 12             | 40     |
|                                 | % parasitized       | 8%                 | 0%             | 0%           | 0%          | 14%               | 13%                  | 25%          | 8%                | 9%             | 10%    |
| 2018                            | Nests checked*      | 6                  | 34             | 10           | 2           | 6                 | 153                  | 6            | 9                 | 73             | 299    |
|                                 | No. parasitized     | 0                  | 0              | 0            | 1           | 1                 | 14                   | 3            | 0                 | 10             | 29     |
|                                 | % parasitized       | 0%                 | 0%             | 0%           | 50%         | 17%               | 9%                   | 50%          | 0%                | 14%            | 10%    |
| 2019                            | Nests checked*      | 5                  | 38             | 17           | 1           | 4                 | 135                  | 3            | 13                | 135            | 351    |
|                                 | No. parasitized     | 0                  | 0              | 0            | 0           | 0                 | 14                   | 0            | 1                 | 4              | 19     |
|                                 | % parasitized       | 0%                 | 0%             | 0%           | 0%          | 0%                | 10%                  | 0%           | 8%                | 3%             | 5%     |
| 2020                            | Nests checked*      | 11                 | 17             | 9            | 0           | 2                 | 99                   | 5            | 12                | 83             | 238    |
|                                 | No. parasitized     | 0                  | 0              | 0            | 0           | 0                 | 4                    | 0            | 1                 | 6              | 11     |
|                                 | % parasitized       | 0%                 | 0%             | 0%           | 0%          | 0%                | 4%                   | 0%           | 8%                | 7%             | 5%     |
| AVG                             | Avg nests checked * | 8.6                | 28.6           | 17.7         | 0.3         | 3.0               | 132.0                | 4.0          | 10.8              | 86.4           | 291.4  |
|                                 | Avg parasitized     | 0.4                | 0.1            | 0.2          | 0.1         | 0.2               | 21.2                 | 0.5          | 0.9               | 11.8           | 35.4   |
|                                 | Avg % parasitized   | 4.7%               | 0.3%           | 1.1%         | 33.3%       | 6.7%              | 16.1%                | 12.5%        | 8.3%              | 13.7%          | 12.1%  |

\* Nests checked includes only those nests where parasitism could be observed and/or monitored; therefore, not all nests on site are included in this total

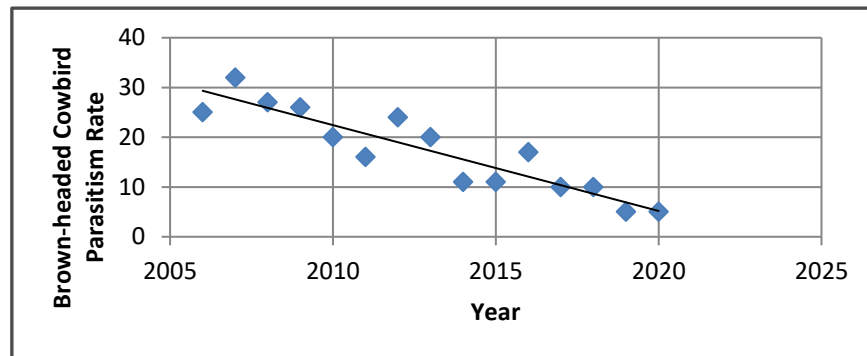
The overall rate of parasitism in 2020 of 5% matched that of 2019, the lowest rate experienced during this project. Red-winged Blackbirds, the most heavily parasitized species at TTP in terms of total number of nests parasitized over the past 10 years, reached its lowest rate of parasitism at 4% in 2020.



**Single Brown-headed Cowbird Egg in Yellow Warbler Nest – It appears that the warblers may have started to bury the cowbird egg (D. Johnston)**

Based on the average rate of parasitism over the past 10 years, Red-winged Blackbirds and Yellow Warblers continue to be the most heavily parasitized species, although the rate of parasitism for 2017 - 2020 clearly shows a trend to lower rates (see Table 3.7). (House Finch shows a higher average rate, but this is based on only three nests.)

The overall parasitism rate in 2020 of 5% continued the 10-year downward trend, as demonstrated in Figure 3.G. In line with this, the number of cowbirds recorded on VCP counts has been lower starting in 2014. As mentioned in earlier reports, possible explanations for this downward trend include (i) a reduction in the cowbirds' preferred foraging habitat at TTP due to the increase in tall herbaceous vegetation, and (ii) an overall decline in cowbird populations in Ontario, with the exception of the Carolinian region, as noted in the Atlas of the Breeding Birds of Ontario, 2001-2005 (p. 602).



**Figure 3.G Brown-headed Cowbird Parasitism Rate Trend**

It should be noted that Table 3.7 above includes only the nine species where at least one instance of parasitism has been observed during the project. While it is not possible to monitor for parasitism in nests which are too high, no evidence of parasitism was confirmed for seven additional species which represented a total of 76 nests.

### 3.3 The Overall Picture in 2020

The most valuable aspect of this project will be its ability to reveal changes in breeding bird abundance and diversity over time at TTP. Breeding avifauna will respond to changes in habitat distribution, composition and structure due to natural succession and habitat creation. Although the most recent years have seen a few unexpected nests (e.g., Least Bittern, Virginia Rail), the breeding bird communities (i.e., non-colonial waterbirds and landbirds) are largely typical of early successional environments. Dominant species in the past 10 years of VCP counts include Red-winged Blackbird, Yellow Warbler and Song Sparrow, all of which require basic habitat conditions with a few fundamental components to thrive. The next most numerous species on VCP counts are Barn Swallow, Warbling Vireo and Tree Swallow, with the swallows being particularly significant due to the overall decrease in all swallow species in recent years.

Looking at the past 10 years of data, some conclusions and trends continue to emerge. As noted in previous reports, Bobolink, Eastern Meadowlark and Savannah Sparrow have virtually disappeared from both the VCP counts and confirmed nests, although there has actually never been a confirmed Bobolink nest at TTP. Herbaceous vegetation at TTP is becoming denser, which has an adverse effect on nesting suitability for these and other ground-nesting species.

From 2014 to 2018, the top three landbird nesters, Red-winged Blackbird, Yellow Warbler and American Robin, respectively represented approximately 40%, 20% and 10% of the total nests each year. There have naturally been years when the percentage for one or more of the three has varied somewhat, but not significantly. In 2019 and 2020, however, these ratios started to shift. American Robin still represents close to 10% of all nests in those two years, but Red-winged Blackbird has decreased to 34% in 2019 and 31% in 2020. Yellow Warbler, on the other hand, increased to 30% of all nests in 2019, but settled back to 25% in 2020, still significantly higher than the 20% experienced in the preceding years. Red-winged Blackbirds and Yellow Warblers both prefer to nest in shrubs, particularly dogwood and honeysuckle. Increases in both of these shrubs in recent years could help to explain the increase in Yellow Warbler nests but make the decrease in Red-winged Blackbird nests even more puzzling. It will be interesting to see how the number of nests of these two species evolves in future years.

With the addition of Eastern Phoebe in 2020, there are now 72 species confirmed to have bred at Tommy Thompson Park. This total is made up of the 48 species confirmed since the current project commenced, the seven colonial waterbirds described in Section 2 of this report (Black-crowned Night-Heron, Caspian Tern, Common Tern, Double-crested Cormorant, Great Egret, Herring Gull and Ring-billed Gull), the two managed waterfowl species also described in Section 2 (Canada Goose and Mute Swan), and the 15 species known to have bred at TTP before the commencement of the current project. Some of the 15 historical breeding records are unlikely to recur with any regularity, if at all, (e.g., Wilson’s Phalarope). A complete record of all bird species known to have bred at TTP is presented in Appendix C, Species Accounts.

Current habitat conditions remain appropriate for nesting by some additional species, so it is anticipated that the list of known breeding species may well continue to grow. Natural change, along with the habitat creation and restoration projects carried out by TRCA throughout TTP, such as the conversion of Cell 2 to marshland, are also expected to increase the variety of habitats suitable for species not yet on the confirmed breeders list.

It is always interesting to note the species detected during VCP counts, but for which breeding was not confirmed, versus those species not detected during VCP counts, but for which breeding was confirmed (Table 3.8). A variety of reasons exist to explain why a species could be recorded by one method, but not the other: (i) low abundance at TTP (e.g., Trumpeter Swan), (ii) secretive habits (e.g., Least Bittern), (iii) well-hidden nests, (iv) nests or normal habitat not located near VCP stations, and (v) nests not normally located at TTP (e.g., Chimney Swift).

**Table 3.8      Species Recorded Only by VCP Counts Versus Species Recorded Only By Nest**

| VCP-recorded Species With No Nest Found | Species With Nest But Not Recorded During VCP |
|---|---|
| American Redstart                       | Blue-gray Gnatcatcher                         |
| Chimney Swift                           | Brown Thrasher                                |
| Cooper’s Hawk                           | Eastern Phoebe                                |
|   | Least Bittern                                 |
|   | Mallard                                       |
|   | Northern Flicker                              |
|   | Orchard Oriole                                |
|   | Trumpeter Swan                                |

## 4. Acknowledgements

The colonial waterbird and managed waterfowl data were collected and presented by TRCA staff, who also produced all of the maps in the report, as well as providing valuable assistance in editing the report.

The landbird and non-colonial waterbird section of this report is the result of the ongoing efforts of several dedicated volunteers. The 2020 VCP observations were collected by Don Johnston and Ian Sturdee, and the volunteer contributions to the nest searching phase of the project in 2020 are enumerated in Table 3.9.

**Table 3.9 2020 Effort by Nest Searching Project Participants**

| <b>Name</b>            | <b>Total Hours</b> |
|------------------------|--------------------|
| Jack Alvo              | 89                 |
| Marc Dupuis-Desormeaux | 11                 |
| Lynne Freeman          | 92                 |
| Don Johnston           | 143                |
| Ian Sturdee            | 130                |
| Paul Xamin             | 92                 |
| <b>Total</b>           | <b>555</b>         |

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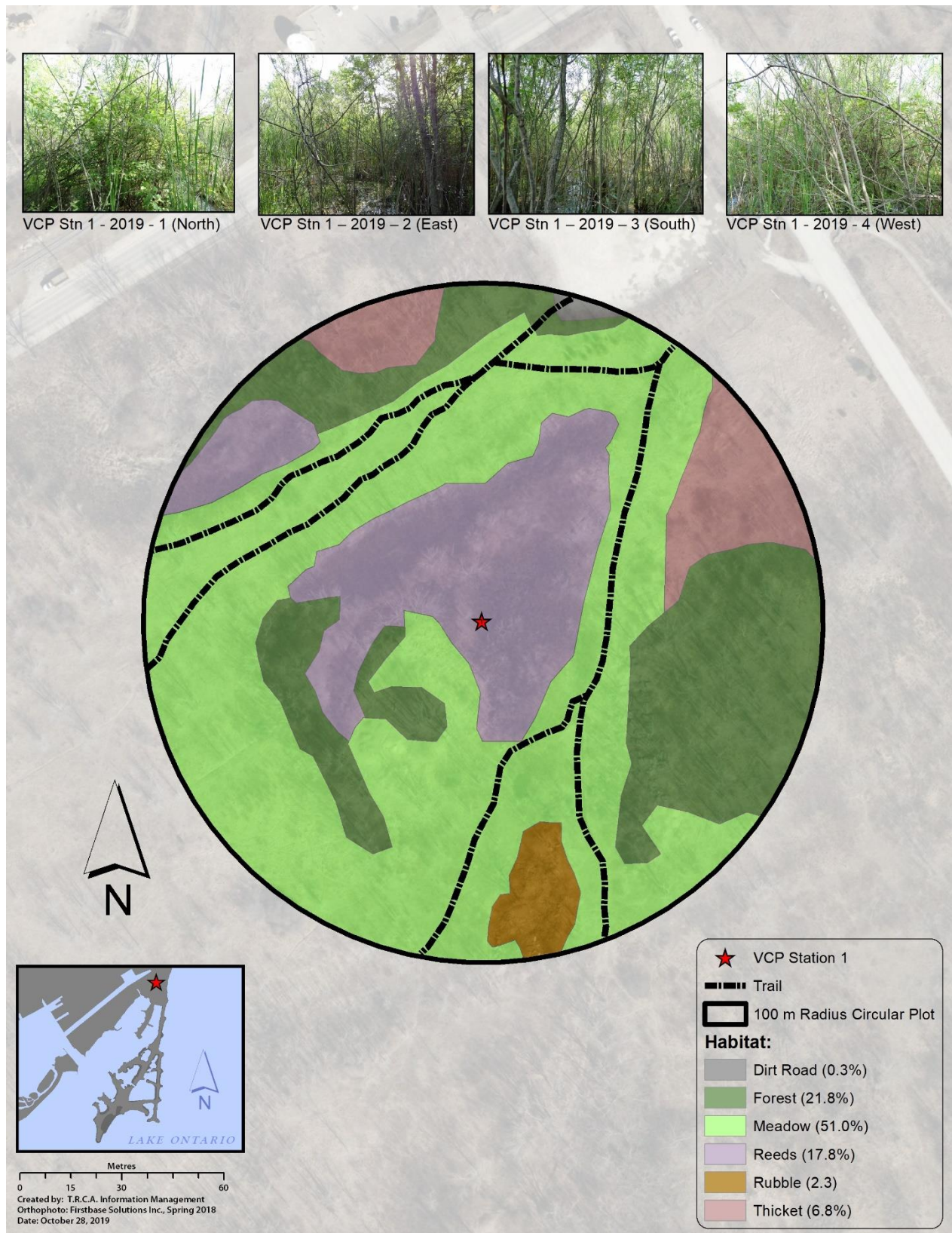
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**Appendices**

## Appendix A: Description of VCP Stations (Habitat Pictures and Maps)

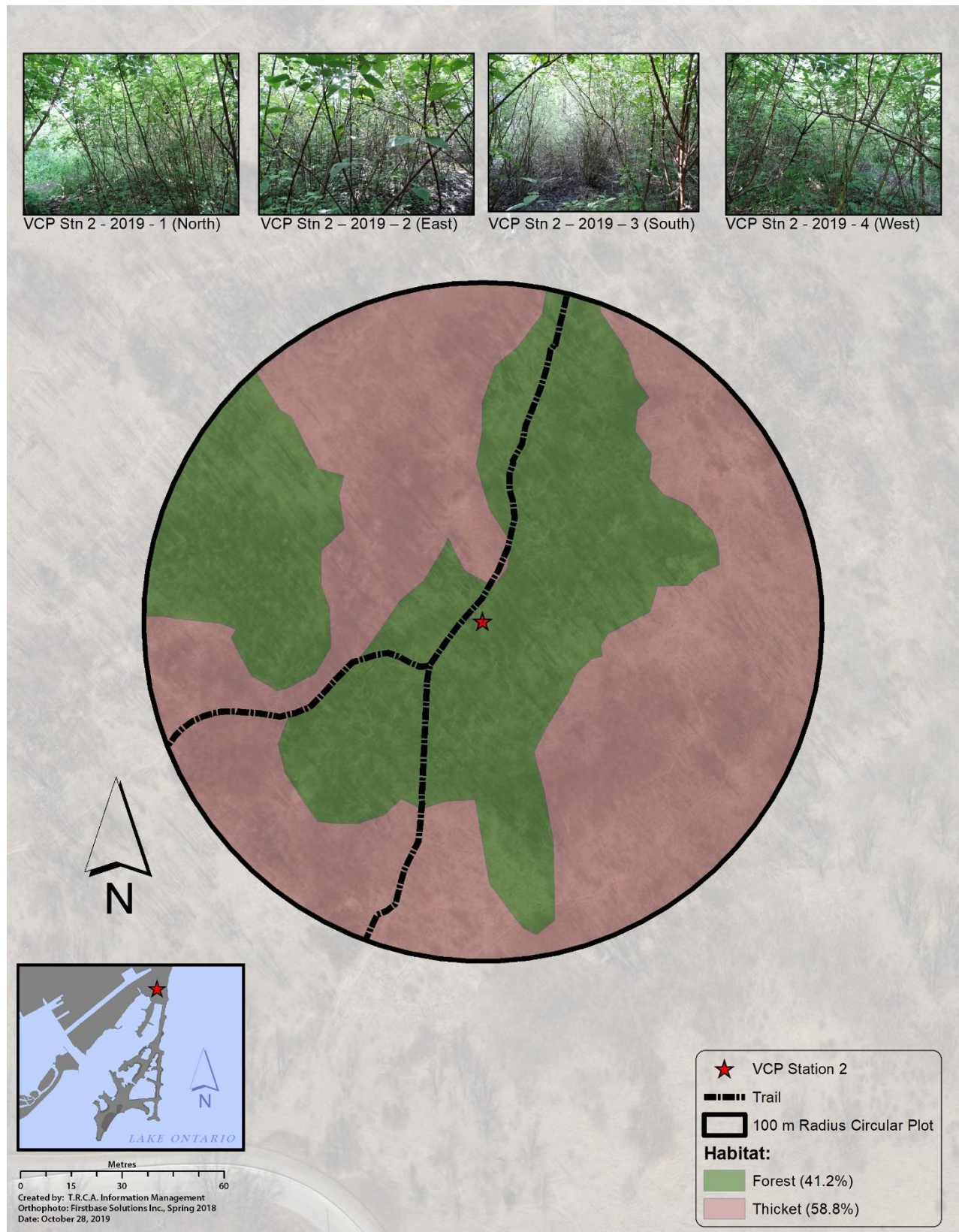
### Station 1





## Appendix A: Description of VCP Stations (Habitat Pictures and Maps)

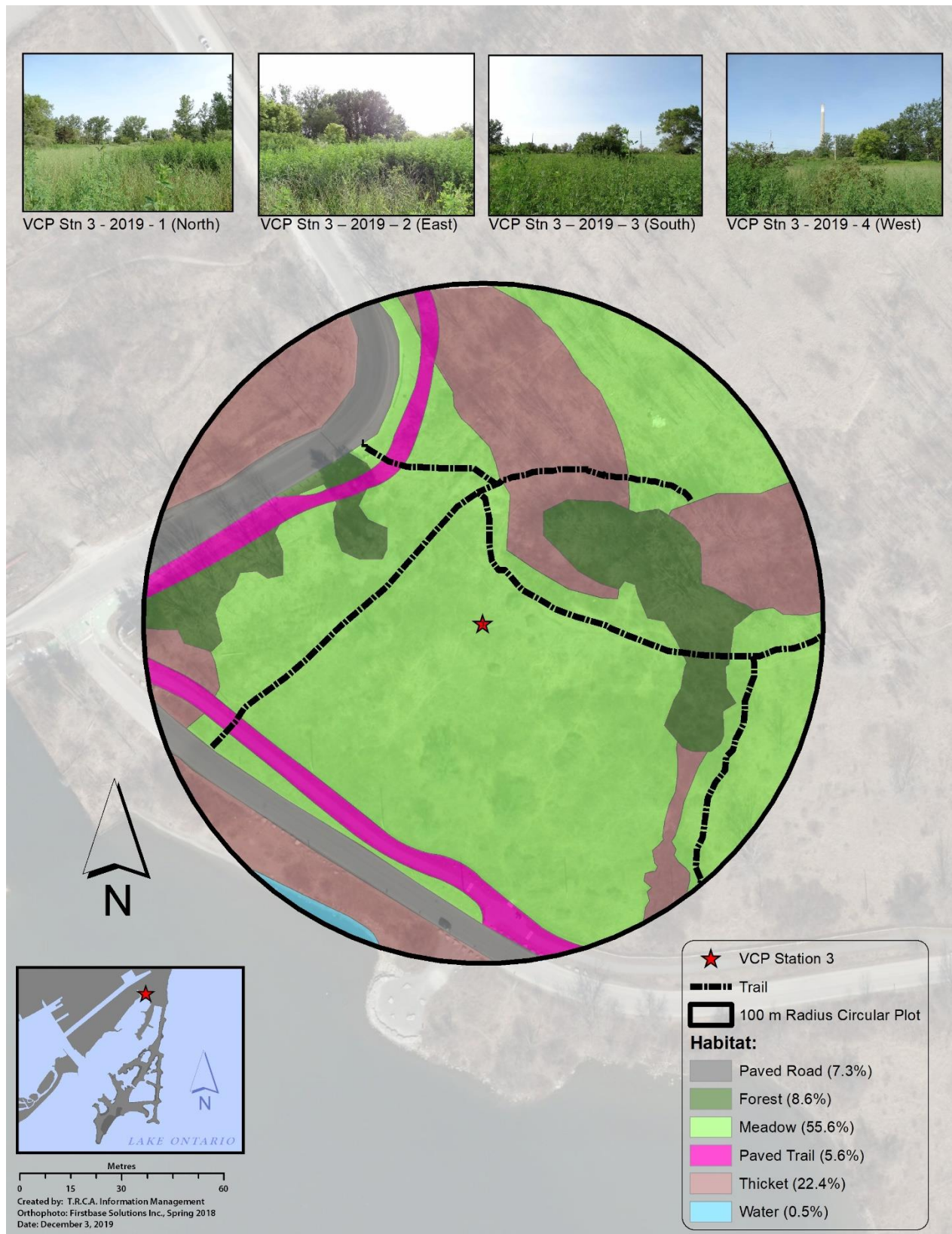
### Station 2





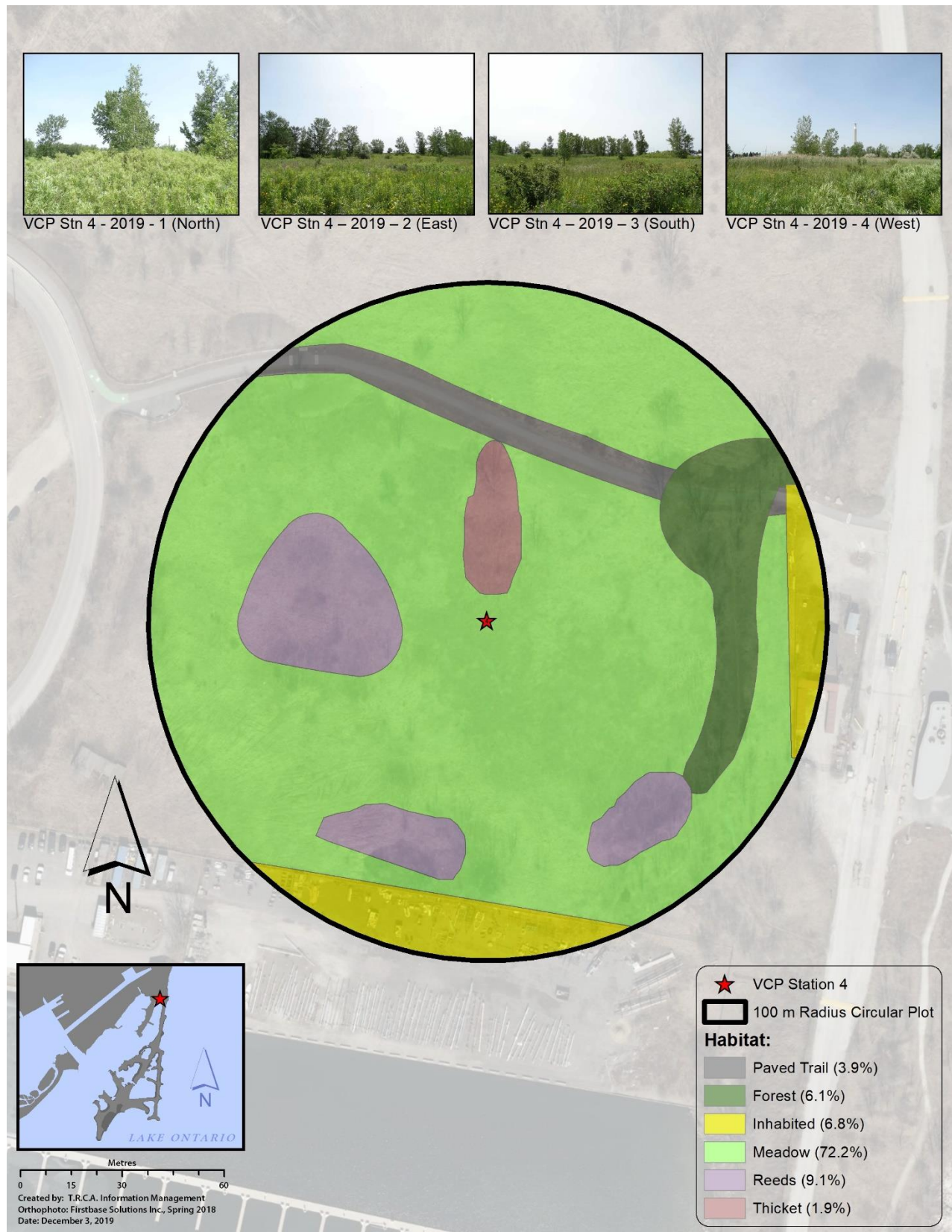
## Appendix A: Description of VCP Stations (Habitat Pictures and Maps)

### Station 3



## Appendix A: Description of VCP Stations (Habitat Pictures and Maps)

### Station 4





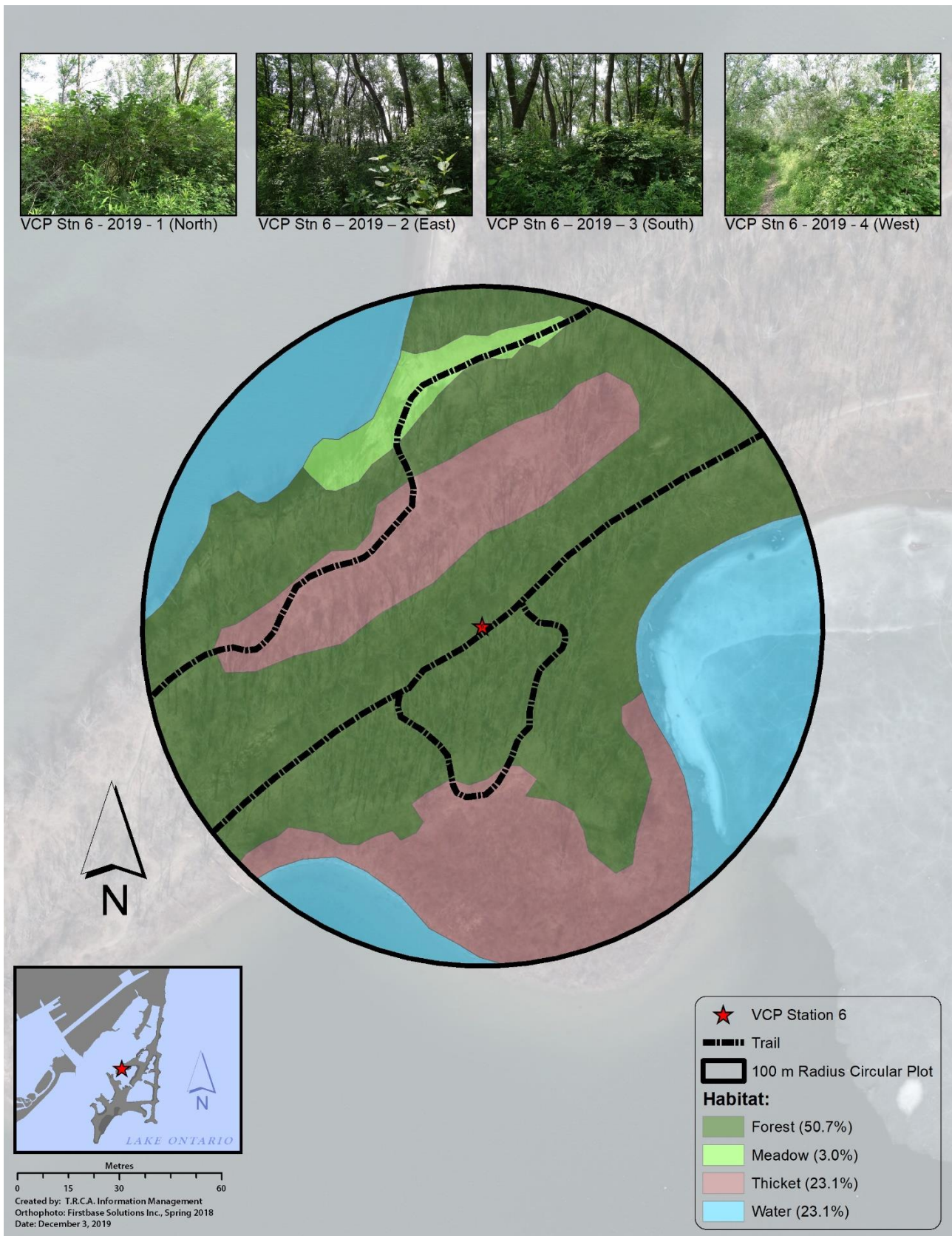
## Appendix A: Description of VCP Stations (Habitat Pictures and Maps)

### Station 5



## Appendix A: Description of VCP Stations (Habitat Pictures and Maps)

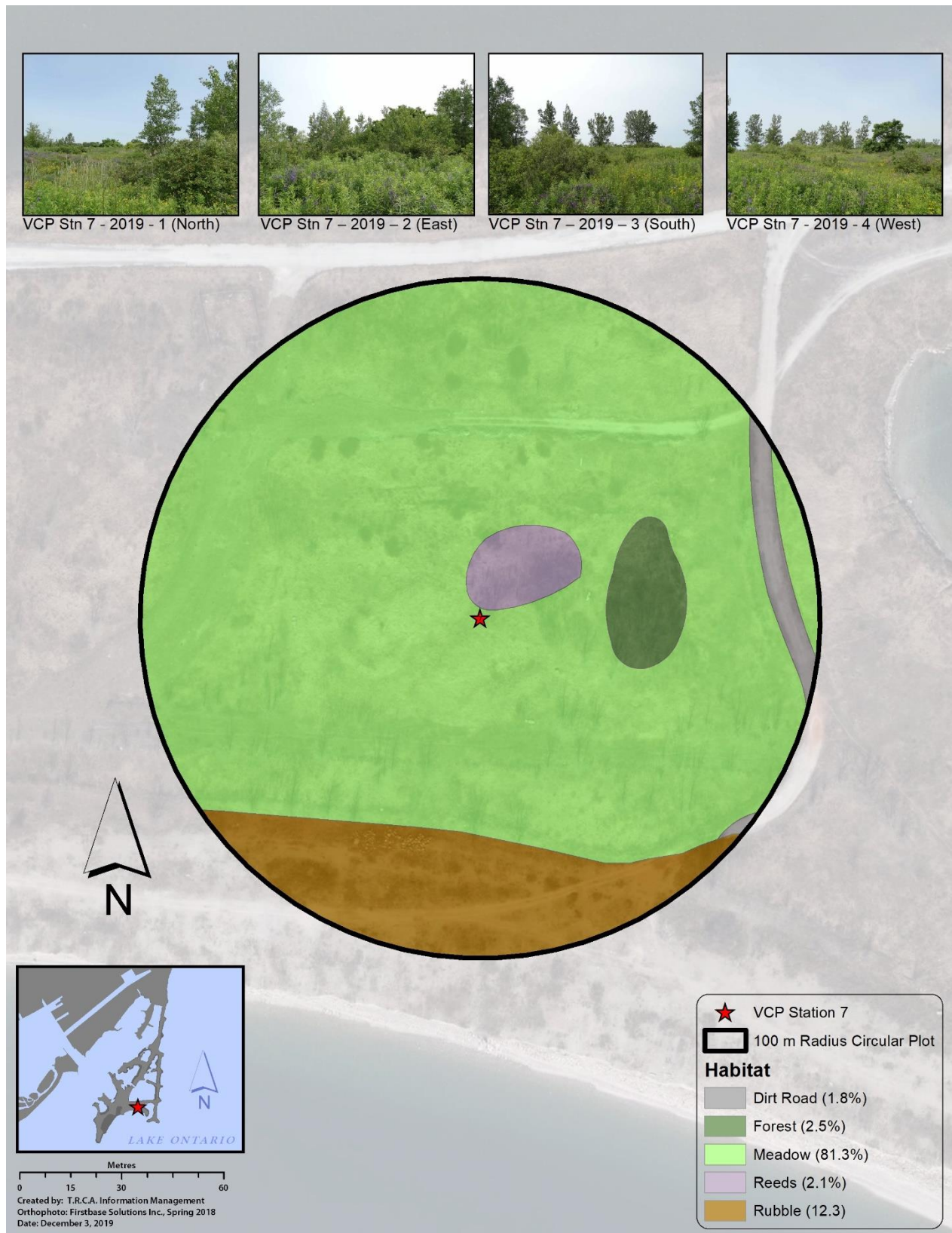
### Station 6





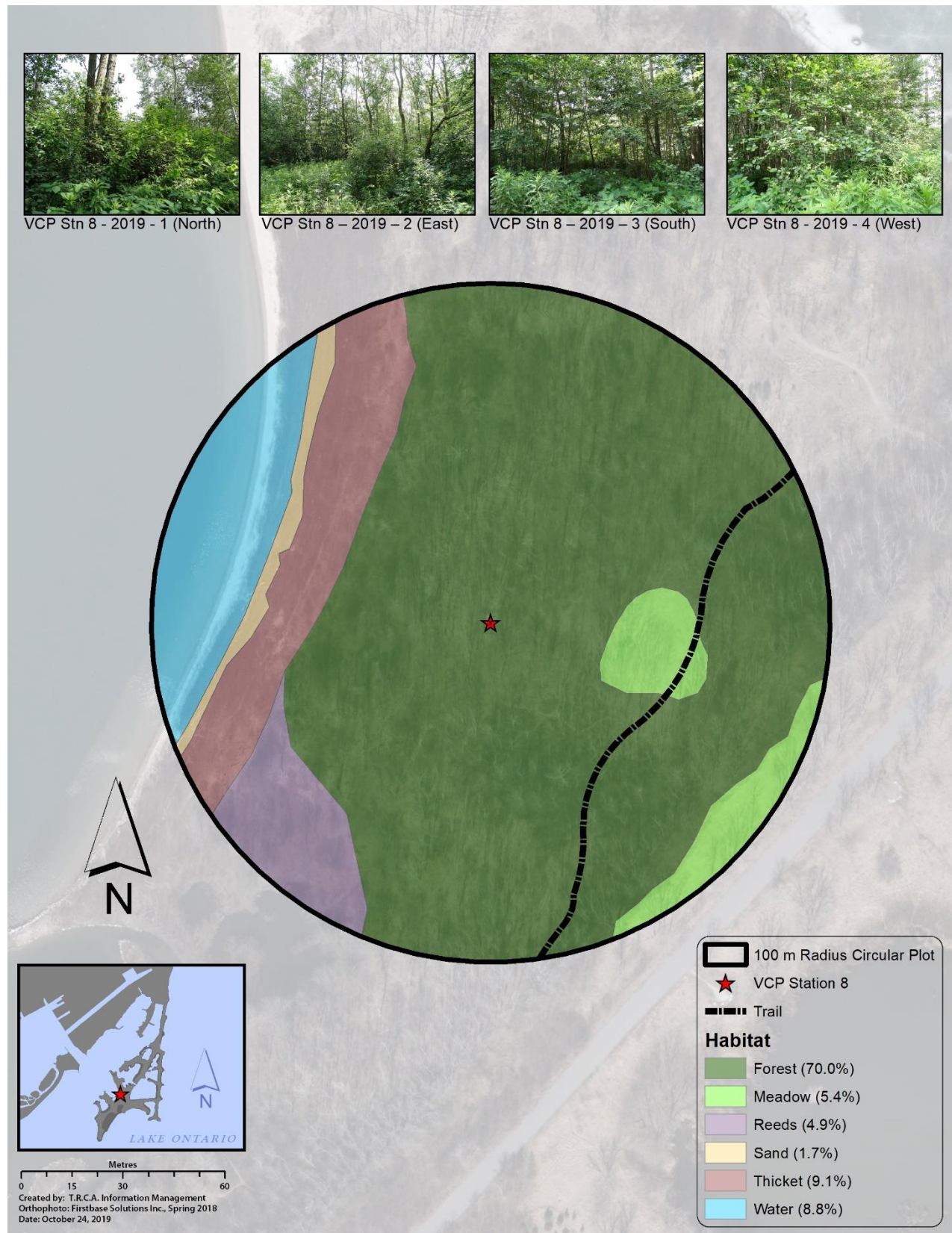
## Appendix A: Description of VCP Stations (Habitat Pictures and Maps)

### Station 7



## Appendix A: Description of VCP Stations (Habitat Pictures and Maps)

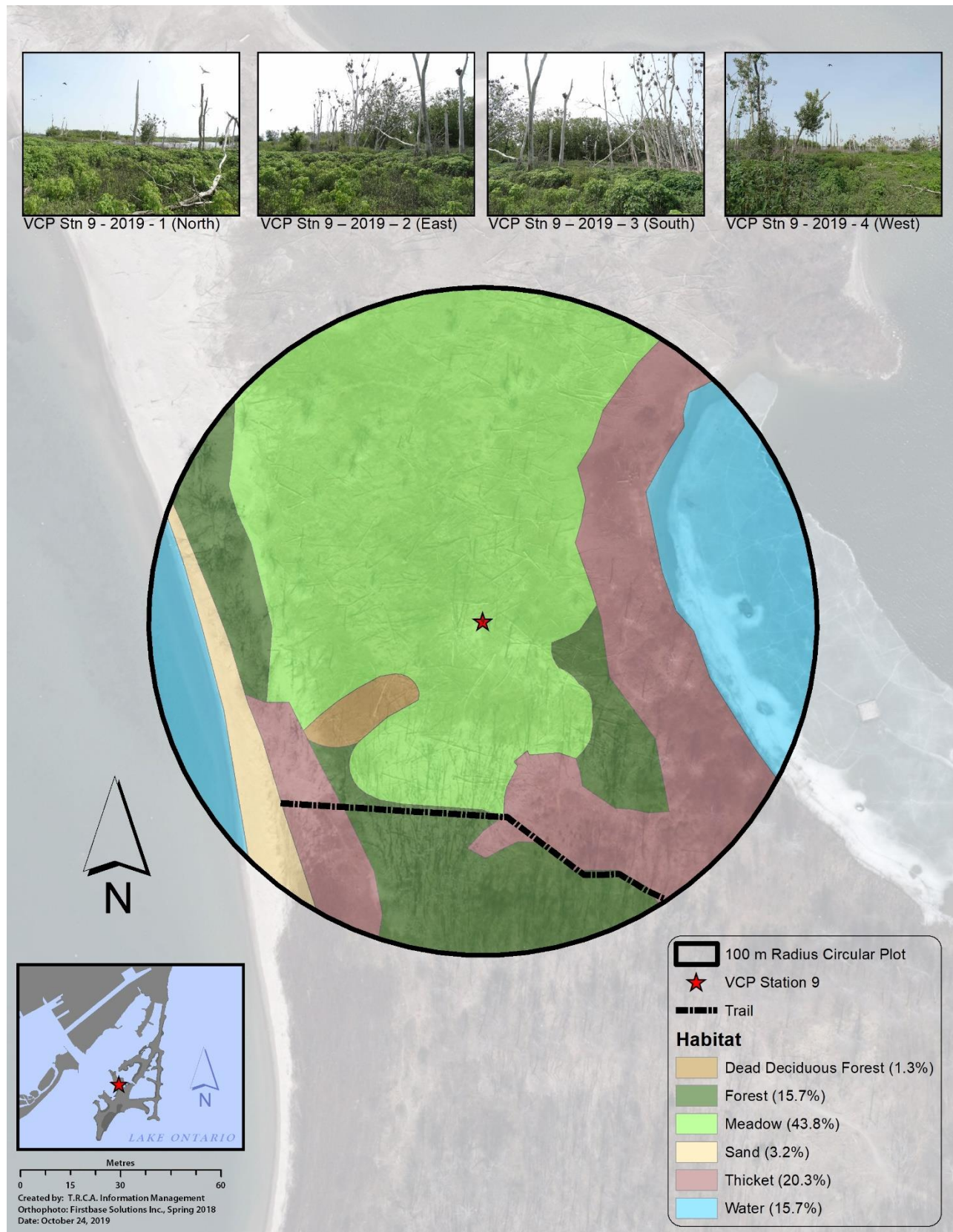
### Station 8



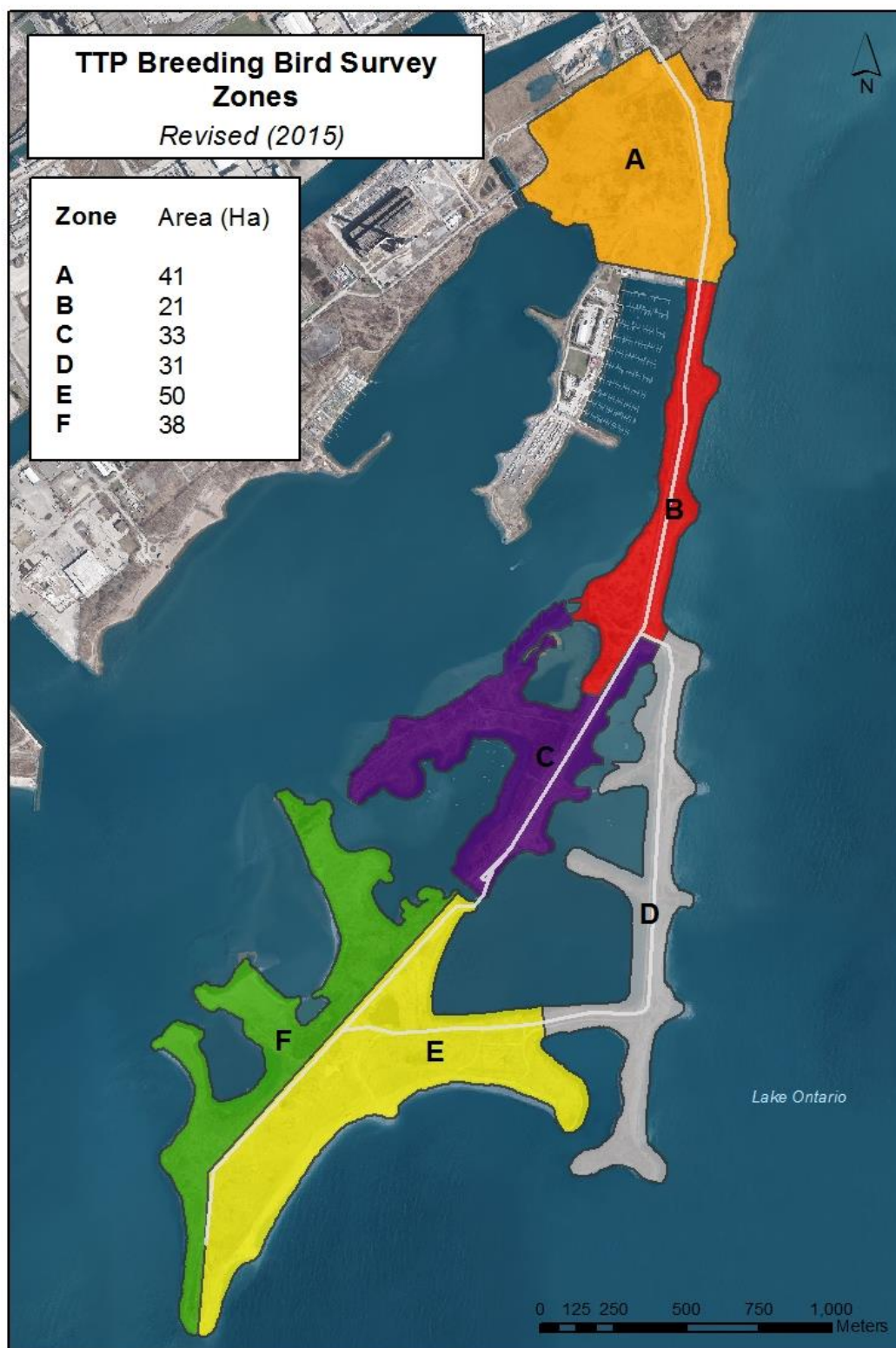


## Appendix A: Description of VCP Stations (Habitat Pictures and Maps)

### Station 9



## Appendix B: Map of TTP Breeding Bird Survey Zones



This map was updated in 2015 to reflect a minor change in zone alignment; changes in the TTP land base due to lake-filling activities; and mapping tool refinements. This has resulted in area increases to every zone except Zone B and an overall area increase of 11.5%. The land base at TTP is expected to continue to change as habitat creation and enhancement work continues.



## Appendix C: Species Accounts

The following accounts include species that were listed as observed during their breeding season, or as possible, probable or confirmed breeders in 2020, as well as historically confirmed breeders. Species highlighted in red were detected in 2020 during the breeding bird survey, but they have not yet been classified as confirmed breeders at Tommy Thompson Park. Species observed, but clearly out of their breeding range (most shorebirds, e.g.) are not included here. For TTP locations specified in the following section, please consult Figure 3.A, an annotated map of the park.

**Alder Flycatcher** (2020 - possible) This species has never been confirmed as a breeder at TTP. In 2020, a singing male was observed in suitable nesting habitat.

**American Black Duck** (2020 - absent) Known to have bred historically at TTP.

**American Crow** (2020 - absent) Known to have bred historically at TTP, but not in recent years.

**American Goldfinch** (2020 - confirmed) This species is a regular late nester at TTP. In 2020, 19 nests were discovered, which is slightly above the most recent 10-year average.

**American Kestrel** (2020 – absent) Known to have bred historically at TTP.

**American Redstart** (2020 - probable) This species has never been confirmed as a breeder at TTP. Singing males have been present throughout the breeding season in most recent years, and in 2019 an agitated pair was recorded. In 2020, males were found singing in suitable breeding habitat in May and June, indicating possible territorial claims.

**American Robin** (2020 - confirmed) Common nesting species in forested areas throughout TTP. In 2020, 106 nests were recorded, slightly above the most recent 10-year average.

**American Woodcock** (2020 - confirmed) This species is found regularly throughout much of TTP during the spring and summer. In 2020, nesting was confirmed by the presence of recently hatched young in the Cell 2 area. The 2012 change in protocol with regard to ground-nesting birds makes locating nests much less likely.

**Baltimore Oriole** (2020 - confirmed) Common nesting species in forest areas of TTP. A total of 14 nests was recorded in 2020, 26% below the average of the past 10 years of this project.

**Bank Swallow** (2020 - confirmed) In 2020, nesting was confirmed by observing adults entering and leaving a nest.

**Barn Swallow** (2020 - confirmed) Barn Swallows are regular nesters at TTP under the eaves of buildings. In 2020, 54 nests were found, establishing a new high for the project. This species, listed as Threatened on the Ontario Species at Risk, continues to take advantage of buildings constructed by TRCA in 2011/2012.

**Bay-breasted Warbler** (2020 - observed) This species has never been confirmed as a breeder at TTP. A bird observed in May in the Baselands was presumably a late migrant.

**Belted Kingfisher** (2020 - possible) This species was confirmed for the first time in 2003 based on observations of fledged young. In 2020, a bird was observed in suitable nesting habitat late in its breeding season.

**Black-billed Cuckoo** (2020 – possible) In 2020, birds were observed singing in June near where the species nested in previous years.

**Blackburnian Warbler** (2020 - observed) This species has never been confirmed as a breeder at TTP. The bird observed in May on Peninsula D was presumably a late migrant.

**Black-capped Chickadee** (2020 - confirmed) A regular but uncommon nester at TTP. Breeding was confirmed in 2020 through the observation of recently fledged young being fed by adults.

**Black-crowned Night-Heron** (2020 - confirmed) 143 nests were confirmed in 2020, which is 51% lower than 2019. At their peak in 2000, an estimated 30% of the Canada-wide population of Black-crowned Night-Herons were breeding at TTP.

**Blackpoll Warbler** (2020 - observed) This species has never been confirmed as a breeder at TTP. The birds observed at various locations in TTP were presumably late migrants.

**Blue-gray Gnatcatcher** (2020 - confirmed) In 2020, two nests were found. These very small nests are always difficult to find and often moved if the birds feel the nest has been discovered.

**Blue Jay** (2020 - observed) This species has never been confirmed as a breeder at TTP. The birds observed in 2020 in several locations were presumably late migrants.

**Blue-winged Teal** (2020 – absent) Known to have bred historically at TTP, although not in recent years.

**Brown-headed Cowbird** (2020 - confirmed) In 2020, a total of 11 nests of Red-winged Blackbird (4), Willow Flycatcher (1) and Yellow Warbler (6), were found to have been parasitized by cowbirds. This was the lowest total of the project.

**Brown Thrasher** (2020 – confirmed) Brown Thrasher is a regular but uncommon nester at TTP. In 2020, a single nest was found on the Toplands.

**California Gull** (2020 – absent) Known to have bred historically at TTP, but not detected in recent years.

**Canada Goose** (2020 - confirmed) There were 16 nests confirmed in 2020 and these were managed according to the TRCA Canada Goose Management Strategy.

**Canvasback** (2020 - confirmed) Canvasback was known to have bred regularly in the Triangle Pond area at TTP in the years prior to the start of the current project. In 2020, a female with recently fledged young was found in Goldfish Pond, only the second confirmed nesting of the project.

**Caspian Tern** (2020 - observed) This species is an intermittent ground-nester at TTP, last confirmed in 2016. Adults were observed loafing in Cell 2 throughout the breeding season.

**Cedar Waxwing** (2020 - confirmed) A common late nester at TTP; 36 nests were found in 2020, 16% above the most recent 10-year average for this project.

**Chestnut-sided Warbler** (2020 – observed) This species has never been confirmed as a breeder at TTP. The birds sighted on Peninsula C and in the Baselands in May were presumably both late migrants.

**Chimney Swift** (2020 - observed) This species has never been confirmed as a breeder at TTP. In 2020 flocks of as many as 40 birds were observed foraging at TTP from nearby roosts or in migration.

**Cliff Swallow** (2020 - confirmed) This species nested at TTP for the first time in 2018. A total of 13 nests were built in 2020 under the eaves of the Nature Centre.

**Common Grackle** (2020 - confirmed) Common Grackle is a regular nester at TTP, although nests are often well hidden. In 2020, four nests were found, equaling the most recent 10-year average.

**Common Raven** (2020 – observed) This species has never been confirmed as a breeder at TTP, although a pair has nested immediately north of TTP in recent years. Single birds, as well as a pair, were seen from time to time foraging in TTP in 2020.

**Common Tern** (2020 – confirmed) In 2020, Common Terns nested successfully on the Embayment D raft. In addition, 20 – 25 predated nests were found on an island in the Cell 2 wetland. There were 84 - 80 nests in total.

**Common Yellowthroat** (2020 - probable) Known to have bred historically at TTP. Singing males have been present throughout the breeding season in most recent years, and in 2020, males were observed performing territorial songs in suitable nesting habitat during their breeding season.

**Cooper's Hawk** (2020 - observed) This species has never been confirmed as a breeder at TTP. It is known to nest in Toronto, and the bird observed in 2020 may have been from a nearby nest.

**Double-crested Cormorant** (2020 - confirmed) 11,446 nests were confirmed in the tree and ground nest colonies at TTP in 2020. The overall population decreased 16% from 2019. The percent of the overall colony represented by ground nesting decreased to 59% from 64% in 2019 as management was not undertaken during the breeding season due to COVID-19 restrictions. The birds at TTP represent the largest breeding colony of Double-crested Cormorants in North America. Cormorants are managed for spatial distribution, where ground nesting is encouraged and tree nesting is discouraged, following the Tommy Thompson Park Double-crested Cormorant Management Strategy.

**Downy Woodpecker** (2020 - confirmed) A regular breeder at TTP, but in very low numbers. In 2020, one nest was found, equaling the most recent 10-year average for the project.

**Eastern Kingbird** (2020 - confirmed) A regular breeder at TTP along forest edges where meadow and shrubs are present. In 2020, a total of 21 nests was found, equaling the most recent 10-year average.

**Eastern Meadowlark** (2020 - absent) In 2010, a nest was found in the Baselands meadow habitat, although it was not successful. The change in protocol with regard to ground-nesting birds will make locating nests in future more difficult.

**Eastern Phoebe** (2020 – confirmed) In 2020, this species bred at TTP for the first time. Its nest was built on top of a Barn Swallow nest at the TTPBRS banding station from a previous year.

**Eastern Wood-Pewee** (2020 – possible) In 2020, males were observed performing possible territorial songs in suitable nesting habitat during their breeding season.

**European Starling** (2020 - confirmed) Starlings are an abundant species at TTP although their breeding density is difficult to estimate. The species is known to nest in man-made structures and natural cavities throughout the area. In 2020, two nests were found in the Baselands.

**Field Sparrow** (2020 - possible) This species has never been confirmed as a breeder at TTP. In 2020, birds were observed singing territorially in June in suitable nesting habitat.

**Gadwall** (2020 - confirmed) Gadwall has been a regular ground-nesting species at TTP. In 2020, one nest was located. The 2012 change in protocol with regard to ground-nesting birds makes locating nests less likely.

**Gray Catbird** (2020 - confirmed) Gray Catbird is a regular nester at TTP, preferring dense shrubs with some tree cover. In 2020, 20 nests were found, which was 29% below the most recent 10-year average.

**Great Black-backed Gull** (2020 - absent) Known to have bred historically at TTP.

**Great Blue Heron** (2020 - absent) Known to have bred historically at TTP.

**Great-crested Flycatcher** (2020 - observed) This species has never been confirmed as a breeder at TTP. The two birds observed in 2020 in the Baselands were presumably late migrants.

**Great Egret** (2020 - confirmed) There were 20 nests confirmed in 2020, all on Peninsula C, a new high for this species.

**Green Heron** (2020 - absent) Known to have nested historically at TTP, but no nests have been detected during this project.

**Green-winged Teal** (2020 – absent) In 2017, this species was confirmed as a breeding species at TTP for the first time. Not seen in 2020.

**Herring Gull** (2020 – observed) A breeder at TTP in small numbers in many recent years, but no nests were found in 2020. Herring Gull populations have been declining in recent years.

**Horned Lark** (2020 - absent) Known to have bred historically at TTP.

**House Finch** (2020 - absent) A nest was found in 2018 for the first time since 2007, and in 2019, two nests were located.

**House Sparrow** (2020 - absent) Known to have bred historically at TTP.

**House Wren** (2020 - confirmed) Believed to be a regular nester at TTP, but in very low numbers. In 2020, three nests were found, well above the average of one.

**Killdeer** (2020 - confirmed) Killdeer is a regular ground-nesting species at TTP in open areas with low vegetation. In 2020, one nest was found. The 2012 change in protocol with regard to ground-nesting birds makes locating nests less likely.

**Least Bittern** (2020 – confirmed) This species, listed as Threatened both provincially and federally, was confirmed as a breeding species at TTP for the first time in 2017. It has appeared every year since, and in 2020 a single nest was found in Embayment D. In an article in the December 2020 issue of Ontario Birds, *Changes in abundance of Least Bitterns in Ontario, 1995 – 2019*, the authors state that the abundance was notably higher from 2017 – 2019, particularly in locations close to the Great Lakes. They found strong evidence that the increase in abundance was closely tied to increasing water levels in Lakes Erie and Ontario. However, they also note that abundance of Least Bitterns may decline when water levels eventually begin to recede.

**Least Flycatcher** (2020 - confirmed) A regular but uncommon breeder in very low numbers at TTP. In 2020, two nests were found.

**Mallard** (2020 - confirmed) Mallard is a regular ground-nester at TTP. Three nests were found in 2020. The 2012 change in protocol with regard to ground-nesting birds makes locating nests less likely.

**Marsh Wren** (2020 – observed) This species has never been confirmed as a breeder at TTP. Males of this species are known to partially build nests to attract females, who then complete the nests before breeding. In 2020, a male was observed in Embayment D building a nest and then singing to entice a female to join him, but none appeared.

**Mourning Dove** (2020 – possible) Mourning Dove nests have been scarce at TTP in recent years. In 2020, a bird was seen in its breeding season in suitable breeding habitat in the Baselands.

**Mute Swan** (2020 - confirmed) Six nests were confirmed and five were managed according to the TRCA Mute Swan Management Strategy. One nest succeeded in fledging young.

**Myrtle Warbler** (2020 - observed) This species has never been confirmed as a breeder at TTP. A bird was seen on Peninsula C in May in 2020.



**Northern Bobwhite** A known escapee may have bred at TTP in 1980, but the species has not otherwise been recorded in the park. This species is listed here for the sake of completeness, but it is not included in the total of known breeding species at TTP.

**Northern Cardinal** (2020 - confirmed) Six nests were found in 2020, slightly above the 10-year average. The nests of this species are usually well hidden in dense shrubs, and sometimes abandoned if the adults seem to feel they have been discovered.

**Northern Flicker** (2020 - confirmed) Northern Flicker is an uncommon but regular nesting species at TTP. One nest was found in 2020, compared to the average of two in the most recent 10 years.

**Northern Mockingbird** (2020 - observed) No nests were found in 2020. However, they are known to nest nearby TTP, so the birds observed in 2020 were presumably from such nests.

**Northern Parula** (2020 - observed) This species has never been confirmed as a breeder at TTP. The birds observed on Peninsulas A and C in May and June were presumably late migrants.

**Northern Rough-winged Swallow** (2020 - confirmed) An uncommon nester at TTP. Breeding was confirmed in 2020 by birds entering and leaving nests.

**Orchard Oriole** (2020 - confirmed) Five nests were found in 2020, a new high for the project.

**Red-bellied Woodpecker** (2020 - observed) This species has never been confirmed as a breeder at TTP. However, it is known to breed in the area, so the birds observed in May could have been either late migrants or visiting from a nearby nesting site.

**Red-breasted Nuthatch** (2020 - observed) This species has never been confirmed as a breeder at TTP. The bird observed in June in the Baselands was presumably a late migrant.

**Red-eyed Vireo** (2020 - possible) This species has never been confirmed as a breeder at TTP. In 2020 there were several sightings of singing males in May and June, possibly indicating the presence of territories.

**Redhead** (2020 - absent) Known to have bred historically at TTP.

**Red-necked Grebe** (2020 - observed) This species has never been confirmed as a breeder at TTP. The bird observed in 2020 had overwintered in East Cove and lingered on its own into its breeding season.

**Red-winged Blackbird** (2020 - confirmed) The most abundant nesting species at TTP (excluding colonial waterbirds), found throughout TTP. In 2020, 287 nests were found, the lowest total since 2012. As this species is one of the earliest breeders at TTP, the late start for the project undoubtedly contributed to the low number.

**Ring-billed Gull** (2020 - confirmed) There was confirmed nesting on the Embayment A Common Tern nesting raft, but no count was taken due to COVID-19 restrictions. Nesting was not observed elsewhere, but TRCA staff presence was limited due to the restrictions.

**Ring-necked Pheasant** (2020 - absent) Known to have bred historically at TTP, but not detected in many years.

**Rock Pigeon** (2020 - observed) Known to have bred historically at TTP. Observed in 2020, but no nest was found.

**Savannah Sparrow** (2020 - absent) Prior to the start of this project, Savannah Sparrow was a common ground nester in open areas of TTP with substantial ground cover, particularly in the Baselands, along the Neck and in some areas of the Flats and Toplands. No nests have been found during the project. The 2012 change in protocol with regard to ground-nesting birds makes locating nests less likely.

**Scarlet Tanager** (2020 - observed) This species has never been confirmed as a breeder at TTP. The birds observed TTP in 2020 on Peninsula C and in the Baselands were presumably late migrants.

**Song Sparrow** (2020 - confirmed) Song Sparrow is one of the most abundant nesting species at TTP, although few of its well-concealed nests are ever found. In 2020, eight nests were found in a variety of habitats, slightly above the 10-year average. The 2012 change in protocol with regard to ground-nesting birds makes locating nests less likely, although not all Song Sparrow nests are on the ground.

**Sora** (2020 - absent) Known to have bred historically at TTP. Recent sightings at TTP in the fall suggest that the habitat development around Cells 1 and 2 may be starting to attract this species.

**Spotted Sandpiper** (2020 - confirmed) A common ground nester at TTP in open areas near water. Only two nests were found in 2020. The 2012 change in protocol with regard to ground-nesting birds making locating nests less likely.

**Tree Swallow** (2020 - confirmed) Tree Swallow is a common breeder at TTP. In 2020, 20 nests were found in nest boxes and natural cavities around TTP, 25% above the most recent 10-year average.

**Trumpeter Swan** (2020 - confirmed) This species was confirmed as a breeder at TTP for the first time in 2013. Two nests were located in 2020.

**Virginia Rail** (2020 - observed) Although known to have bred historically at TTP, no nest had been found during the project until 2019, when two nests were found in the Baselands. The high-water level that year presumably played a role in creating suitable habitat. In 2020, a bird was observed in Cell 1 in May, presumably while migrating.

**Warbling Vireo** (2020 - confirmed) A common nesting species in forested areas in TTP, usually high in the trees, where the nest can often be found by hearing the male singing on the nest. In 2020, 27 nests were found, the second highest total for the past 10 years.

**White-breasted Nuthatch** (2020 - observed) This species has never been confirmed as a breeder at TTP. The two birds observed in 2020 on Peninsula D were presumably late migrants.

**Willow Flycatcher** (2020 - confirmed) Willow Flycatcher is a common nesting species in more open areas with dense shrubs. Little variation in the number of nests at TTP has been seen from year to year during the project, and in 2020, 20 nests were found, the highest total for the past 10 years.

**Wilson's Phalarope** (2020 - absent) Known to have bred historically at TTP, but not detected in recent years.

**Wood Duck** (2020 - confirmed) This species was confirmed in 2012 as a breeder at TTP for the first time. Nesting in 2020 was confirmed by the presence of recently fledged young in both Triangle Pond and Embayment D.

**Yellow Warbler** (2020 - confirmed) Yellow Warblers are common to abundant through much of TTP, usually nesting in dogwoods and honeysuckle. While the number of nests that has been found has been increasing rapidly over the last few years, a total of 235 nests was found in 2020, the lowest since 2015. As with Red-winged Blackbirds, this species is an early nester, and the late start for the project presumably contributed to a lower number of nests than would normally be found. However, it is worth noting that the 235 nests found in 2020 still represented 26% of the total nests found for the year, which was 24% higher than the average for the most recent 10 years.

## Appendix D: Map of 2020 Landbird Nest Locations \*



\* Excludes colonial waterbirds, Canada Goose and Mute Swan nests

## Appendix E: Breeding Status Codes for Each Species Detected In 2020

| OBSERVED                 | POSSIBLE            | PROBABLE            | CONFIRMED                 |
|--------------------------|---------------------|---------------------|---------------------------|
| Bay-breasted Warbler     | Alder Flycatcher    | American Redstart   | American Goldfinch        |
| Blackburnian Warbler     | Belted Kingfisher   | Common Yellowthroat | American Robin            |
| Blackpoll Warbler        | Black-billed Cuckoo |                     | American Woodcock         |
| Blue Jay                 | Eastern Wood-Pewee  |                     | Baltimore Oriole          |
| Caspian Tern             | Field Sparrow       |                     | Bank Swallow              |
| Chestnut-sided Warbler   | Mourning Dove       |                     | Barn Swallow              |
| Chimney Swift            | Red-eyed Vireo      |                     | Black-capped Chickadee    |
| Common Raven             |                     |                     | Black-crowned Night-Heron |
| Cooper's Hawk            |                     |                     | Blue-gray Gnatcatcher     |
| Great Crested Flycatcher |                     |                     | Brown-headed Cowbird      |
| Herring Gull             |                     |                     | Brown Thrasher            |
| Marsh Wren               |                     |                     | Canada Goose              |
| Myrtle Warbler           |                     |                     | Canvasback                |
| Northern Mockingbird     |                     |                     | Cedar Waxwing             |
| Northern Parula          |                     |                     | Cliff Swallow             |
| Red-bellied Woodpecker   |                     |                     | Common Grackle            |
| Red-breasted Nuthatch    |                     |                     | Common Tern               |
| Red-necked Grebe         |                     |                     | Double Crested Cormorant  |
| Rock Pigeon              |                     |                     | Downy Woodpecker          |
| Scarlet Tanager          |                     |                     | Eastern Kingbird          |
| Virginia Rail            |                     |                     | Eastern Phoebe            |
| White-breasted Nuthatch  |                     |                     | European Starling         |
|                          |                     |                     | Gadwall                   |
|                          |                     |                     | Gray Catbird              |
|                          |                     |                     | Great Egret               |
|                          |                     |                     | House Wren                |
|                          |                     |                     | Killdeer                  |
|                          |                     |                     | Least Bittern             |
|                          |                     |                     | Least Flycatcher          |
|                          |                     |                     | Mallard                   |
|                          |                     |                     | Mute Swan                 |
|                          |                     |                     | Northern Cardinal         |
|                          |                     |                     | Northern Flicker          |
|                          |                     |                     | N. Rough-winged Swallow   |
|                          |                     |                     | Orchard Oriole            |
|                          |                     |                     | Red-winged Blackbird      |
|                          |                     |                     | Ring-billed Gull          |
|                          |                     |                     | Song Sparrow              |
|                          |                     |                     | Spotted Sandpiper         |
|                          |                     |                     | Tree Swallow              |
|                          |                     |                     | Trumpeter Swan            |
|                          |                     |                     | Warbling Vireo            |
|                          |                     |                     | Willow Flycatcher         |
|                          |                     |                     | Wood Duck                 |
|                          |                     |                     | Yellow Warbler            |

|                         |  |
|-------------------------|--|
| <b>Observed</b>         | Species observed in its breeding season (no evidence of breeding)  |
| <b>Possible Status</b>  | Singing male present or breeding calls heard in breeding season in suitable nesting habitat<br>Species observed in breeding season in suitable nesting habitat   |
| <b>Probable Status</b>  | Nest building or excavation of nest hole<br>Pair observed in their breeding season in suitable nesting habitat<br>Permanent territory presumed through registration of territorial song on at least 2 days, one week or more apart at the same place |
| <b>Confirmed Status</b> | Adults leaving or entering nest site in circumstances indicating occupied nest<br>Adult carrying food for young<br>Recently fledged young or downy young<br>Nest containing eggs<br>Nest with young seen or heard                                    |



## **Appendix F: Breeding Bird Report Methodologies and Protocols**

### **1. Colonial Waterbird Population Estimate Methodology**

Population estimates for tree nesting waterbirds, Double-crested Cormorants and Common Terns are conducted annually, while population estimates for Ringed-billed Gulls typically occur every 5 to 10 years with the 10-year survey coinciding with the Canadian Wildlife Service (CWS) decadal census. Individual Herring Gull nests are monitored by the CWS for ongoing contaminant research, and TRCA does not usually undertake a population census for this species. Caspian Terns are typically counted each year; however, they were absent from 2004 to 2011 and were not counted in 2012 due to their proximity to the ground nesting cormorant colony. Since 2014 Caspian Terns are counted following the Ground Nest Survey Methodology. Population estimates for any species may also be undertaken more frequently in relation to other projects/studies or to address a population concern. All estimates and analysis are conducted by trained TRCA staff and researchers, using in-field techniques. Upon completion of the survey Microsoft Excel is used to store and analyze the population data.

#### **1.1 Tree Nest Survey Methodology**

Each spring an annual census is conducted during mid-June, at the peak nesting period to determine the number of breeding Double-crested Cormorant, Black-crowned Night-Heron and Great Egret pairs, and their nest distribution. Active nests of these species are counted by a team of observers who move systematically through the colony recording the tree number, tree species and number of nests of each bird species. As noted in Jarvie et al. (1999), each tree containing a nest is marked with a circular 2.5 cm metal tag bearing a unique number (National Band and Tag #85, 0.050 mm thick) attached with a single 5 cm galvanized roofing nail which is left out approximately 2.5 cm to allow for the growth of the tree without damage. Coordinates of each tree are recorded by GPS. All new nest trees are tagged and coordinates recorded. Every tree evaluated is marked with tree marking paint to identify that it has been counted. The tree coordinates and associated nest data are mapped with ArcView GIS software. Additionally, a sample of nest trees are evaluated in the late summer to assess their health.

#### **1.2 Ground Nest Survey Methodology**

The census for Common Tern and Ring-billed Gull is conducted at the peak nesting period, typically the last week of May or the first week of June to determine their breeding population. The Common Tern colonies nest on three floating reef-rafts and one artificial island. The colonies can be subject to predation/disturbance pressures that can result in asynchronous nesting, making it difficult to obtain a reliable estimate of the breeding population. Therefore, depending on the circumstances of the sub-colony, multiple population counts may be conducted throughout the breeding season. The reef-rafts are approximately 24m<sup>2</sup>, so all nests could be counted, noting the nest contents, by walking or canoeing the periphery of the raft. The artificially created tern island in the Cell One wetland is approximately 120m<sup>2</sup> and was more challenging to count because of its size and tall vegetation. Observers carefully walked the island in a grid pattern and noted nests and nest contents. Since 2016, a single population count has been conducted for Common Tern colonies in mid-June by aerial photography from a helicopter. Individual nests can be seen in the images and are counted using GIS software by placing a dot on each nest.

Ring-billed Gulls are surveyed at least every 10 years with the CWS decadal surveys, however CWS also monitors individual Herring Gull nests annually. Because of the large nesting area, the colony is divided into smaller, discrete sections, and all active nests are counted by section using the rope transect method. Ropes are used to delineate 1m wide transects and observers carefully walk the transect counting all active nests with a manual handheld tally counter and marking each nest with survey paint to identify that it has been counted. Herring Gull nests are recorded on a field data sheet and not included in the tally counter. The ropes are then moved to the next transect line until all active nests within the colony are counted. In years where individual nests are not counted, trained staff undertake population estimates of the Ring-billed Gull nesting area.

Double-crested Cormorant ground nest estimates occur once management has largely stopped to account for birds that may have attempted to tree nest and instead ground nested. Nest counts for both cormorants and Caspian Terns are undertaken at the peak nesting period using aerial photography from a helicopter.

This method minimizes disturbance to the ground nesting colonies. Individual nests can be seen in the images and are counted using GIS software by placing a dot on each nest.

## 2. Landbird and Non-colonial Waterbird Methodology

Starting in 2005, a combination of variable circular plot (VCP) counts, nest-searching and casual observations was employed from April – August each year (VCP counts restricted to June and July). Variable circular plot counts are the most recognized method for assessing breeding bird density and were employed for the Ontario Breeding Bird Atlas (OBBA). Nest searching and monitoring are also employed to provide valuable data on breeding success, nesting ecology and relative density of nesting attempts. Casual observations were recorded to augment the monitoring.

### 2.1 Variable Circular Plot (VCP) Protocol

The VCP counting method has been widely promoted by biologists over the more popular point count method, as it is much more applicable to analysis and has less bias. Nine station locations were initially set up based on the proportion of individual habitat types within the entire land area, and these locations have remained constant.

Between approximately June 15 and July 8, each of the nine stations is visited six times on a rotational schedule such that time of day is equally represented at all stations. All counts are conducted between 7:00 am and 10:00 am and last 5 minutes at each station. The protocol involves recording start time, finish time, date and visit number for each of the stations. Temperature, percentage cloud cover and wind speed are also recorded. Counts are completed on days with fair weather conditions such that visibility is high, wind speed is low to moderate (0-15 kph) and precipitation is absent. All birds detected are estimated to the following distance parameters: <10 m, 10-20 m, 20-30 m, 30-40 m, 40-50 m, 50-75 m, 75-100 m and >100 m. Any flyovers and any birds detected beyond 100 m are recorded in separate columns. The circumstances of each detection are also noted (e.g., observed, singing, territorial dispute, family group).

As a result of the vegetation analysis completed in 2020, it was determined that the dominant habitat has changed over time for Stations 1 (from Thicket to Meadow), 2 (from Forest to Thicket) and 9 (from Forest to Mixed). Much of the thicket at Station 1 has become wetland since 2010 as a result of the recent high-water levels and new growth of phragmites. Station locations are now distributed in the following manner: two in forest habitats, four in meadow communities, two in an extensive shrub thicket (termed “shrubland”) which is bordered by forest, and one with a mixed habitat (with no habitat dominating). A summary of station information is presented below in Table F.1. The location of each station is shown in Figure 3.A, an annotated map of Tommy Thompson Park, and in Appendix A.

**Table F.1. VCP Station Information**

| Station | UTM Zone | Easting | Northing | Location    | Dominant Habitat |
|---------|----------|---------|----------|-------------|------------------|
| 1       | 17       | 635198  | 4834430  | Baselands   | Meadow           |
| 2       | 17       | 635206  | 4834217  | Baselands   | Shrubland        |
| 3       | 17       | 634930  | 4834149  | Baselands   | Meadow           |
| 4       | 17       | 635300  | 4833940  | Baselands   | Meadow           |
| 5       | 17       | 635101  | 4832683  | Neck        | Shrubland        |
| 6       | 17       | 634360  | 4832165  | Peninsula D | Forest           |
| 7       | 17       | 634726  | 4831138  | Flats       | Meadow           |
| 8       | 17       | 634220  | 4831453  | Peninsula C | Forest           |
| 9       | 17       | 634215  | 4831680  | Peninsula C | Mixed            |

### 2.2 VCP Station Vegetation Protocol

The habitats at the study area are relatively young in age and may be altered or enhanced through TRCA's habitat restoration efforts, as well as natural succession. Changes in the habitats over time will also lead to changes in the bird communities and should be documented to help understand and interpret these

data. Descriptions of the habitats for each of the VCP stations were initiated in 2010, repeated in 2013, 2016 and 2020, and should continue to be repeated every three years to help quantify changes in the vegetation communities. See Table 3.1 of the report for the most recent station vegetation analysis.

In any year in which the vegetation analysis is completed, stations are surveyed once during the nesting season (June or July) to record the dominant habitat (meadow, thicket, deciduous forest, mixed forest, wetland, sand dune/sand barren, roads/trails and Lake Ontario/open water), as well as the dominant group of vegetation. Surveyors estimate major type of habitat by percentage via a field visit and orthophoto interpretation. Habitat types must sum to 100% per station. The dominant habitat types are sketched out from a bird's-eye perspective. Dominant groups of vegetation communities are estimated for each station, but do not necessarily need to sum to 100%, as vegetation that is sub-dominant or areas without vegetation are not included in this total. See Appendix A for station maps.

## 2.3 Nest Searching and Monitoring Protocol

The nest searching survey method is valuable to bird conservation because it provides indicators of breeding success and parasitism/predation rates. As shown in Appendix B, the entire land area encompassing Tommy Thompson Park/Leslie Street Spit was divided into six survey zones (i.e., A – F). Participants are assigned zones to avoid overlap in data collection, and effort is recorded separately for each zone. Table F.2 describes the primary habitat for each zone.

**Table F.2. Primary Habitat Type by Zone**

| Zone | Primary Habitat Type                  |
|------|---------------------------------------|
| A    | forest, meadow                        |
| B    | meadow, shrubland, forest             |
| C    | forest                                |
| D    | meadow, shrubland, barrens (lakefill) |
| E    | Meadow, barrens (lakefill)            |
| F    | meadow, forest                        |

Starting in mid to late April and continuing until early September, the zones (excluding colonial waterbird nesting areas) are searched carefully for evidence of nesting, focusing primarily on the woodland and shrubland edges favoured by species nesting at TTP. Once the nest of any landbird or non-colonial waterbird is discovered, the UTM co-ordinates are determined by GPS and recorded in field notebooks, along with a description of the nest and the habitat. Following discovery of a nest, and to the extent that time and personnel are available, the nest is monitored to determine the outcome, as well as any incidence of parasitism.

Commencing in 2012, a change in protocol was adopted with regard to ground-nesting birds. In order to avoid providing a trail which would lead predators to ground nests, project participants no longer actively seek and monitor such nests. As a result, only ground nests found accidentally are recorded, and no follow-up monitoring to determine nest outcome is conducted. Species affected by this change include American Woodcock, Belted Kingfisher, Canvasback, Eastern Meadowlark, Gadwall, Killdeer, Mallard, Savannah Sparrow, Song Sparrow and Spotted Sandpiper. These species represented 7% of nests found from 2005 to 2011, inclusive, and 2% of nests found since 2011, so the change in protocol has had some effect, although these species have never represented a significant portion of the nests that are found each year.

While most nest records gathered are submitted to Project NestWatch at Birds Canada, nests with no breeding evidence detected during one or more visits are typically not. Researchers are able to access NestWatch data via Birds Canada's NatureCounts tool. Past Breeding Bird Reports are available at [www.ttpbrs.ca](http://www.ttpbrs.ca).

## Appendix G: Notes to Annual Breeding Bird Reports 2005 to 2020

These notes are meant to assist researchers to take into account changes that have occurred in protocols and treatment of data over the life of the project from 2005 to 2018.

ONRS stands for **Ontario Nest Record Scheme**, administered by the Royal Ontario Museum, where nests were reported in the early years of the project. Nest reporting has transitioned to **Project Nestwatch**, administered by Bird Studies Canada (BSC). Researchers are able to access Project NestWatch data via BSC's **NatureCounts** tool. As of 2020, Bird Studies Canada has changed its name to Birds Canada.

Past Breeding Bird Reports are available at [www.ttpbrs.ca](http://www.ttpbrs.ca). Data spreadsheets which include nests not reported to Project Nestwatch can be obtained through TRCA (Toronto and Region Conservation Authority).

### 2005

Pages 1 to 3- detailed Tommy Thompson Park habitat overview; not repeated in subsequent reports.

The **Toronto Harbour Commission** changed its name to **The Toronto Port Authority** and then to **Ports Toronto** (see also 2016 Notes).

### 2006

Results Pages 5 and 6- an attempt to establish two smaller grids, C1 and E1 of similar habitat (the larger zones A to F are all mixed habitats) was:

**“Splitting the study area into specific zones and recording time spent in each zone allows us to assess nesting density on a spatial scale and determine species distribution. This is taken one step further by establishing grids that delineate smaller areas with a relatively homogenous habitat type. The grid in zone C (peninsula D) is primarily mixed age poplar forest while the grid in zone E (toplands) is primarily meadow. These grids therefore provide samples of nesting density and species composition within primary habitats at Tommy Thompson Park. These standardized samples will be very powerful when compared to results ten or more years from now. A breakdown of nests per species for each zone/grid is presented below in Table 8.”**

### 2008

Page 7- Nest Searching Protocol- proposal rejected:

**“The nest searching survey method is valuable to bird conservation because it provides indicators of breeding success and parasitism/predation rates. The protocol used in 2008 essentially followed the 2007 protocol. It involved exhaustive area searches of as much of the TTP area as time and personnel permitted. To satisfy the requirement of standardizing effort, a suggestion was made to limit nest searching and monitoring effort to five specific periods during the breeding season. This suggestion was not accepted for practical reasons (weather, volunteer availability), but as a compromise, the date of each visit (detection and subsequent nest checks) was recorded. This way any subset of the database could be extracted if desirable for standardizing.”**

Page 7- Nest Searching Protocol- change to method of recording data:

**“From 2008 on, the use of ONRS nest cards was discontinued in favour of recording information in field notebooks and submitting the same to ONRS online. Consequently, no unique ONRS numbers appear in Appendix B listing the data submitted to ONRS. However, each submitted record can still be identified by a combination of unique codes, such as observer code, waypoint number or UTM coordinates. “**

Page 7- Nest Searching Protocol- use of subsets C1 and E1 discontinued:



**“Starting in 2008, nests located in Grids C1 and E1 were no longer recorded separately from the rest of Zones C and E, respectively, as had been done in 2006 and 2007.”**

Page 11- New Table 9- Brown-headed Cowbird parasitism species data and rates from 2005 to 2008:

**“The rate of parasitism among known host species at TTP is shown below in Table 9. (For purposes of this report, a nest was considered parasitized if a Cowbird egg was observed, regardless of what happened to that egg.) In previous reports only a total parasitism rate was presented. With the larger data sets available in 2007 and 2008, it is reasonable to present parasitism rates by individual species. The parasitism rates were calculated as the ratio of parasitized nests to the parasitized and not parasitized nests. Nests of the parasitized species where evidence of parasitism could not be determined were not considered in the calculation.”**

### **2009**

Results Page 9- extension of nest searching period:

**“The nest searching period covered 111 days in 2008 (April 30 to August 19), and in 2009 it was extended to 131 days (April 10 to August 19), an 18% increase.”**

### **2010**

Section 2 Page 1- Colonial Waterbird Report was merged with the Breeding Bird Report:

**“Colonial waterbirds have a long history at Tommy Thompson Park and are one of the reasons the park was designated a globally significant Important Bird Area in 2000 (Wilson et al., 2000). Six species of colonial waterbirds breed at Tommy Thompson Park; three species are predominately tree nesters: Double-crested Cormorant, Black-crowned Night-Heron and Great Egret, and three species are ground nesters: Ring-billed Gull, Herring Gull and Common Tern”**

Section 3.2.1.1 Page 6- introduced vegetation surveys in VCP count circles:

**“The habitats at the study area are relatively young in age and may be altered or enhanced through TRCA’s habitat restoration efforts, as well as natural succession. Changes in the habitats over time will also lead to changes in the bird communities and should be documented to help understand and interpret these data. Descriptions of the habitats for each of the VCP stations were initiated in 2010 and should be repeated every three years to help quantify changes in the vegetation communities.”**

### **2011**

Section 3.3.2 Page 12- extension of nest searching period- repeated statement from 2009 report and amended start and end dates, but date changes were not considered material (see 2009).

**“Prior to 2009, the nest searching period was approximately May 1 – August 30, but this was extended in 2009 to approximately April 1 – September 15 in order to include more early and late nesters.”**

### **2012**

Section 3.2.2 Page 8- ground nesting protocol change:

**“Commencing in 2012, a change in protocol was adopted with regard to ground-nesting birds. In order to avoid providing a trail which would lead predators to ground nests, project participants no longer actively seek such nests. As a result, only ground nests found accidentally are recorded, and no follow-up monitoring to determine nest outcome is conducted. Species affected by this change include American Woodcock, Belted Kingfisher, Eastern Meadowlark, Gadwall, Killdeer, Mallard, Savannah Sparrow, Song Sparrow and Spotted Sandpiper. These species represented 6.2% of nests found over the first seven years of surveys and 4.1% of nests found in 2012, so there have never been many such nests found, and the change in protocol does not appear to have had a**

major impact on the number of such nests found, as they have always been notoriously difficult to locate”

## **2014**

Section 3.1.2 Page 6- change in Data Reporting- dropped earlier years from tables:

**“Commencing with the 2013 Breeding Bird Report, data from 2005 will no longer be included. While the project effort in 2005 established the methodology and determined the viability of the project, the work was completed with minimum resources, with the result that the thoroughness of TTP coverage (and consequently the number of nests detected) was not comparable to subsequent years. (Data from 2005 are still available in all annual reports prior to 2013.)”**

Section 3.3.1.1 Page 8- VCP Station Vegetation Survey- dropped 2010 Vegetation Survey from this report:

**“In both 2010 and 2013, a vegetation survey was completed for each station, resulting in the vegetation descriptions found in Table 3.3 below. In addition, Appendix B contains a habitat sketch and photographs for each station in 2013. (The habitat sketches and photographs from 2010 can be found in the Breeding Bird Reports of 2010 – 2102.)”**

## **2015**

3.3.1.2 page 11- VCP count advisory:

**“Prior to 2015, swallows were recorded differently by different project participants during the VCP counts, with the result that swallow numbers in Table 3.4 are somewhat understated for the years 2006 – 2014.”**

Table 3.5 page 13- Trumpeter Swan Nest

**“Note: A Trumpeter Swan nest was observed in 2014, but not included in the 2014 report. As another nest was observed in 2015 and reported to ONRS, it was decided to include the unreported 2014 nest in this report for completeness”**

## **2016**

Section 1.1 Page 1 first paragraph- Toronto Port Authority changed name to Ports Toronto

**“Although construction of the landform continues to the present day by *Ports Toronto* to mitigate shoreline erosion, the final size of the Spit (including the waterlots) is complete at approximately 500 hectares.”**

Section 2.2.2 Page 2 – change in Common Tern nest counting methodology

**“Since 2016, a single population count has been conducted for Common Tern colonies in mid-June by aerial photography from a helicopter. Individual nests can be seen in the images and are counted using GIS software by placing a dot on each nest.”**

Section 3.1.2 Page 6- change data reporting to rolling 10-year basis:

**“Commencing with the 2016 Breeding Bird Report, project data will be presented on a rolling 10-year basis. (Data from earlier years, commencing with 2005, the first year of the project, are available in earlier annual reports.)”**

Section 3.2.2 Page 8- ONRS and Project Nestwatch:

**“While most nest records gathered are submitted to Project NestWatch at Bird Studies Canada, nests discovered after nesting is complete are typically not. Researchers are able to access Project NestWatch data via BSC’s NatureCounts tool. Past Breeding Bird Reports are available at [www.ttpbrs.ca](http://www.ttpbrs.ca).”** CHANGED from 2015 3.2 page 6 “While most nest records gathered are submitted

to the Ontario Nest Records Scheme (ONRS), nests discovered after nesting is complete are typically not.”

### 2017

3.3.2 page 16- continued annual increases in number of nests:

**“Additional reasons for the continued annual increase in nests include: (a) extensive tree and shrub planting by TRCA over recent years; (b) the natural spreading and maturation of appropriate breeding habitat in some areas, particularly dogwood, honeysuckle and reeds, which three represent the most common hosts for Redwinged Blackbirds and Yellow Warblers, the most prolific non-colonial-waterbird nesters at TTP; (c) the everincreasing nest-searching skills in the project participants; (d) the availability of more volunteer effort; and (e) the discovery of areas rich in nests that had not been explored until recent years.”**

### 2018

Table 8 Page 19- changed Other Species Observed

**“In Table 3.8, all years of the project are shown because the “Other Species Observed” has been adjusted to eliminate species that would never breed at TTP, such as most shorebirds and north-nesting warblers. In previous reports, these northern breeders were included in the “Other Species Observed” tally. As can be seen in Table 3.8, the 44 confirmed breeders and 71 total species detected in 2018 are at the high end of the numbers recorded over the entire project to date. (In the first two years of the project, as is apparent in Table 3.8, species were more likely to be categorized as Possible Breeders rather than Other Species Observed, as has been the practice since 2007 when there is no evidence of breeding intent observed.)”**

### 2019

Sections dealing with Colonial Waterbird and Managed Waterfowl Population Estimate Methodology and Landbird and Non-colonial Waterbird Methodology moved to new Appendix F – Breeding Bird Report Methodologies and Protocols

Appendix F, Section 2.3 (4th paragraph) – Bird Studies Canada changed its name to Birds Canada

**“While most nest records gathered are submitted to Project NestWatch at Birds Canada, nests with no breeding evidence detected during one or more visits are typically not. Researchers are able to access NestWatch data via Birds Canada’s NatureCounts tool.”**

### 2020

The protocol followed for the “NEST” category in the “Nest Record Spreadsheet 2020” that is used to record data for this report (but not included in the report itself other than in Table 3.4) is: If a nest is built and not used then it is recorded as a “NEST”. The rationale is that this information is “data” and is more useful if it is recorded, rather than ignored, provided a nest that has been built can be correctly identified as to species. These nests are not always lined. Examples are American Robin which sometimes constructs nests which it does not use; House Wren/Marsh Wren when the male builds a nest to attract a mate but is unsuccessful, and a woodpecker that excavates a nest cavity that is not used for nesting.

If the nest is used for nesting then it becomes an active nest, subject to Nest Outcome codes in the categories of Success, Failure and Unknown.