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INTRODUCTION TO VOLUME 8

Volume 8 of the Credit River Watershed and Region of Peel Natural Areas Inventory Report continues the reporting under the collaborative Natural Areas Inventory (NAI) program, led by Credit Valley Conservation (CVC).

The first NAI Report (Volume 1) contains Part A Background, Part B with 100 summaries, and Appendices A, B and C. Part A contains background information describing the study area, physical and natural heritage context and protocols used to conduct fieldwork. Part B of Volume 1 contains site summaries and mapping for 100 natural areas, and general concepts and terms to assist with reading the site summaries. The Appendices include complete lists of vegetation communities, vascular plants and fauna for the study area.

Volumes 2, 3, 4, and 5 each contain an update to Part B with 40 new site summaries of natural areas, key maps showing the location of the sites summarized, cited literature and data coverage mapping for the NAI study area that was current when those volumes were released. Volumes 6 and 7 also contain updates to Part B but they contain only 17 and 11 site summaries (respectively) because reporting now has caught up and keeps pace with annual field work progress.

This volume, Volume 8, contains another update to Part B with nine new site summaries, all in the Credit River watershed. Volume 8 Part B also includes new key maps showing the location of the sites summarized in this volume, related literature as well as updated data coverage mapping for the NAI study area. Refer to Volume 1 for Part A information and Appendices.

It should be noted that the footer of each page indicates how current the data in the section is. The Species at Risk (SAR) provincial rarity status and other and rankings given in the summary texts are as of the footer date. It should be noted that status rankings do change with time as new assessments update older ones.

NAI reporting is now available online at www.peelregion.ca/planning/pdc/data/monitoring/watersheds/credit-river.htm. The full NAI Volume 1 through Volume 8 reports are posted in sections and an interactive mapping application for viewing sites and site summaries is provided. Volume updates and new site summaries are added online when new NAI report volumes are released.

The most complete, most up to date and most detailed NAI product are the Natural Heritage databases, administered by CVC and Toronto and Region Conservation Authority (TRCA) for their respective jurisdictions. The data is available via a data request to CVC or TRCA depending on the jurisdiction an area of interest falls into.
VOLUME 8  PART B  SITE SUMMARIES AND REFERENCES CITED

1. SITES SELECTED FOR THIS REPORT

Nine site summaries are presented in NAI Report Volume 8 (Fig. 40, Figs. 41a-d). They are new sites, additional to those reported in NAI Report Volumes 1, 2, 3, 4, 5, 6 and 7. The nine natural area sites selected for presentation in Volume 8 reflect the most recent field work conducted by CVC’s Natural Heritage Inventory and Natural Heritage Management programs. As of the end of the 2019 field season, CVC has conducted inventory field work covering 12,328 hectares, approximately 37% of the watershed’s natural land cover. This brings reporting on field inventory coverage of natural areas in the Credit River watershed up to date.

The most recent inventory field work at CVC has focused on natural areas that are part of the Credit River Watershed Natural Heritage System’s Centres for Biodiversity (Credit Valley Conservation, 2015). Field work has also been conducted in additional locations to continue with earlier work done as part of the Brampton Natural Areas Inventory which provides field data guidance to the City of Brampton’s ecosystem restoration program along Etobicoke Creek valley.

The sites selected for reporting here are spread across the NAI study area. In some cases where recent NAI work has filled major inventory data gaps, updates to previously published site summaries in earlier volumes have also been included in this Volume 8 report. It should be noted that data from these inventories is incorporated into the CVC Natural Heritage database.

The breakdown of the nine Volume 8 reporting sites by physiographic region is as follows (some sites overlap more than one physiographic region):

- Oak Ridges Moraine: 3 sites
- Niagara Escarpment: 2 sites
- Guelph Drumlin Field: 2 sites
- Horseshoe Moraines: 1 site
- South Slope: 4 sites.

Five of the Volume 8 sites are in the jurisdiction of Credit Valley Conservation and four sites are in the jurisdiction of the Toronto and Region Conservation Authority.

All nine of the Volume 8 reporting sites are in the Region of Peel.

The breakdown of the nine Volume 8 reporting sites by Municipality is as follows:

- Town of Caledon: 5 sites
- City of Brampton: 4 sites.
2. SITE LOCATOR MAPS

Figure 40

Overview Map of Natural Areas in Region of Peel and Credit Valley Conservation Jurisdiction - Volume 8 Update

This map is for illustrative purposes only. The data displayed are derived from sources with different accuracy and detail levels and therefore may contain approximations. Natural areas (CVC 2015); Watercourses (CVC & Region of Peel 2015); Lakes & Ponds (CVC & TRCA 2015).
Figure 41a

Natural Areas in Map 1 Extent (North Credit River)–Volume 8 Update

Legend:
- Natural areas documented in this report
- Natural areas documented in previous reports
- Other natural areas
- NAI study area
- Regional municipality boundary
- Credit Valley Conservation jurisdiction
- Other detail map coverage
- Town
- Lakes & ponds
- Watercourse
- Trailway
- Railway
- Minor road
- Major road
- Town

This map is for information purposes only. The data displayed are derived from sources with different accuracies and all boundaries should therefore be considered approximate.

NAI Areas, Watercourses, Lakes & Ponds (CVC, 2018), Projection: UTM, z17, NAD83

Date of this Volume 8  Part B. January 2020
Figure 41b

Natural Areas in Map 2 Extent (North Peel Region)—Volume 8 Update

Map 1

Dominion-Charleston
McLaren Charleston South
Cedar Road

Map 3

Regional Municipality of Peel

Legend:
- Natural areas documented in this report
- Natural areas documented in previous reports
- Other natural areas
- NAI study area
- Credit Valley Conservation jurisdiction boundary
- Generalized watercourse
- Caledon Trailway
- Railway
- Lakes & ponds
- Minor road
- Major road
- Town
- Detail map coverage

Note: This map is for information purposes only. The data displayed are derived from sources with different accuracies and all boundaries should therefore be considered approximate.

NAI Areas, (CVC 2015); Watercourses, (CVC 2018; Region of Peel 2015); Lakes and Ponds (CVC 2017; TRCA 2015); Railway and Roads (ONMIP, 2015). Projection: UTM, x17, NAD83.
Figure 41c
3. LIST OF NAI SITE NAMES AND AREA NUMBERS

The following look-up lists for site name and NAI number apply to sites summarized in this report volume.

3.1. LOOK-UP NATURAL AREAS BY SITE NAME

<table>
<thead>
<tr>
<th>Sitename</th>
<th>NAI Number(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cedar Road</td>
<td>7008495, 7008524</td>
</tr>
<tr>
<td>Dominion - Charleston</td>
<td>7008424, 7008437, 7008447, 7008453, 7008463, 7008466, 7008485, 7008491, 7008586, 7009585, 7009881, 7009953, 70010389</td>
</tr>
<tr>
<td>Hurontario - 410</td>
<td>70011440, 70011867</td>
</tr>
<tr>
<td>Hurontario – Sandalwood Central</td>
<td>7002010, 7002023, 7002029, 7002031, 7002052, 7002473, 7002476</td>
</tr>
<tr>
<td>Hurontario - Conservation</td>
<td>7002053, 7002055, 7002080, 7002363, 7002484</td>
</tr>
<tr>
<td>Hurontario - Wexford</td>
<td>7001383, 7002001, 7002004, 7002468</td>
</tr>
<tr>
<td>Kennedy - Beechgrove</td>
<td>7009616</td>
</tr>
<tr>
<td>McLaren – Charleston South</td>
<td>7008489, 7009587, 7009891, 7009894</td>
</tr>
<tr>
<td>Mountainview – Beechgrove Southwest</td>
<td>7009636</td>
</tr>
</tbody>
</table>

3.2 LOOK-UP NATURAL AREAS BY AREA NUMBER

<table>
<thead>
<tr>
<th>NAI Number</th>
<th>Sitename</th>
</tr>
</thead>
<tbody>
<tr>
<td>7001383</td>
<td>Hurontario - Wexford</td>
</tr>
<tr>
<td>7002001</td>
<td>Hurontario - Wexford</td>
</tr>
<tr>
<td>7002004</td>
<td>Hurontario - Wexford</td>
</tr>
<tr>
<td>7002010</td>
<td>Hurontario – Sandalwood Central</td>
</tr>
<tr>
<td>7002023</td>
<td>Hurontario – Sandalwood Central</td>
</tr>
<tr>
<td>7002029</td>
<td>Hurontario – Sandalwood Central</td>
</tr>
<tr>
<td>7002031</td>
<td>Hurontario – Sandalwood Central</td>
</tr>
<tr>
<td>7002052</td>
<td>Hurontario – Sandalwood Central</td>
</tr>
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<td>Hurontario - Conservation</td>
</tr>
<tr>
<td>7002080</td>
<td>Hurontario - Conservation</td>
</tr>
<tr>
<td>7002363</td>
<td>Hurontario - Conservation</td>
</tr>
<tr>
<td>7002468</td>
<td>Hurontario - Wexford</td>
</tr>
<tr>
<td>7002473</td>
<td>Hurontario – Sandalwood Central</td>
</tr>
<tr>
<td>7002476</td>
<td>Hurontario – Sandalwood Central</td>
</tr>
<tr>
<td>7002484</td>
<td>Hurontario - Conservation</td>
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<td>7008437</td>
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<td>Dominion - Charleston</td>
</tr>
<tr>
<td>7008453</td>
<td>Dominion - Charleston</td>
</tr>
</tbody>
</table>
4. DATA ON NATURAL AREAS NOT SUMMARIZED IN THIS REPORT VOLUME

Inventory data exists for additional natural areas that are not covered in this report volume. Summaries for these other natural areas will be included in future NAI report volumes but in the meantime, the data is available by contacting Credit Valley Conservation or Toronto and Region Conservation Authority, depending on the location of the area. Figures 42, 43 and 44 respectively, show natural areas where vegetation community inventory data, botanical inventory data and breeding bird inventory data exists in the NAI study area.

5. NOTES ON THE SITE SUMMARIES

The site summaries contain site-specific information to capture the individual character of each natural area.

5.1. SITE NAME

The NAI project uses a compound location-naming convention based on the roads adjacent to the NAI site. The first part of the site name indicates the concession road that runs along the southwest margin of the block that contains the natural area and the second part of the site name indicates the sideroad that runs along the northwest side of the concession block that contains the natural area. (It should be noted that in the study area, concession roads generally run northwest-southeast and sideroads generally run northeast-southwest.) Where there are multiple natural areas in a concession block the site name also contains an additional term the further refines the position in the
Figure 42

Existing NAI Vegetation Community Inventory Data Coverage—Volume 8 Update

This map is for information purposes only. The data displayed are derived from sources with different accuracies and all boundaries should therefore be considered approximate. NAI Areas, Watercourses, Lakes & Ponds, Vegetation community data (CVC, 2019 & TRCA, 2015), Roads (OMRRP 2015). Projection: UTM 17T, NAD83

Date of this Volume 8 Part B. January 2020
**Figure 43**

Existing Plant Inventory Data Coverage—Volume 8 Update

- **Legend:**
  - Plant data available from this study
  - Other natural areas in Peel or near CVC jurisdiction
  - Credit Valley Conservation (CVC) jurisdiction
  - Regional municipalities
  - NAI study area
  - Lakes & ponds
  - Watercourse
  - Highway
  - Amenity
  - Minor road

- **Note:** This map is for information purposes only. The data displayed are derived from sources with different accuracies and all boundaries should therefore be considered approximate. NAI Areas, Watercourses, Lakes & Ponds, Vegetation data (TRCA, 2015; CVC 2015); Roads (ONMNR, 2015); Projected: UTM, z17, NAD83

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Date of this Volume 8  Part B. January 2020

1255 Old Derry Road, Mississauga, Ontario L5N 6R4 | cvc.ca | T 905-670-1615 | TF 800-668-5557 | F 905-670-2210
Figure 44

Existing Bird Inventory Data Coverage—Volume 8 Update

This map is for information purposes only. The data displayed are derived from sources with different accuracies and all boundaries should therefore be considered approximate. NAI Areas, Watercourses, Lakes & Ponds, Bird Inventory data (CVC 2019; TRCA 2015); Roads (C&M&RF 2015).

Projection: UTM, z17, NAD83

Credit Valley Conservation (CVC) Jurisdiction
Bird Inventory data available
Other natural areas in Peel or CVC Jurisdiction
Regional municipalities
NAI study area
Lakes & ponds
Watercourse
Highway
Arterial
Minor road

0 2.5 5 10 Kilometers

Date of this Volume 8  Part B.  January 2020

1255 Old Derry Road, Mississauga, Ontario L5N 6R4 | cvc.ca | T 905-670-1615 | TF 800-668-5557 | F 905-670-2210
block where the natural area occurs, such as “north”, “central”, “west-central” depending on the number and distribution of other natural areas that may be located in the same block. A locator map for the natural area can be found at the end of each site summary. In urban areas, major northwest-southeast and northeast-southwest roads are used to name sites instead of concession roads and sideroads.

5.2. NATURAL AREA NUMBER

Each site has one or more unique natural area numbers assigned. A site with multiple numbers represents a cluster of adjacent field, forest and/or aquatic natural areas. The natural area number is an internal reference system within the natural heritage database and can be used for data requests.

5.3. NATURAL AREA SIZE

Natural Area size is expressed in hectares, rounded off to a whole number.

5.4. HUMAN HISTORY

A brief overview is provided of historical land uses in the vicinity of the natural area. This is not intended to relate the full human history of the site but provides insight into historical natural communities that may have been present and/or the disturbance history of the area.

5.5. VEGETATION COMMUNITIES

The first part of this section describes the general community types that make up the natural area. Broad community types are grouped together, for example all deciduous forests are grouped together, all types of coniferous swamps are grouped together. For areas with 100% Ecological Land Classification (ELC) coverage, the percent composition of all communities of each broad community type (community series) is summed. For areas that have only partial ELC coverage, field generated community data is used wherever it is known and the remainder is calculated from air photo interpreted community series mapping. In this way a general picture of community composition of the whole natural area is provided, although there is the potential for some inaccuracy due to the difficulty of interpreting air photos for some community types.

The second part of this section provides the results of the ELC field data that has been collected for the portion of the natural area where access permission was obtained. All of the known vegetation types for the natural area are listed, including their area and percent contribution to the whole natural area. Note that these vegetation communities may not total to 100% of the natural area if complete ELC coverage was not obtained. The ELC mapping for each natural area can be found at the end of each site summary.

There are examples where a vegetation community may actually be a mosaic of two distinct vegetation types that are recognizable but are intermixed in too complex a manner to map. These are recorded as “complexes” and the vegetation type of each component is classified according to the ELC system, with the dominating vegetation type noted. When a rare vegetation type is part of a complex it is listed in this section.
Natural areas may sometimes contain distinct vegetation communities that are too small to map individually at the scale used and are treated as “inclusions” within the surrounding vegetation type. Inclusions are classified using the ELC system (according to their dominant species and soils) but are tabulated instead of being mapped. If rare inclusions are found, they are noted in this section. Some inclusions may be of rare vegetation types and when this occurs it is noted as inclusion “status”.

5.6. SPECIES PRESENCE

This section summarizes the species observations by general taxonomic group (plants, breeding birds, fish, etc.) where at least one record for a group exists. The inventory work was more exhaustive in detecting some groups (e.g. plant species, breeding birds) than others due to the method employed. Some groups are only represented by incidental records. Species at Risk that were encountered are listed in a table with their ranks. A second table lists regionally rare species (note that regional rarity ranks are currently only available for vascular plant species). For sites within CVC’s jurisdiction (i.e. Credit River watershed) all of the species listed in this table are regionally rare.

5.7. DATA-SENSITIVE SPECIES

Species deemed “data-sensitive” by the NAI project are not specifically named in this report. Instead, the site summary indicates that a data-sensitive species is present. Additional information will be released on a “need to know” basis. The Data Management Technician at CVC can be contacted for more information. Data-sensitive species are species for which the publication of their locations would pose a high threat to the viability of the populations. Often these species are targeted for harvesting.

5.8. SPECIES AT RISK

Species described as national Species at Risk are those designated Endangered, Threatened or Special Concern by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC; Committee on the Status of Endangered Wildlife in Canada, 2010). COSEWIC is an independent body of experts responsible for identifying and assessing species considered to be at risk on a national basis, and which recommends species for protection under the federal Species at Risk Act (SARA; Government of Canada, 2015). Species are not legally protected by COSEWIC, but COSEWIC’s recommendation is the first step in the process of legal protection under SARA.

Species described in this report as provincial Species at Risk are those classified as Endangered, Threatened or Special Concern by the Committee on the Status of Species at Risk in Ontario (COSSARO). COSSARO analyses the best available information, classifies species status in Ontario and reports their assessments to the Ministry of Environment, Conservation and Parks. Species identified as being at risk are placed on the Species at Risk in Ontario (SARO; Ontario Ministry of Natural Resources, 2015a) list and receive protection under the provincial Endangered Species Act.

5.9. SPECIES RARITY AND RANKING

Global rank (G-rank) for species have been assigned by a consensus of the network of Conservation Data Centres, scientific experts and The Nature Conservancy to designate rarity based on the status of a species, subspecies or variety throughout its range.
(NatureServe, undated). G-ranks range from G1 (Critically Imperiled - at very high risk of extinction due to extreme rarity; often with 5 or fewer populations, very steep declines, or other factors) to G5 (Secure - common, widespread, abundant).

Provincial (Sub-national) ranks, S-ranks, have been assigned by the Natural Heritage Information Centre for species and vegetation communities in Ontario. These S-ranks range from S1 (Critically Imperiled - 5 or fewer locations or because of factors which make it especially vulnerable to extirpation in Ontario) to S5 (Secure - common, abundant and widespread in Ontario). Ranks of S1, S2 and S3 are considered to be provincially rare. In some cases, a species is given a range rank (e.g. S2S3) to indicate a range of uncertainty about the status of the species. In other cases, a species is given a rank followed by a question mark (e.g. S3?) indicating the rank is uncertain. S-ranks do not carry any legal protection status although they are used to set protection and conservation priorities for rare species and natural communities.

Regional rarity information is only available for flora species. For the purposes of the NAI project, regional rarity information follows Kaiser (2001). A plant species noted as locally rare by Kaiser is one that is rare in the Region of Peel and the Credit River Watershed.

5.10. DISTURBANCES

Both human and natural disturbances to the natural area are included in this section. Disturbances are factors that would not be present in a “pristine” community and may play a role in the alteration of the nature or composition of a community. For example, beaver damming a stream through a swamp (treed wetland) and the subsequent flooding is considered a disturbance because the flooding may cause the death of the trees and change the community to a marsh or pond. Fire is another form of disturbance regardless of whether it is natural (lightning strike) or caused by humans. Communities with certain kinds of disturbance or significant amounts (extent or intensity) of disturbance could undergo sufficient change to be classified, in the future, as a different type.

Observations on disturbance in natural areas are based on the qualitative assessments of the experienced field workers that conducted the vegetation community descriptions and classifications (ELC crews). Disturbance may range in extent from localized to widespread through the whole natural area. Disturbance intensity may also vary from low to severe. The potential impact or importance of disturbance is case-specific as it is a combination of disturbance extent and intensity. For example, a community that contains a widespread occurrence of a non-native, but not invasive, plant species may be less of a concern than a community that contains localized patches of a highly aggressive invasive species, even if the invasive species population is small at the time.

5.11. ECOLOGICAL FEATURES AND FUNCTIONS

The ecological features and functions of the site are highlighted in this section, starting with landscape scale, and progressing to a more site-specific scale.

As part of its watershed-wide landscape scale analysis (Credit Valley Conservation, 2011), CVC has proposed that rural natural areas that contain forest communities over four hectares in size and urban natural areas that contain any forest communities over two hectares in size are capable of supporting and sustaining high biodiversity. The
landscape scale analysis also identified wetlands over 0.5 hectares in size as being important in supporting and sustaining biodiversity and providing for healthy ecosystem function, and open country habitat (cultural meadows/cultural thicket/cultural savannah) totalling over ten hectares in size as having high ecological function. The presence of riparian areas contributes to maintaining habitat quality in streams.

The CVC landscape scale analysis (Credit Valley Conservation, 2011) identifies areas that contain more than four general community types (e.g. deciduous forests, coniferous forests, mixed forests, meadow marshes, shallow marshes, deciduous swamps etc. but excluding cultural meadows) as high-functioning in supporting biodiversity especially for species that require more than one habitat type for their life needs. Areas that support rare vegetation communities have extra potential to support biodiversity by providing special habitat for species that are uncommon. Natural areas that have connectivity or close proximity with other natural areas contribute to ecosystem stability and resilience by allowing for wildlife movement, gene flow and recovery from disturbance. Natural areas through which a major river passes or is within 300 m of, or areas through which a major tributary of the major river pass, support these major watercourses as cross-regional wildlife movement corridors and contribute to ecosystem stability. Several landscape scale analysis criteria also form the basis for the identification of CVC’s Credit River Watershed Natural Heritage System (CRWNHS; Credit Valley Conservation, 2015). When any of the above ecological features occur in the area being described, they are highlighted in this section as potentially contributing to the area’s landscape scale ecological function or to the CRWNHS.

Within each natural area, the presence of any features covered in the significant wildlife habitat criteria identified in the Peel-Caledon Significant Woodlands and Wildlife Habitat Study (North-South Environmental Inc. et al., 2009) are highlighted so that the area can be evaluated to determine if significant wildlife habitat is present in accordance with the Provincial Policy Statement, Region of Peel Official Plan, and area municipal Official Plan. Note that this report does not designate areas as significant wildlife habitat but instead notes when certain wildlife habitat features exist. Evaluation of the natural area with respect to the significant wildlife habitat guideline documents and/or the Provincial Policy Statement (PPS) will determine whether the natural area contains wildlife habitat that is deemed significant.

5.12. OPPORTUNITIES

This section identifies site-specific actions that could be taken to improve or enhance the ecological integrity or knowledge of the natural area. These opportunities usually stem from three sources. 1. They address some of the disturbances identified. 2. They identify where the natural area might be improved at a landscape level (e.g. improving connectivity with nearby natural areas) or at a site-specific level (e.g. increasing the size of the natural area or managing the communities more naturally). 3. They address data gaps and note where other inventories might be productive or needed. General stewardship opportunities follow this section.

5.13. MAPS

Two maps are included with each site summary. The first shows the site location in the context of nearby roads, watercourses and waterbodies and the shape of the natural area. The first map also shows how nearby or included natural features of recognized
significance such as Areas of Natural and Scientific Interest (ANSI), Environmentally Significant Areas (ESA) and Provincially Significant Wetlands (PSW) relate to the summarized natural area.

The scale of the second map shows greater detail, including the vegetation communities of the natural area that have been mapped. Communities are labelled with a code for their vegetation type – this code is found in the Map Reference column of the ELC Vegetation Communities table in the site summary, linking the types of communities listed with their distribution in the natural area. For large natural areas, the second map may be multi-part due to the level of detail.

6. GENERAL STEWARDSHIP OPPORTUNITIES FOR LANDOWNERS

6.1. OVERVIEW

Landowners are stewards of their land and they have a special opportunity to protect, restore or enhance natural areas on their property. Credit Valley Conservation has a wide variety of programs to assist landowners in the stewardship of their properties. This includes but is not limited to wetland creation and enhancement, reforestation, naturalization of old field and manicured areas, plantation management and naturalization, forest management planning, in-stream restoration, taking ponds off-line and invasive species management. Contact CVC Restoration staff for more information on these programs.

While the following site summaries identify site-specific stewardship opportunities, there are also some that are common to many or most natural areas in the study area. These general stewardship opportunities are outlined below.

6.1.1. Use Native Species in Landscaping: Whenever possible, use native species rather than non-native species, especially adjacent to natural areas. Native species are adapted to local growing conditions, often require less maintenance, and support native pollinators. Non-native species, on the other hand, have not evolved with local climate and soil conditions and are often less suitable food sources for local fauna. Some non-native species are also invasive, and can establish themselves in natural communities and disrupt the natural ecosystem, eliminating native plants (Credit Valley Conservation, 2010). To assist landowners with choosing non-invasive garden species, CVC has produced a number of resources including: “A Guide to Gardening Wisely: Invasive Garden Plants & Alternatives”, “Alternative Plants for Invasive Species,” and “Area Native Plant Nurseries and Seed Sources” which are available on the CVC website www.cvc.ca.

6.1.2. Remove Invasive Species: Landowners may wish to remove invasive plant species that have established on their properties. Invasive species lack natural checks and balances so their populations explode and reduce biodiversity and community resilience. Removing invasive species helps to preserve the native ecosystem and its complex functions. Localized, small-scale infestations offer the best chances for quick elimination as invasive species can be tenacious and hard to eradicate. To assist landowners in identifying and removing invasive plants, CVC has produced a number of resources including “A Quick Reference Guide to Invasive Species” (Credit Valley Conservation, 2010) and “A Landowner’s Guide for Managing and Controlling Invasive
Plants” (available on the CVC website www.cvc.ca) includes an invasive species list as well as links to other invasive species resources. To curtail the spread of exotic or invasive species, do not dispose of yard waste in natural areas and stay on trails when hiking through natural areas to avoid transferring invasive plants and their seeds into new areas. Yard waste should be disposed of through municipal composting and yard waste disposal programs that are designed to ensure that seeds of waste plants are killed. CVC can assist landowners who want to remove invasive species from their natural area properties.

6.1.3. Leave Forest Undergrowth and Standing Dead Trees: Many landowners have forests on their property that they wish to manage in an ecological manner. Toward this goal, landowners are encouraged to minimize the disturbance to undergrowth, fallen logs and standing dead trees within their forests as these are important components of forest ecosystems. Resist the urge to “tidy up” forests by removing underbrush, dead sticks etc. on the ground. Avoid removing low-growing plants such as saplings which are needed to replace older trees as the forest ages, and shrubs and ground cover which provide food and shelter to wildlife. Rotting logs provide micro-habitat for a variety of lichens, fungi, invertebrates and salamanders and stored water that supports forest growth. Standing dead trees provide nesting habitat and foraging habitat for wildlife. Allowing them to decay promotes nutrient recycling in the ecosystem.

6.1.4. Naturalize Stream Banks and Pond Edges: Water features are a valued component of many properties and have aesthetic value to landowners. Water features are also wildlife “hotspots”, used for feeding and shelter. Naturalizing the edges of watercourses and waterbodies by planting trees, shrubs or herbaceous plants along the banks helps preserve water quality and quantity. As vegetation grows, it will stabilize the banks and reduce erosion, shade the water to keep temperatures cool and serve as a barrier to runoff which might contain pollutants such as fertilizer. Vegetated banks will provide additional habitat for wildlife and may attract additional species to use the natural area.

6.1.5. Create or Enhance Species Movement Corridors: Habitat fragmentation occurs when natural communities become separated due to other uses. Fragmentation makes it harder for species to safely move between natural areas (Ontario Ministry of Natural Resources, 1994). By referring to an aerial view of their property (such as Google Earth satellite view in Google Maps), landowners can identify natural habitats that are fragmented. New connections or narrow remaining connections between separated natural areas can be created or strengthened by planting trees, shrubs and herbaceous plants, or by allowing natural regeneration to occur.

6.1.6. Maintain Meadows: Grassland birds, such as the Bobolink and Eastern Meadowlark, once used native prairie habitat and now rely on agricultural grassland habitat including pasture and hay fields, as well as meadows (McCracken, 2005). In regions with many abandoned farm fields, such as the NAI study area, the meadows that in the past served as nesting habitat for grassland birds are now undergoing succession as shrubs and trees become established in these fields. These meadows will eventually become treed communities, unsuitable for supporting grassland birds. Rural property owners may wish to maintain some or all of the old farm field as meadow by mowing once every three to five years in late summer or fall. Rural owners of hayfields can support grassland breeding birds by cutting hay after the middle of July when the young have left their nests (McCracken, 2005).
6.1.7. Consider Tax-incentive and Other Financial Aid Programs to Help Rural Landowners: The Government of Ontario and the Government of Canada offer tax incentive programs that may be of interest to land owners with natural areas on their properties. The Managed Forest Tax Incentive Program (MFTIP) is available to landowners with at least 10 acres of managed forest on their property. Landowners who apply and qualify for the program, have the managed forest taxed at 25% of the residential land tax rate (Ontario Ministry of Natural Resources, 2014). The Conservation Land Tax Incentive Program (CLTIP) is available to landowners who have a significant ecosystem or other significant natural features on their property and agree to protect it (Ontario Ministry of Natural Resources, 2015b). Landowners receive a 100% tax exemption on the eligible portion of their property. The Ecological Gifts Program provides a tax incentive for property owners with ecologically sensitive land who donate their land or a partial interest in their land to a qualified recipient (Environment Canada, 2011). There are a variety of other programs that provide forms of financial assistance to help landowners protect natural features on their agricultural properties. Conservation authority staff can help landowners access and carry out these programs.

6.1.8. Partner With Environmental Organizations: A number of environmental organizations are eager to partner with landowners on conservation projects. Conservation authorities can offer advice or assistance with tree-planting and stream/pond restoration. Landowners with Butternut (Juglans cinerea) and/or very large American Elms (Ulmus americana) can assist groups working on recovery activities for these two tree species whose numbers have been decimated by disease.

6.1.9. Submit Species Observations: Conservation authorities collect data on species presence and distributions in their jurisdictions and are interested in receiving reports on species observed especially if the species is believed to be uncommon in the area. Other notable species or natural features worthy of reporting include nesting turtles, bat or snake winter hibernating areas (hibernacula), winter deer yards, areas of frequent road-kill, and locations where colonial-nesting birds such as herons and swallows breed.

7. DEFINITIONS AND ABBREVIATIONS USED IN THIS REPORT

ANSI – Area of Natural & Scientific Interest. An area designated by the OMNRF within the province of Ontario that represents significant geological (earth science) and/or biological (life science) features.

COSEWIC – Committee on the Status of Endangered Wildlife in Canada. A committee of experts that assesses and designates Species At Risk in Canada (Committee on the Status of Endangered Wildlife in Canada, 2010).

COSSARO – Committee on the Status of Species at Risk in Ontario. A committee of experts that assesses and classifies Species at Risk in Ontario.

CLTIP – Conservation Land Tax Incentive Program

CVC – Credit Valley Conservation

ELC - Ecological Land Classification. A system for classifying vegetation communities in Southern Ontario, according to the dominant plant species present, vegetation structure and soil characteristics (Lee et al, 1998).
**ESA** – Environmentally Significant Area (sometimes referred to as an Environmentally Sensitive Area). An area designated by CVC within its jurisdiction.

**Extirpated Species** – A species that no longer exists in the wild within the jurisdiction (e.g. provincial, national), but exists elsewhere in the wild.

**G-RANK** – Global rank designating rarity based on the global status of a species, subspecies or variety (Nature Serve, undated).

**MFTIP** – Managed Forest Tax Incentive Program

**NAI** – Natural Areas Inventory

**PSW** – Provincially Significant Wetland. A wetland that has been assessed and classified as provincially significant under the Wetland Evaluation System for Ontario (Credit Valley Conservation, 2007).

**SARA** – Species at Risk Act. A Canadian Act with the purpose to prevent Canadian indigenous species, subspecies and distinct populations of wildlife from becoming Extirpated or Extinct, to provide for the recovery of Endangered or Threatened species, and to encourage the management of other species to prevent them from becoming at risk (Government of Canada, 2015).

**SARO** – Species at Risk in Ontario

**Special Concern** – A designation under COSEWIC or COSSARO that indicates a species that may become a Threatened or an Endangered, because of a combination of biological characteristics and identified threats.

**Species at Risk** – A species that is Extirpated, Endangered, Threatened or of Special Concern under COSEWIC or COSSARO.

**S-RANK** – Provincial (sub-national) rank used to set protection priorities for rare species and natural communities. These ranks are not legal designations (Nature Serve, undated).
8. LITERATURE CITED


Credit Valley Conservation. 2007. **The Making it Work: Credit River Water Management Strategy (Detailed Report).**


