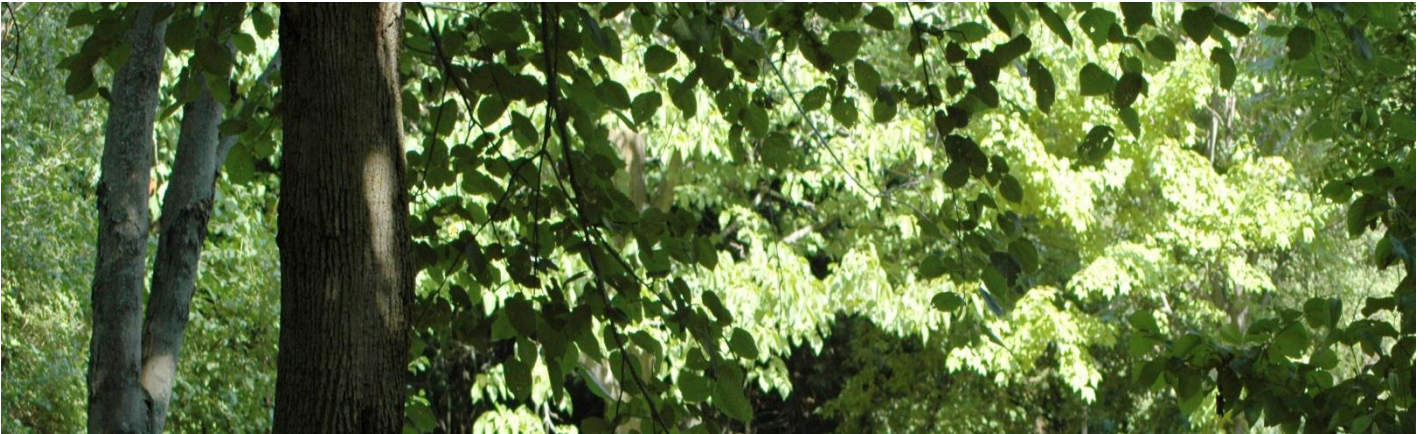


# **Natural Heritage Strategy Phase 3**



## **Draft Natural Heritage Policies**

## Preamble

The Guelph Natural Heritage Strategy was initiated in 2004. The primary purpose was to identify and assess the remaining natural heritage features and system within the City and to bring the City's current Natural Heritage policies in conformance with Provincial, Regional and Local plans and/or legislation. A three phased approach was used:

**Phase 1** - Background materials were reviewed and summarized, working criteria for significant local features were developed and public consultation was initiated.

**Phase 2** - Field assessments and more detailed analysis to supplement Phase 1 information were completed. The main objectives of this phase was to develop a Natural Heritage System (NHS) that is based on defensible and transparent criteria, represents current conditions, and is consistent with the Provincial Policy Statement (2005) as well as the City's vision for its natural heritage.

Public and stakeholder input was received throughout Phase 2 of the NHS. The criteria, mapping and draft policy direction were developed. Following public and stakeholder input, the Natural Heritage Strategy Phase 2 Report was finalized. The Phase 2 Report was presented to Council in July, 2009 at which time Council directed that the Phase 2 Natural Heritage Strategy Report and mapping be used as the basis for identifying the NHS and policies for incorporation into the Official Plan Update.

**Phase 3** - Phase 3 of the Natural Heritage Strategy involves the development of policies and the integration of the NHS into the current Official Plan Update. The draft policies address consistency with provincial policy and legislation such as the Provincial Policy Statement (2005) and the *Endangered Species Act* of Ontario (2007).

The Natural Heritage Strategy Report and mapping (March 2009) form the basis for the development of the policies and both should be referenced during the review of the policies.

The draft policies are proposed to form Chapter 5 of the Official Plan and will be subject to review and feedback from the public and stakeholders before being included in the draft Official Plan Update.

## 5.1 Natural Heritage

The City's *Natural Heritage System* is comprised of a combination of natural heritage features, areas, *buffers*, landform, related ecological and *hydrological functions, ecological linkages*, corridors and *restoration* areas.

A diverse and well-connected *Natural Heritage System* contributes to the City's environmental, social, economic and cultural values. These contributions include, but are not limited to, the protection of biodiversity and water resources, the provision of natural and open spaces for leisure activities and aesthetic enjoyment, opportunities for residents and visitors to experience nature in the City, and mental health benefits.

The *Natural Heritage System* is made up by the following two (2) designations as identified on Schedule X:

1. Significant *Natural areas*
2. Locally Significant *Natural areas*.

The *Natural Heritage System* also includes Wildlife Crossings as identified on Schedule XX.

### Purpose

The purpose of the *Natural Heritage System* is to maintain, restore and where possible improve the diversity and connectivity of *natural features* and the long term *ecological function* and biodiversity of the *Natural Heritage System*, while recognizing and maintaining linkages between and among *natural heritage features and areas* and surface and groundwater features. The *Natural Heritage System* also provides a number of ecological services including, diversity, air and water quality, aesthetic value, passive recreational opportunities, all of which contribute to the health and social well being of the present and future generations of the City.

The following natural heritage features and *established buffers* make up the *Natural Heritage System* identified on Schedule 2. The components of the *Natural Heritage System* are illustrated in detail on Schedules X through XX. Schedules X to XX must be read in conjunction with Schedule 2 and the applicable provisions of this Plan.

1. Significant *Natural Areas*
  - a) *Areas of Natural and Scientific Interest (Earth and Life Science)*
  - b) *Habitat for Endangered and Threatened Species*
  - c) *Significant Wetlands*
  - d) *Surface Water and Fish Habitat*
  - e) *Significant Woodlands*
  - f) *Significant Valleylands*
  - g) *Significant Landform*
  - h) *Significant Wildlife Habitat*
  - i) *Restoration Areas*

2. Locally Significant *Natural Areas*
  - a) *Other Wetlands*
  - b) *Cultural Woodlands*
  - c) *Locally Significant Wildlife Habitat*

3. **Wildlife Crossings**

The intent of the *Natural Heritage System* is to provide permanent protection to the Significant *Natural Areas* and *established buffers*. Locally Significant *Natural Areas* require further study to identify the features and functions that are required to be protected before *development* may be permitted. Wildlife crossings are identified to ensure that mitigative measures are taken to minimize any harm to wildlife, the public and vehicles.

Identification, protection and enhancement of the City's *Natural Heritage System* implements the provisions of Provincial Policy and legislation.

### 5.1.1. Objectives

1. To identify, protect, maintain, enhance and restore, the City's Significant and Locally Significant *Natural Areas*, surface and groundwater features, *established buffers* and associated ecological and *hydrological functions* in a manner that:
  - a) recognizes the importance of a systems approach and the interconnectivity between and among natural heritage features and areas, surface and groundwater features, *ecological functions*, and the linkages between and among these features and functions; and
  - b) recognizes that *natural features* and areas in urban settings are subject to a variety of impacts and stresses, and seek to identify opportunities to mitigate against these influences.
2. To protect Endangered and *Threatened Species* and their associated habitats.
3. To recognize that the *Natural Heritage System* contributes to important *ecosystem services* that benefit current and future generations.
4. To protect, maintain, enhance and restore the *Natural Heritage System* to the greatest extent possible, while providing for limited compatible *development* and activities as identified in this Plan that do not negatively impact the *natural features* and their ecological or *hydrological functions*.
5. To increase *tree canopy cover* within the City.
6. To protect identified significant portions of the Paris-Galt Moraine within the City in recognition of its role in contributing to *wildlife habitat* and linkages, continuity of the *Natural Heritage System*, surface and groundwater resources, biodiversity, aesthetic value in the landscape, local uniqueness and geologic history.
7. To ensure long-term sustainability of the *Natural Heritage System* through ongoing stewardship, management and monitoring.

8. To ensure that the criteria identifying the *Natural Heritage System* are applied in a transparent and consistent manner.
9. To implement an ecosystem based approach on a watershed and subwatershed basis.
10. To provide clear mechanisms for assessing the potential impact of *development, site alteration and other activities* on the *Natural Heritage System*.

### 5.1.2 General Policies

1. The City shall ensure the long term protection of the *Natural Heritage System* and associated *ecological and hydrological functions*. The City also encourages protection of the *Natural Heritage System* in areas outside the City's boundaries where the *natural features* are linked and/or are a continuation of the City's *Natural Heritage System*, e.g. continuation of *Significant Woodlands, streams or wetlands*.
2. *Development or site alteration* shall not be permitted within, or on *adjacent lands* within the *Natural Heritage System* illustrated on Schedule X, unless it has been demonstrated through an EIS, EA or subwatershed study there will be no *negative impacts* on the *natural features* or the *ecological and hydrological functions*. Exceptions are identified in the General Permitted Uses listed below.
3. The boundaries of the *natural features* and areas that make up the *Natural Heritage System* are based on established criteria and the best information available at the time of completion of this Plan. The minimum *buffers* identified in Table X have generally been incorporated into the *Significant Natural Areas* designation identified on Schedule X. The precise location of the boundaries of the *Significant Natural Areas* and *Locally Significant Natural Areas* will be established to the satisfaction of the City on a site-specific basis through the application of the criteria, using the most up to date information available, including EIS/EA and site verification.
4. Species at risk may be modified from time to time under the Species at Risk Act and the *Endangered Species Act* or related legislation, regulation or policy. Where such refinements and/or interpretations are made, an amendment to this Plan will not be required.

### General Permitted Uses

5. *Development and site alteration* shall not be permitted within the *Natural Heritage System* or *established buffers to natural features*, except for the following uses:
  - a) legally existing uses, buildings or structures,
  - b) passive recreational activities, such as trails and walkways,
  - c) scientific and educational activities, including interpretive signage,
  - d) fish and wildlife management,
  - e) *forest management*,
  - f) *habitat conservation*, and
  - g) *restoration* activities.

6. Notwithstanding the provisions of Section 5, *scientific and educational activities, restoration activities and forest management* (were approval is granted through an applicable approval process, e.g. Forestry Act, Tree By-law) may be permitted without an EIS or EA.
7. The above uses may be further limited through the specific policies for each *natural feature*.
8. Where two or more *Natural Heritage System* features or areas overlap, the policies that provide the most protection to the *natural features* or area shall apply.
9. All *public and private infrastructure* including but not limited to storm water management, water and waste water, power generation, waste management systems, linear utilities and facilities and *transportation infrastructure* are subject to the policies of the *Natural Heritage System* and the other applicable policies of this Plan.
10. *Development and site alteration* within and adjacent to the *Natural Heritage System* shall be required to demonstrate, through an EIS, EA or subwatershed study, to the satisfaction of the City, in consultation with the GRCA, the province and federal government, as applicable, there will be no negative impact on the *natural features* or their ecological and *hydrological functions*.

## Buffers

11. *Adjacent Lands* and minimum *buffers* are identified on Table X. The final width of required *buffers* may be greater than those identified on Table X and shall be established through an approved EIS or EA or through an approved subwatershed studies.
12. *Adjacent Lands* and *buffers* shall be measured from the edge of an identified feature or area (e.g. drip line of a woodland, boundary of a wetland).
13. With the exception of the uses permitted by this Plan, *buffers* shall be restored to, or maintained in a natural state in support of the ecological and /or *hydrological functions* of the *adjacent natural feature* such that over time the buffer becomes part of the *natural heritage system*.

**Table X Minimum Buffers and Adjacent Lands to the Components of the Natural Heritage System**

<b>Significant Natural Areas</b>	<b>Minimum Buffers</b>	<b>Adjacent Lands</b>
a) Areas of Natural and Scientific Interest (ANSIs)		
i. Provincially Significant Earth Science ANSI	i. 10 m	i –iv 50 m
ii. Regionally Significant Earth Science ANSI	ii. To be established through a site-specific study <sup>1</sup> (EIS or EA) in consultation with the Ministry of Natural	
iii. Provincially Significant Life Science ANSI		

<sup>1</sup> Site-specific study refers to the requisite EIS or EA to be conducted in response to *development* or *site alteration* within the *adjacent lands* to an identified *natural feature* within Significant Natural Areas and Locally Significant Natural Area.

iv. Regionally Significant Life Science ANSI	Resources (MNR) iii. 20 m iv. 20 m	
Habitat for Endangered and <i>Threatened Species</i>	To be established through a site-specific study in consultation with MNR or approved Recovery Plans.	120 m
<i>Significant Wetlands</i>		
i. <i>Provincially Significant Wetlands</i>	i. 30 m	i. 120 m
ii. <i>Locally Significant Wetlands</i>	ii. 15 m	ii. 120 m
iii. <i>Other Significant Wetlands</i>	iii. 15 m	iii. 50 m
Surface Water and <i>Fish habitat</i>		
i. Cold water <i>fish habitat</i>	i. 30 m	i. 120 m
ii. Cool water <i>fish habitat</i>	ii. 30 m	ii. 120 m
iii. Permanent and <i>intermittent streams</i> , natural ponds, warm water and undetermined <i>fish habitat</i>	iii. 15 m Adjacent to the Speed and Eramosa Rivers, the buffer shall be measured from the river's edge; or where there is a steep slope adjacent to the river, 15 m from the top of the stable slope. For permanent and <i>intermittent streams</i> and warm water <i>fish habitat</i> , the buffer will be measured from the <i>bankful channel</i> .	iii. 120 m
<i>Significant Woodlands</i>		
i. <i>Significant Woodlands</i> (1 ha and greater)	i. 10 m from the drip line	i. 50 m
ii. <i>Locally Significant Woodlands</i> (0.5 ha and greater)	ii. 10 m from the drip line	ii. 50 m
<i>Significant Valleylands</i>	To be established by site-specific study.	50 m
<i>Significant Landform</i>	No buffer	50 m
<i>Significant Wildlife Habitat</i>		
i. Deer Wintering Areas and Waterfowl Overwintering Areas	i- iii. To be established through a site-specific study.	i-iii 50 m
ii. Habitat for provincially <i>significant vegetation types</i> , e.g. provincially rare vegetation communities ranked S1 -S3/S4 by the Natural Heritage Information Centre Ranking definitions.	iv. No buffer	iv. no adjacent lands
iii. <i>Locally Significant Vegetation Types</i> greater		

than 0.5 ha e.g. white Cedar Treed Carbonate Cliff Type, Carbonate Open Cliff Ecosite, Carbonate Shrub Cliff Ecosite and Carbonate Treed Talis Ecosite.		
iv. Ecological Linkages		
<i>Restoration Areas</i>	No buffer	No Adjacent Lands

<b>Locally Significant Natural Areas</b>	<b>Minimum Buffers</b>	<b>Adjacent Lands</b>
<i>Other wetlands</i>	Generally 15 m but may vary as established through a site-specific study. Less than 0.2 ha to be established through site-specific study.	30 m for <i>wetlands</i> less than 0.2 ha.
Cultural Woodlands	10 m from the drip line	50 m
Locally Significant <i>Wildlife Habitat</i>	To be established through a site-specific study.	50 m

\*\* Site-specific study refers to the EIS or EA required by Policy 5.1.2.7 to be conducted in support of *development* or *site alteration* applications proposed within and *adjacent* to Significant *Natural Areas* and Locally Significant *Natural Areas*.

## Existing Uses

9. Legally existing uses, existing utilities, facilities and *infrastructure* and their *normal maintenance* are recognized and may continue within the *Natural Heritage System*. A change in use of a legally existing use within the *Natural Heritage System* will not be permitted without an amendment to this Plan.
10. An expansion of a legally existing building or structure may be permitted within the *Natural Heritage System* without an amendment to this Plan provided that it can be demonstrated, to the satisfaction of the City, through an Environmental Impact Study (EIS), that the objectives of the designation can be met and that that the proposed expansion will not have a negative impact on the *natural features* or *ecological functions* for which the area is identified. Existing uses will be discouraged from expanding farther into the identified *natural feature*. Such expansions shall be minor (e.g. a 10 % or less increase in the footprint) in proportion to the size and scale of the building or use and shall not result in further intensification of the use.
11. Legally existing non-conforming uses shall be encouraged to be brought into closer conformity with the objectives and permitted uses of the designation.
12. *Development, site alteration* or activities carried out within the *Natural Heritage System* without prior approval by the City which result in reduction in the extent of the *natural features* or the associated *ecologic* or *hydrologic function* (e.g. tree removal outside of an approved Tree Preservation Plan, filling or enlargement of wetland or *adjacent lands*) will not be recognized as a new existing condition; nor will the *development* or *site alteration* change the designation of the feature as part of the *Natural Heritage System*. *Restoration* of the disturbed area shall be required to the satisfaction of the City. If the unapproved *development*



or *site alteration* is carried out in conjunction with a *development* application, *restoration* will be required prior to or as a condition of approval of any permitted *development*.

### **Study Requirements Within and Adjacent to the *Natural Heritage System***

13. The scope of the site-specific study will depend on the scale and nature of the proposed *development* and/or *site alteration* and the specific *natural features* potentially impacted, and is subject to the Complete Application provisions of this Plan.
14. Within the Built –Up Area identified on Schedule 1, the EIS study requirements on the *adjacent* lands may be reduced by the City under limited circumstances where existing *development* exists between the proposed *development* and the *natural feature* (e.g. a lot severance within an established residential area separated from the wetland by existing residential or other built form *development*).

### **Interpretation**

15. Boundaries of *natural features and areas* shall be delineated using the criteria for designation and are required to be field verified and staked as part of the EIS or EA, to the satisfaction of the City, in consultation with the Ministry of Natural Resources (MNR) and/or the Grand River Conservation Authority (GRCA), as applicable. Once confirmed in the field, boundaries of *natural features* and areas and *established buffers* shall be required to be accurately surveyed and illustrated on all plans submitted in support of *development* and *site alteration* applications.
16. Such boundary interpretations will not require an amendment to the Official Plan.
17. Where land is under private ownership within the *Natural Heritage System* or determined through subsequent site-specific studies to meet the criteria for inclusion in the *Natural Heritage System*, nothing in this Plan will be construed to imply that such lands are open for the use by the public or that the City or other public agency are obliged to purchase the lands.
18. The City may consider alternative means to protecting and managing the *Natural Heritage System including but not limited to*:
  - a) Partnerships with the GRCA, other public or non-profit agencies;
  - b) Entering into agreements and conservation easements;
  - c) Conveyance of land to the City, a public agency or land trust; and
  - d) Implementing municipal by-laws.

### **5.1.3 Significant Natural Areas**

This section outlines specific objectives, criteria for designation and policies for the *natural features* and *buffers* within the Significant *Natural areas* designation.

*Development and site alteration* within Significant Natural areas and associated *adjacent* lands require an EIS or EA.

Specific policies related to *Natural Heritage System* management and stewardship are provided in Section X.

### **5.1.3.1 Areas of Natural and Scientific Interest (ANSI)**

#### **Objective**

1. To protect *Areas of Natural and Scientific Interest (ANSIs)* identified by the MNR for their life science or earth science values related to *natural heritage features*, scientific study or education and significance within the province.

#### **Criteria for Designation**

1. Provincially and Regionally Significant Earth and Life Science *Areas of Natural and Scientific Interest* as identified by the MNR as land and water containing natural landscapes or features that have been identified from time to time as having life science or earth science values worthy of protection, scientific study or education. ANSI's are identified on Schedule X and may be updated or refined from time to time by the MNR. Such updates will not require an amendment to this Plan.
2. A minimum 10 m *buffer* to Provincially Significant Earth Science ANSI.

#### **Policies**

##### **Provincially and Regionally Significant Earth Science ANSIs**

1. *Development and site alteration* shall not be permitted within a *Provincially Significant Earth Science ANSI* and *established buffer*, or within a *Regionally Significant Earth Science ANSI* except for uses permitted by the General Policies of Section 5.
2. The minimum *buffers* to a Regionally Significant Earth Science ANSI will be determined through the EIS or EA to the satisfaction of the City and the MNR.
3. *Development and site alteration* may be permitted *adjacent* to a Regionally Significant Earth Science ANSI where it has been demonstrated, through an EIS or EA, to the satisfaction of the City and the MNR, there will be no *negative impacts* on the geological features, or the interpretative and scientific value for which the ANSI was identified.

##### **Provincially and Regionally Significant Life Science ANSI**

1. *Development and site alteration* shall not be permitted within a *Provincially or Regionally Significant Life Science ANSI* and *established buffers* except for uses permitted by the General Policies of Section 5 unless it has been demonstrated through an EIS or EA, to the satisfaction

of the City and the MNR, there will be no *negative impacts* on the *natural features*, ecological and *hydrological functions* for which the ANSI was identified.

### 5.1.3.2 Habitat for Provincially Endangered and Threatened Species

#### Objective

1. To protect the habitat of endangered and *threatened species* identified by the Ontario *Endangered Species Act* through the *Committee on the Status of Species at Risk in Ontario (COSSARO)*.

#### Criteria

1. The habitat of endangered and threatened wildlife species listed or categorized as endangered or threatened on the Ontario MNR official species at risk list, as updated and amended from time to time. The habitat for endangered and *threatened species* is identified on Schedule X. Such updates will not require an amendment to this Plan.

#### Policies

1. *Development and site alteration* shall not be permitted within the habitat of provincially endangered or *threatened species* and *established buffers* except for uses permitted by the General Policies of Section 5.
2. The extent of the habitat and *buffers* for the species in question will be established to the satisfaction of the City, in consultation with the MNR or its designate, and will be consistent with any applicable Recovery Strategy for the species identified.
3. In cases where the habitat of an endangered or *threatened species* is defined through regulation, decisions shall be consistent with the extent of habitat required by the regulation.

### 5.1.3.3 Significant Wetlands

#### Objectives

1. To protect *Provincially Significant Wetlands (PSW)*, *Locally Significant Wetlands (LSW)*, *Other Significant Wetlands* and *Wetlands* greater than 0.2 ha and their *established buffers* as an integral part of the *Natural Heritage System*.
2. To recognize the important role that *wetlands* play in maintaining the ecological health of the *Natural Heritage System*, including moderating the flow of water, contributing to groundwater recharge, improving water quality, air quality, storing carbon, carbon sequestration, and providing habitat for a broad range of species.
3. To work with various government agencies, (i.e. the GRCA and the Ontario MNR) to protect *wetlands* through accepted land use planning and resource management practices.

## Criteria for Designation

1. *Provincially Significant Wetlands* (PSWs) and including a 30 m minimum *buffer*.
2. *Locally significant wetlands* (LSWs) and including a 15 m minimum *buffer*.
3. *Other Significant Wetlands* ( $\geq 0.2$ ha) (OSWs) and including a minimum 15 m *buffer*

*Significant Wetlands* are identified on Schedule X.

## Policies

1. *Development and site alteration shall not be permitted within Provincially Significant Wetland, Locally Significant Wetland, Other Significant Wetlands and established buffers except for uses permitted by the General Policies of Section 5.*
2. Notwithstanding the General Policies of Section 5, the following additional uses shall not be permitted within the *established buffers* to *Provincially Significant Wetlands, Locally significant wetlands* and *Other Significant Wetlands*, unless it has been demonstrated through an EIS, EA or subwatershed study, to the satisfaction of the City, in consultation with the GRCA and/or the MNR, there will be no *negative impacts* on the wetland or its ecological and *hydrological functions*:
  - a) *essential* public and private *linear infrastructure* lines (such as, energy, communication, water and waste water) and their *normal maintenance*, provided no feasible alternative exists; and
  - b) storm water management facilities and structures and their normal maintenance, provided they are located a minimum distance of 15 m from a *Provincially Significant Wetland* and 10m from a *Locally Significant Wetland* and *Other Significant Wetlands*.
3. Notwithstanding the General Policies of Section 5, *development and site alteration* within *Provincially and Locally significant wetlands* and *Other Significant Wetlands* are subject to the following additional limitations:
  - a) new trails and walkways are not permitted within *Significant Wetlands*;
  - b) new trails and walkways are encouraged to locate outside *established buffers* to *Significant Wetlands* and may only be permitted:
    - i) where considered *essential* to the trail system;
    - ii) no reasonable alternative location exists; and
    - iii) should be located a minimum distance of 10 m from *Significant Wetlands*;
  - c) where an existing trail or walkway exists within a *Significant Wetland*, they are encouraged to be relocated outside the wetland or brought into closer conformity with the objectives of the designation through *restoration* of the wetland or reconstruction aimed at minimizing the impact on the wetland features and functions;
  - d) where such trails and walkways are to be reconstructed the use of boardwalks and viewing platforms are strongly encouraged.

#### 5.1.3.4 Surface Water and Fish Habitat

##### Objectives

1. To protect, improve or restore the quality and quantity of surface water features and related *hydrological* and *ecological* functions.
2. To maintain and where possible enhance linkages and related functions among surface water features, groundwater features, hydrologic functions and natural heritage features.
3. To maintain, protect and enhance all types of *fish habitat*, as defined by the federal *Fisheries Act*.

##### Criteria for Designation

1. Cold water *fish habitat* and including a 30 m buffer.
2. Cool water *fish habitat* and including a 30 m buffer.
3. Permanent and *intermittent streams*, natural ponds, warm water and undetermined *fish habitat*, and including a 15 m buffer.

Surface Water and Fish Habit are identified on Schedule X.

##### Policies

1. *Development* and *site alteration* shall not be permitted within surface water and *fish habitat* and *established buffers* except for uses permitted by the General Policies of Section 5 unless it has been demonstrated through an EIS, EA, or subwatershed study, to the satisfaction of the City and in consultation with the MNR and/or the GRCA and/or the Department of Fisheries and Oceans (DFO) that:
  - a) there will be no net loss of *fish habitat*, and no harmful alteration, disruption, or destruction of *fish habitat*; or
  - b) where authorization for the harmful alteration, disruption, or destruction of *fish habitat* has been obtained from Fisheries and Oceans Canada under the Fisheries Act using the guiding principle of no net loss of productive capacity, and the impact of *development* on *fish habitat* will be avoided or fully mitigated; and if not, the loss of *fish habitat* will be adequately compensated for through a compensation plan approved by the GRCA and/or the Department of Fisheries and Oceans (DFO); and
  - c) all applicable protocols or policies of the provincial and federal government have been met.
3. In addition to the General Policies of Section 5 and subsection 1 above, the following additional uses shall not be permitted within surface water and *fish habitat* and *established buffers* unless it has been demonstrated through an EIS, EA or subwatershed study, to the satisfaction of the City in consultation with the MNR and/or the GRCA, and the Department of Fisheries and Oceans, there will be no *negative impacts* on the water resources, *fish habitat* or related *ecological* and *hydrological functions*:

- a) *essential* public and private *linear infrastructure* lines and their *normal maintenance*, provided no feasible alternative exists;
  - b) *essential transportation infrastructure* including roads and sidewalks and their *normal maintenance*, provided no feasible alternative exists;
  - c) flood and erosion control facilities or other similar works and their normal maintenance; and
  - d) storm water management facilities and structures and their normal maintenance.
4. Construction within or across a surface water or *fish habitat* shall be timed to minimize impacts on fish, wildlife and water quality and implement the best available construction and management practices.
  5. Opportunities to restore permanent and *intermittent stream* and *fish habitat* (e.g. taking ponds off-line, re-establishing a natural channel, removal of weirs) shall be encouraged and supported.
  6. Where *fish habitat* is undetermined, an EIS, EA or subwatershed study, shall assess and determine, to the satisfaction of the City and the GRCA, the presence and type of *fish habitat* and the level of protection required.
  7. The City will continue to investigate the feasibility of removing/modifying structural barriers to fish passage in the Speed and Eramosa Rivers and their tributaries in order to permit natural stream processes, improve *fish habitat* and the *restoration* of natural stream morphology.

#### 5.1.3.5 Significant Woodlands

##### Objective

1. To protect, maintain, and enhance *Significant Woodlands* for the ecological, cultural, social and economic services they provide including but not limited to enhancing biodiversity, providing *wildlife habitat*, moderating temperatures, erosion control and pollution filtration.

##### Criteria for Designation

1. Woodlands 1 ha or greater in size and including a 10 m minimum buffer.
2. *Locally significant woodlands* 0.5 ha in size or greater consisting of Dry-Fresh Sugar Maple Deciduous Forest (FOD5), woodland types ranked as S1 (Critically Imperilled), S2 (Imperilled) or S3 (Vulnerable) by the MNR Natural Heritage Information Centre and including a 10 m minimum buffer.

*Significant Woodlands* and *Locally significant woodlands* are identified on Schedule X

## Policies

1. *Development and site alteration* shall not be permitted within *Significant Woodlands* and *established buffers* except for uses permitted by the General Policies of Section 5.
2. Notwithstanding the General Policies of Section 5, storm water management facilities and structures shall not be permitted in the *established buffers* of *Significant Woodlands* unless it has been demonstrated through an EIS, EA or subwatershed study to the satisfaction of the City there will be no *negative impacts* on the ecological and *hydrological functions* and provided a minimum distance of 5 m from the woodland is maintained.
3. Trails are encouraged to locate outside *Significant Woodlands* but may locate within the *buffers* to *Significant Woodlands*. Where trails may be permitted within *Significant Woodlands*, trails shall be designed to maximize educational/interpretive opportunities and discourage informal trails and trail widening.

### 5.1.3.6 Significant Valleylands

#### Objectives

1. To protect *Significant Valleylands* associated with the Speed and Eramosa Rivers, including the remnant representative valley features that are predominately *natural areas*, floodplain areas, steep slopes, *erosion hazards* and apparent valleys associated with the river system and their tributaries.
2. To support flood protection, erosion control, and passive recreational activities within *Significant Valleylands*.

#### Criteria for Designation

1. *Natural areas* within the regulatory floodplain areas, *riverine flooding hazards*, *riverine erosion hazards*, as identified by the GRCA, and apparent valley where the slope is greater than or equal to 15 % to the top of slope that may include terraces.
2. The remnant portions of the Speed and Eramosa Rivers that are predominantly within *natural areas* and represent the quality and diversity of the physical expression of the river system on the landscape within the City. The valleylands are measured to the uppermost break in slope associated with the valley and include the terraces on the valley slopes.

The *Significant Valleylands* are identified on Schedule X.

## Policies

1. *Development and site alteration* shall not be permitted within *Significant Valleylands* and *established buffers* except for uses permitted by the General Policies of Section 5.
2. Notwithstanding the General Policies of Section 5, the following additional uses shall not be permitted within *Significant Valleylands* and *established buffers* unless it has been

demonstrated through an EIS, EA or subwatershed study, to the satisfaction of the City, and where applicable the GRCA, there will be no *negative impacts* on the natural characteristic of the valley features or its ecological or *hydrological functions*, nor will there be increased susceptibility to natural hazards:

- a) *essential* public and private *linear infrastructure* lines and their *maintenance*, provided no feasible alternative exists;
  - b) *essential transportation infrastructure* including roads and sidewalks and their *normal maintenance*, provided no feasible alternative exists;
  - c) flood and erosion control facilities or other similar works;
  - d) *renewable energy* facilities; and
  - e) storm water management facilities and structures and their normal maintenance in accordance with the Surface Water and *Fish habitat* Section of this Plan.
3. Where the Vallellands are disturbed, the City promotes the *restoration/naturalization* of the *Significant Valleylands* through tree and shrub planting aimed at improving water quality and quantity, ensuring bank and slope stabilization and enhancing *wildlife habitat*.

#### **5.1.3.7 Significant Landform**

The hummocky topography associated with the *Paris Galt Moraine* represents a *significant landform* in the southern portion of the City.

#### **Objectives**

1. To identify and protect the significant portions of the *Paris Galt Moraine* within the City that play a role in contributing to important environmental services including, surface and groundwater resources, providing *wildlife habitat* and linkages, providing biodiversity and enhancing aesthetic value on the landscape.
2. To maintain and enhance linkages, connectivity and related functions between and among natural heritage features and areas, surface and groundwater features and related *hydrological functions* within the *Paris Galt Moraine*.

#### **Criteria for Designation**

1. Slope concentrations of 20 % or greater, in association with closed depressions identified by the GRCA, located in proximity to other natural heritage features or areas included in the *Natural Heritage System* and located on the *Paris Galt Moraine*.

#### **Policies**

1. *Development* and *site alteration* shall not be permitted within *Significant Landform* except for uses permitted by the General Policies of Section 5.



2. In addition to the General Policies of Section 5, the following additional uses shall not be permitted within the *Significant Landform* unless it has been demonstrated through an EIS, or EA to the satisfaction of the City, in consultation with the GRCA, there will be no *negative impacts* on the natural characteristics and contours of the landform feature or the ecological and *hydrological functions*:
  - a) *essential* public and private *linear infrastructure* lines and their *normal maintenance*, provided no feasible alternative exists;
  - b) *essential transportation infrastructure* such as, roads and sidewalks and their *normal maintenance*, provided no feasible alternative exists; and
  - c) municipal water supply wells, underground water storage and associated small scale structures (e.g. pumping facility).
3. *Essential* public and private *linear infrastructure* and underground water supply storage shall be required to demonstrate that:
  - a) the natural contours will be maintained or restored;
  - b) local hydrological regimes will be maintained;
  - c) works will not result in loss in connectivity within the *Natural Heritage System*; and
  - d) vegetation removal will be minimal.
4. The boundaries of *Significant Landform* are required to be determined on a site-specific basis by a topographic survey carried out by a professional Ontario Land Surveyor. Minor modifications to the boundaries of the *Significant Landform* may be made without an amendment to this Plan in conjunction with a field verified topographic survey and EIS or EA provided it is demonstrated, to the satisfaction of the City:
  - a) there will be a no net loss of total area of the *Significant Landform* affected by the *development* application;
  - b) the areas identified for protection abut other protected components of the *Natural Heritage System* and maintain continuity of the *Significant Landform*;
  - c) modification to the originally identified areas does not result in loss of connectivity within the *Natural Heritage System*;
  - d) the areas identified for protection contain hummocky topography of the *Paris Galt Moraine* with slopes ranging from 15% to 25%; and
  - e) pre-development hydrological regimes on the site as a whole will be maintained.

### 5.1.3.8 Significant Wildlife Habitat

#### Objectives

1. To protect and enhance Significant *Wildlife Habitat* and their *ecological functions*.
2. To recognize, protect and enhance *ecological linkages* between and among natural heritage features and areas including surface and ground water features.

#### Criteria for Designation

1. Deer wintering and waterfowl overwintering areas identified by the MNR.
2. Habitat for provincially *significant vegetation types*, i.e., provincially rare vegetation communities ranked S1 –S3/S4 by the Natural Heritage Information Centre Ranking definitions.
3. Locally *Significant Vegetation Types* greater than 0.5 ha, e.g. white Cedar Treed Carbonate Cliff Type, Carbonate Open Cliff Ecosite, Carbonate Shrub Cliff Ecosite and Carbonate Treed Talis Ecosite.
4. *Ecological Linkages*.

Significant *Wildlife Habitat* is identified on Schedule X.

The above criteria will be applied to assess the presence of Significant *Wildlife Habitat* through a site-specific EIS or EA.

#### Policies

1. *Development* and *site alteration* shall not be permitted within Significant *Wildlife Habitat* identified by criteria for designation 1-3 cited above and *established buffers* except for uses permitted by the General Policies of Section 5.
2. In addition to the General Policies of Section 5 the following additional uses shall not be permitted within Significant *Wildlife Habitat* unless it has been demonstrated through an EIS, or EA to the satisfaction of the City, in consultation with MNR, there will be no *negative impacts on wildlife habitat or ecological functions*:
  - a) *essential* public and private *linear infrastructure* lines and their normal maintenance; and
  - b) flood and erosion control facilities and their *normal maintenance*, provided no feasible alternative exists.
3. The extent of the habitat and *buffers* for Significant *Wildlife Habitat* will be established through a site-specific EIS or EA, to the satisfaction of the City, in consultation with the MNR or its designate, and will be consistent with the status, habitat requirements and any applicable Recovery Strategy for the species identified.

4. In some cases, isolated individual plants with significant status or small populations of isolated significant wildlife may be transplanted to an appropriate area within the *Natural Heritage System*, to the satisfaction of the City, in consultation with the MNR.

#### 5.1.3.8.1 Ecological Linkages

5. *Development and site alteration* shall not be permitted within *Ecological Linkages* except for the uses permitted by the General Policies of Section 5.
6. *Ecological Linkages* shall be maintained and where appropriate enhanced to ensure connectivity and diversity of the *Natural Heritage System*. Over time *Ecological Linkages* will become naturalized or restored in support of the identified *wildlife habitat*.
7. Portions of *Ecological Linkages* will be maintained as open meadow to provide habitat for meadow species including birds, butterflies and other insects that play a role in pollination.
8. *Development and site alteration* on lands abutting *Ecological Linkages* may be permitted provided it has been demonstrated through an EIS or EA, to the satisfaction of the City there will be no *negative impacts* on the *Ecological Linkage* and its ecological and *hydrological functions*.
9. In addition to the General Policies of Section 5, the following additional uses shall not be permitted within *Ecological Linkages*, unless it has been demonstrated through an EIS, or EA to the satisfaction of the City, there will be no *negative impacts* on the ecological and *hydrological functions*:
  - a) *essential* public and private *linear infrastructure* lines; and
  - b) *transportation infrastructure* such as roads and sidewalks and their *normal maintenance*, provided no feasible alternative exists.
10. Notwithstanding the above policies, the *Ecological Linkages* identified on Schedule X may be refined or additional linkages added through an EIS, EA or subwatershed study that demonstrates, to the satisfaction of the City, in consultation with the GRCA that:
  - a) the linkage will retain a width of at least 50 m, but preferably 100 m where possible, for its entire length;
  - b) the linkage will provide connectivity between other protected components of the *Natural Heritage System*;
  - c) the linkage may incorporate remnant natural or semi-natural features in the landscape (e.g. *plantations* and *hedgerows*);
  - d) proposed refinements to the location of the linkage will not result in a net loss of *Ecological Linkage* area; and
  - e) proposed changes to the location of the linkage does not result in loss in connectivity within the *Natural Heritage System*.
11. Where *Ecological Linkages* are located such that wildlife will need to cross a road, these areas shall also be identified as wildlife crossings and mitigative measures shall be required in accordance with the provisions of Section 5.1.5 (Wildlife Crossings).

### 5.1.3.9 Restoration Areas

#### Objectives

1. To identify opportunities for *restoration* throughout the City in order to enhance the diversity and connectivity of the *Natural Heritage System*.
2. To identify areas where replacement trees and shrubs will be focussed in conjunction with the Tree Compensation Plans required by Section X.
3. To provide opportunities to increase the City's *tree canopy cover*.

#### Criteria for Designation

1. Portions of the Eastview Community Park.
2. Existing and new storm water management areas abutting the *Natural Heritage System* (not including the storm water management facilities).
3. Areas within City parkland and GRCA lands not intended for active uses.
4. Isolated gaps within the *Natural Heritage System*.

*Restoration* Areas are identified on Schedule X.

#### Policies

1. *Development* and *site alteration* will not be permitted within *Restoration* Areas except for the uses permitted by the General Policies of Section 5, storm water management facilities operation and maintenance, and *renewable energy* facilities to the satisfaction of the City.
2. The primary use of the lands within the *Restoration* Areas will be storm water management and *restoration activities* including tree and shrub plantings in accordance with the Tree Compensation Plans required by Section X.
3. Opportunities for *restoration* on public and private lands abutting the *Natural Heritage System* beyond those identified in Schedule X will be supported and pursued.
4. Portions of *Restoration* Areas will be maintained, restored or managed as open meadow to provide habitat for meadow species, including birds, butterflies, and other insects that play an important role in pollination.
5. The City will undertake a study to prioritize the *Restoration* Areas.

### 5.1.4 Locally Significant Natural Areas

This section outlines the objectives, criteria for designation and policies for the following *natural features* identified as Locally Significant *Natural Areas*.

1. *Other Wetlands*
2. *Cultural Woodlands*
3. *Locally Significant Wildlife Habitat*

*Development and site alteration* within Locally Significant *Natural areas* and associated *adjacent* lands will require an EIS or EA.

#### **5.1.4.1 *Other Wetlands***

##### **Objectives**

1. To evaluate *other wetlands* to determine if they meet the criteria for PSW, LSW, part of a PSW or LSW complex or *Other Significant Wetlands*.
2. To protect *other wetlands* as an integral part of maintaining the City's biodiversity, ecological and *hydrological functions* and for their contribution to social and aesthetic values.

##### **Criteria for Designation**

1. Un-evaluated *wetlands* identified by the MNR and/or the GRCA.
2. Unevaluated *wetlands* identified through the Ecological Land Classification mapping included on Appendix X and 0.2 ha in size or smaller.
3. *Wetlands* identified from time to time through site-specific studies undertaken through an EIS or EA and/or through subwatershed studies.

*Other wetlands* that meet Criteria 1 and 2 are identified on Schedule X.

##### **Policies**

1. A detailed *wetland evaluation* shall be required for all *other wetlands* regardless of their size, and completed to the satisfaction of the City, in consultation with the MNR and /or GRCA, to determine whether or not the wetland meets the criteria for a PSW, LSW, or part of a PSW or LSW complex, *Other Significant Wetlands* or considered a *functional wetland*.
2. Where the *wetland evaluation* required by subsection 1 above demonstrates, to the satisfaction of the City, in consultation with the MNR and/or the GRCA that the wetland satisfies the criteria for a PSW, LSW, PSW or LSW complex, or *Other Significant Wetland*, the *Significant Wetland* policies shall apply to the wetland and *established buffers*.
3. Where the *wetland evaluation* demonstrates that the wetland is a *functional wetland*, *development and site alteration* shall not be permitted within *other wetlands* and *established buffers* except for the uses permitted by the *Significant Wetlands* policies.

4. Where the wetland does not meet the provisions of subsections 1 to 3 *development* and *site alteration* may be permitted.

#### 5.1.4.2 Cultural Woodlands

##### Objectives

1. To protect all *cultural woodlands* that provide biodiversity, *wildlife habitat* and linkages in support of the ecological and *hydrological functions* of the *Natural Heritage System*.
2. To promote the protection and management of *cultural woodlands*, where appropriate, in order to encourage their succession to a mixed woodland community.
3. To protect healthy trees within *cultural woodlands* that contribute to ecological and *hydrological functions* of the *Natural Heritage System*.
4. To recognize that *cultural woodlands* contribute to environmental services such as moderating temperatures, erosion control and pollution filtration.
5. To replace *cultural woodlands* removed, where *development* and *site alteration* is permitted within *cultural woodlands*.

##### Criteria for Designation

1. *Cultural woodlands* equal to or greater than 1 ha in size.

*Cultural woodlands* are identified on the Ecological Land Classification Map attached as Appendix X.

##### Policies

1. *Development* and *site alteration* may be permitted within *Cultural Woodlands* in accordance with the uses permitted by the General Policies of Section 5.
2. *Development* and *site alteration* within the *established buffers* may be permitted in accordance with the uses permitted by the General Policies of Section 5. In addition, storm water management facilities and structures may be permitted provided they are located a minimum distance of 5 m from the *Cultural Woodlands* where it has been demonstrated through an EIS or EA, to the satisfaction of the City there will be no *negative impacts* on the woodlands ecological and *hydrological functions*.
3. *Development* and *site alteration* may be permitted within all or part of a *cultural woodland* where it has been demonstrated through an EIS or EA, to the satisfaction of the City, that the *cultural woodland* or part thereof:
  - a) is dominated by non-native *invasive species* (i.e. 60 % or more);
  - b) does not meet the criteria for any other natural heritage feature of the *Natural Heritage System*;
  - c) is not located on slopes 20% or greater;
  - d) healthy non-invasive trees have been protected to the fullest extent possible; and

- e) does not perform a supportive ecological or *hydrological function* or provide an *ecological linkage* within the *Natural Heritage System*.
4. *Development and site alteration* affecting a *cultural woodland* shall require an EIS or EA that includes the following additional information:
- the necessary documentation to address Policy 3 above;
  - a Tree Inventory measuring all trees over 10 cm diameter at breast height (dbh), including the size, species composition and health, and native shrubs in accordance with the City's tree inventory guidelines;
  - a Tree Preservation Plan identifying healthy non-invasive trees and native shrubs to be protected, including those that will be transplanted e.g. smaller specimens.
  - breeding bird inventory.
5. A Tree Inventory shall be required for all new *development and site alteration*. The report will address the feasibility of retaining trees and the protective measures required for their protection during construction.
6. A *Tree Compensation Plan* shall be required for the replacement of all live healthy native and non-invasive trees measuring over 10 dbh, and all native shrubs proposed to be removed. Replacement will be based on the equivalent *total dbh* for trees measuring over 10 cm dbh, and number of native shrubs to be removed, to the satisfaction of the City.
7. The *Tree Compensation Plan* shall identify, in consultation with the City, where the replacement trees and shrubs will be planted. Where replanting is not feasible on the subject property, the planting will be required to be directed off site to:
- established buffers*;
  - Significant Valleylands*;
  - Significant Landform*;
  - Ecological Linkages*;
  - Restoration Area* ; and
  - City and GRCA owned lands;
- to the satisfaction of the City, in consultation with the GRCA, where applicable.
8. All replacement trees and shrubs should be native species and compatible with the site conditions within which they are proposed.
9. The tree compensation plantings do not replace the normal landscape planting required as part of the approval of the *development* or site plan application.
10. Where planting either on or off site is not feasible, cash-in-lieu will be required equal to the value of the replacement trees and shrubs and including the cost of planting and maintaining the trees for a period of two years.

#### 5.1.4.2 Locally Significant Wildlife Habitat

##### Objectives

1. To identify and protect the *Habitat of Globally, Nationally and Provincially Significant Wildlife Species*
2. To identify and protect the *Habitat of Locally Significant Wildlife Species*.

##### Criteria for Designation

1. *Habitat of Globally, Nationally and Provincially Significant Wildlife Species*
2. *Habitat of Locally Significant Wildlife Species*

*Habitat of Locally Significant Wildlife Species* is identified on Schedule X.

##### Policies

1. *Development and site alteration* shall not be permitted within the *Habitat of Globally, Nationally and Provincially Significant Wildlife Species* and *established buffers* except for uses permitted by the General Policies of Section 5.
2. *Development and site alteration* may be permitted within the *Habitat of Locally Significant Wildlife Species* and *established buffers* where it has been demonstrated through an EIS or EA, to the satisfaction of the City, in consultation with the MNR or its designate, there will be no *negative impacts on the wildlife habitat or ecological functions*.
3. The extent of the habitat and *buffers* for Locally Significant Wildlife will be established, to the satisfaction of the City, in consultation with the MNR or its designate, and shall be consistent with any applicable Recovery Strategy for the species identified. The extent of habitat required for protection will depend upon the species being considered and their status.
4. In some cases isolated individual plants with significant status or small populations of isolated significant wildlife may be transplanted to an appropriate area within the *Natural Heritage System* to the satisfaction of by the City, in consultation with the MNR.
5. Open meadow species and associated habit are in decline and their protection should be achieved, where appropriate, in conjunction with *Ecological Linkages* and *Restoration Areas*.



## 5.1.5 Wildlife Crossings

### Objective

1. To minimize and mitigate impacts to wildlife and property damage at locations where wildlife cross highways, roads and streets.

### Criteria

1. Confirmed locations where deer, amphibians and other wildlife cross highways, roads and streets within or abutting the City boundaries, or where there is a potential for wildlife crossings confirmed through EIS/EA or wildlife –vehicle collision reports.

Wildlife crossings are identified on Schedule X.

### Policies

1. At locations where deer, amphibians and other wildlife are known, or suspected to, cross highways, roads and streets or as determined through detailed studies, mitigation measures shall be required to be identified through the EIS or EA ,to the satisfaction of the City and implemented through the subsequent *development*.
2. Where the City is undertaking public *infrastructure* improvements mitigative measures will be implemented to minimize the impact on wildlife crossings, e.g. specialized culverts for wildlife.
3. Where warranted, the City will proactively post signage to warn vehicular traffic of the potential for wildlife crossing. The signage may be passive and/or interactive (signage triggered by motion), depending on the level of risk posed.
4. The City will develop wildlife crossing guidelines that indentify appropriate mitigation measures.

## 5.2 Urban Woodlands and Trees

*Urban Woodlands and Trees* include *plantations, hedgerows, trees and shrubs* that grow on private land, within parks, public rights-of-ways and streets, that do not meet the criteria for *Significant Woodlands* or *cultural woodlands* as part of the *Natural Heritage System*. With management, time and/or natural succession, some of the City's *Urban Woodlands* will success and meet the criteria of *Significant Woodlands* or *cultural woodlands*.

*Urban woodlands* play an important role in contributing to a number of environmental services including biodiversity, *wildlife habitat*, moderating temperatures, etc.

## Objectives

1. To recognize the ecological, social, economic and aesthetic value of the City's *urban woodlands* and individual trees.
2. To identify and protect *plantations* and *hedgerows* where they serve a supportive ecological or linkage function associated with the *Natural Heritage System*.
3. To promote the management of *plantations* where appropriate, in order to encourage their succession to mixed woodland communities.
4. To protect healthy non-invasive trees throughout the City.
5. To increase *tree canopy cover* to achieve a target of 40% by 2031.
6. To identify and protect *heritage trees* as an important part of the City's natural and cultural heritage.
7. To manage the City's *Urban Woodlands* and Trees as "*green infrastructure*."

*Plantations* and *hedgerows* are identified on the Ecological Land Classification Map attached as Appendix X. *Plantations* and *hedgerows* not identified on Appendix A will be required to be identified on a site-specific basis as part of proposed *development* applications.

## Policies

1. *Urban Woodlands* shall be encouraged to be retained and integrated into proposed *developments*.
2. Where the City is undertaking *infrastructure* work, *Urban Woodlands* will be retained to the fullest extent possible. Where trees are required to be removed, relocation or replacement plantings will be provided by the City.
3. Development and implementation of woodlot management plans shall be required prior to the conveyance of woodlands to the City.
4. Tree destruction or removal on private property will be regulated by the City's tree by-law.

## Plantations

1. *Development* and *site alteration* may be permitted within all or part of a *plantation* where it has been demonstrated through an EIS or EA, to the satisfaction of the City, that the *plantation* or part thereof:
  - a) does not meet the criteria for a *cultural woodland* or Significant Woodland within the *Natural Heritage System*;
  - b) is not located on slopes 20% or greater; and
  - c) does not perform a supportive ecological or *hydrological function* or provide an *ecological linkage* within the *Natural Heritage System*.
2. *Development* and *site alteration* affecting a *plantation* shall require an EIS or EA that includes the following additional information:
  - a) the necessary documentation to address Policy 1 above;

- b) a Tree Inventory measuring all trees over 10 cm diameter at breast height (dbh), including the size, species composition and health, and native shrubs in accordance with the City's tree inventory guidelines;
  - c) a Tree Preservation Plan identifying healthy non-invasive trees and native shrubs to be protected, including those that will be transplanted e.g., smaller specimens;
  - d) breeding bird inventory.
3. A Tree Inventory shall be required for all new *development* and *site alteration*. The report will address the feasibility of retaining trees and the protective measures required for their protection during construction.
  4. A *Tree Compensation Plan* shall be required for the replacement of all live healthy native and non-invasive trees measuring over 10 dbh, and all native shrubs proposed to be removed. Replacement will be based on the equivalent *total dbh* for trees measuring over 10 cm dbh, and number of shrubs to be removed, to the satisfaction of the City.
  5. The *Tree Compensation Plan* shall identify, in consultation with the City, where the replacement trees and shrubs will be planted. Where replanting is not feasible on the subject property, the planting will be required to be directed off site to:
    - a) *established buffers*;
    - b) *Significant Valleylands*;
    - c) *Significant Landform*;
    - d) *Ecological Linkages*;
    - e) *Restoration Areas*; and
    - f) City and GRCA owned lands,to the satisfaction of the City, in consultation with the GRCA, where applicable.
  6. All replacement trees and shrubs should be native species and compatible with the site conditions within which they are proposed
  7. Where replacement planting either on or off site is not feasible, cash-in-lieu will be required equal to the value of the replacement trees and shrubs and including the cost of planting and maintaining the trees for a period of two years.

### **Hedgerows and Trees**

8. *Development* and *site alteration* may be permitted to impact *hedgerows* and individual trees provided it has been demonstrated to the satisfaction of the City that the *hedgerows* and trees cannot be protected or integrated into the urban landscape.
9. Tree Inventory and Tree Compensation Plans shall be required for all new *development* and *site alteration* in accordance with the plantation policies above.

10. Existing trees and shrubs on slopes 20 % or greater will be maintained.

### 5.2.1 Heritage Trees

#### Objective

1. To promote the identification and protection of *heritage trees* as part of the natural and cultural landscape.

#### Policies

1. Where *heritage trees* have been identified by the City, they will be protected to the fullest extent possible while having regard to the health of the tree and public safety.

### 5.2.2 Natural Heritage Stewardship and Management

#### Objective

1. To manage the City's *Natural Heritage System, urban woodlands* and trees through stewardship and partnerships between the City and GRCA, the MNR and private landowners.

#### Invasive Species

1. Management and control of non-native and *invasive species* will be undertaken on City owned and managed properties. Plantings on municipal properties (e.g., municipal facilities, roadsides, storm water management facilities, parks) shall be native species except where harsh environments conditions would limit their survival (e.g. impacts due to salt).
2. Management and control of non-native, *invasive species* is encouraged on lands owned by other public agencies and utilities (e.g., the Ministry of Transportation, Guelph Junction Railway).
3. Landscape plans prepared in conjunction with *development* applications will require native plants, trees and shrubs except where harsh environments conditions would limit their survival.
4. Landscaping and gardening on private property may include non-native species however, native species will be encouraged on private lands *adjacent* to the *Natural Heritage System*.

#### Deer

5. Deer wintering habitat and safety for both the deer and residents of the City, will be monitored and addressed, as appropriate, in conjunction with the MNR.

#### Land Stewardship

6. Public agencies, community organizations, and private landowners are encouraged to protect and enhance the City's *Natural Heritage System*.
7. The City will work with the GRCA and other public and private organizations to leverage funding to support land stewardship activities.
8. Encroachment into the City's *Natural Heritage System* will be discouraged through education and appropriate provisions (e.g., fencing).

### **Pollinator Habitat**

9. The City recognizes the role that *Pollinator Habitat* plays in supporting ecosystem functions.
10. Opportunities to protect, maintain and enhance *Pollinator Habitat* within City parks, *Restoration Areas*, adjacent to storm water management facilities and open space areas will be encouraged.
11. In the review of *development* applications, every effort will be made to retain high-quality *Pollinator Habitat*. Where the habitat is not retained, replacement *Pollinator Habitat* will be established on or off site to the satisfaction of the City.

### **Ecological Monitoring**

12. A City-wide environmental monitoring program will be developed and implemented to assess the effectiveness of the policies, decisions and programs in meeting the objectives of the *Natural Heritage System*.
13. Opportunities for collaborating with the GRCA and the MNR will be incorporated into the environmental monitoring program (e.g. fisheries, *threatened species*).
14. Short-term, site-specific monitoring may be required as a condition of the planning approval process and the results will be integrated into the City-wide monitoring program, where applicable.

## Glossary of Terms

### **Adjacent** means:

For the purpose of Section 5, *Natural Heritage System*, those lands contiguous to a specific natural heritage feature or area, where it is likely that *development* or *site alteration* would have a negative impact on the feature, area or *ecological function*. The extent of the *adjacent* lands are as described in Section 5 or as recommended by the Province, which ever provides the greater level of protection.

### **Areas of Natural and Scientific Interest (ANSI)** means:

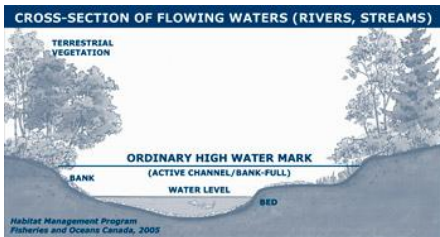
Areas of land and water containing natural landscapes or features that have been identified as having life science or earth science values related to protection, scientific study or education.

### **Buffers** means:

Vegetated areas located *adjacent* to Natural Heritage features and areas that are intended to be protected and act as a transition between the limit of *development* and mitigate against *negative impacts* to the natural heritage feature, area or its *ecological function*.

### **Bankful Channel** means:

The usual or average level to which a body of water rises at its highest point and remains for sufficient time so as to change the characteristics of the land (also know as the Ordinary High Water Mark – HWM). In flowing waters (rivers, streams) this refers to the active channel which is often the 1:2 year flood flow return level (Department of Fisheries and Oceans, 2010).



### **Cultural Woodland** means:

A treed vegetation community originating from, or maintained by, anthropogenic influences and culturally based disturbances; often containing a large proportion of non-native species and having tree cover between 35% to 60% with shrubs, grasses or herbs ground cover. *Cultural woodlands* may be second or third growth woodlands that occur on land where the original forest was completely or partially removed at various points in time. *Cultural Woodlands* will include areas where trees have been planted and where succession has occurred such that the tree and vegetation community has diversified.

### **Development** means:

- a) the creation of a new lot, a change in land use, or the construction of buildings and structures requiring approval under the *Planning Act*, including site plan control or *development* permitting, where applicable;
- b) *site alteration* activities such as fill, grading and excavation that would change the grades and natural vegetative characteristics of a site and is subject to approval under the City's *site alteration* by-law; and
- c) various forms of intensification, including *infill development* and *re-development*.

*Development* does not include:

- a) activities that create or maintain *infrastructure* authorized under an environmental assessment process;
- b) works subject to the *Drainage Act*.

**Ecological function** means:

The natural processes, products or services that living and non-living environments provide or perform within or between species, ecosystems and landscapes including hydrologic and biological functions, physical, chemical and socio-economic interactions.

**Ecological Linkage** means:

Areas that connect natural heritage features and associated areas along which wildlife, can propagate, genetic interchange can occur, populations can move from one habitat to another in response to environmental or climatic changes and life cycle requirements, and species can be replenished. Linkages can also include those areas currently performing, or with the potential to perform a linkage functions through restoration and or mitigative measures. Although linkages help to maintain and improve natural heritage features and areas and related *ecological functions*, they can also serve as important features in their own right. . These linkages should be 100 metres wide but no less than 50 metres wide except in areas where narrower linkages have already been established.

**Ecosystem Services** means:

The broad range of services and opportunities proved by natural heritage features and areas within a given jurisdiction. These services include contributions to: surface and groundwater protection, air quality improvement, erosion and flood control, localized temperature moderation, noise attenuation, visual barriers, spiritual, aesthetic and recreational benefits, soil and wildlife protection and regeneration, maintenance of the nutrient cycle, and pollination of crops and natural vegetation. A number of these services can also be attributed to trees and treed areas outside of *natural areas* but within the urban matrix (e.g., trees on boulevards, in yards and parks, etc.).

**Endangered Species** means:

A species that is listed or categorized as an *Endangered species* on the Ontario Ministry of Natural Resources official species at risk list, as updated and amended from time to time. An *endangered species* is a wildlife species facing imminent *extirpation* or extinction.

**Erosion Hazard** means:

The loss of land, due to human or natural processes, that poses a threat to life and property. The *erosion hazard* limit is determined using considerations that include the 100 year erosion rate (the average annual rate of recession extended over an one hundred year time span), an allowance for slope stability and an erosion/erosion access allowance.

**Essential** means:

That which is considered by Council to be necessary and in the public interest after all reasonable alternatives have been considered.

**Established buffers** means:

The *buffers* established and approved by the City following the *adjacent lands* analysis carried out through the required EIS, EA or subwatershed study.

**Extirpation** means:

A wildlife species no longer existing in Canada, but occurring elsewhere.

**Fish Habitat** means:

As defined in the Fisheries Act - Spawning grounds and nursery, rearing, food supply, and migration areas on which fish depend directly or indirectly in order to carry out their life processes. *Fish habitat* may be present in all types of watercourses, including warm, cool and cold watercourses that are intermittent or permanent and may also occur in ponds.

**Flooding Hazard** means:

The inundation, under the conditions specified below, of areas adjacent to a shoreline or a river or stream system and not ordinarily covered by water:

- a) Along the shorelines of the Great Lakes - St. Lawrence River System and large inland lakes, the *flooding hazard* limit is based on the one hundred year flood level plus an allowance for wave uprush and other water-related hazards;
- b) Along river, stream and small inland lake systems, the *flooding hazard* limit is the greater of:
  - i) the flood resulting from the rainfall actually experienced during a major storm such as the Hurricane Hazel storm (1954) or the Timmins storm (1961), transposed over a specific watershed and combined with the local conditions, where evidence suggests that the storm event could have potentially occurred over watersheds in the general area;
  - ii) the one hundred year flood; and
  - iii) a flood which is greater than 1. or 2. which was actually experienced in a particular watershed or portion thereof as a result of ice jams and which has been approved as the standard for that specific area by the Minister of Natural Resources;

except where the use of the one hundred year flood or the actually experienced event has been approved by the Minister of Natural Resources as the standard for a specific watershed (where the past history of flooding supports the lowering of the standard).

**Forest Management** means:

The sustainable management of the woodland to maintain, restore or enhance environmental conditions for wildlife, and for the protection of water supplies and may include the removal or pruning of dead, diseased, and hazard trees, and *invasive species*. Management may also include the judicious removal of tree to improve the diversity and health of the woodland e.g., selective cutting of *plantations* to permit natural succession to occur. However, *forest management* does not include the removal of trees solely for commercial purposes. For the purpose of this definition such management must be carried out with the necessary approvals under the *Forestry Act*, the *Municipal Act*, the *Conservation Authorities Act*, the City's Tree By-Law and any other applicable legislation.

**Functional Wetlands** means:

A wetland that meets the following criteria:

- a) is part of an ecologically functional linkage between other natural heritage features;
- b) provides habitat for a locally significant species;



- c) performs a *hydrological function*, e.g. recharge or discharge function, water quality and water quantity;
- d) contributes to flooding or erosion control;
- e) is a bog or fen;
- f) is part of a seep or spring or is hydrologically linked to PSW or LSW,
- g) contributes to the City's local biodiversity, ecological or *hydrological functions* or to social and aesthetic values.

**Habitat Conservation** means:

Management practices that aim to conserve, protect and restore *wildlife habitat* in order to increase biodiversity, including but not limited to: introduction of native species, removal of non-native *invasive species*, re-creation of woodlands or grassland or the creation of *wetlands*.

**Habitat of Globally, Nationally and Provincially Significant Wildlife Species** means:

Habitat for all species considered significant within the City not already captured by habitat for Threatened and *Endangered species* including: this includes habitat for any species, listed in order or priority,; 1) designated as nationally Threatened (THR) or Endangered (END) by COSEWIC but not protected in regulation under Ontario's *Endangered species Act* (such as Western Chorus Frog, Great Lakes / St. Lawrence – Canadian Shield population), 2) designated as *Special Concern* (SC) by COSEWIC or COSSARO / MNR, 3) ranked as S1, S2, S3 or S3/S4 by the NHIC, or 4) considered significant in Wellington County with the exception of birds listed as significant because of their being considered of "conservation concern" not already captured by any of the above.

**Habitat of Locally Significant Wildlife Species** means:

Habitat for species not captured by any of the other criteria and considered rare in Wellington County in accordance with the Significant Wildlife List for Wellington County included as Appendix X which may be amended from time to time.

**Hedgerow** means:

Remnant trees that typically remain along former fence lines or separate agricultural fields.

**Heritage Tree** means:

A tree that is a notable specimen due to its age, size, form, shape, beauty, species, rarity, genetic constitution or other distinctive features. The tree may be tied to a historical event, have association with a historic person, place event or period or a distinguishable entity or landmark and is recognized for its contribution to the natural, social aesthetic or cultural values of the City. *Heritage trees* may be identified as part of an EIS or EA study or through a specific tree study.

**Hydrological Function** means:

The functions of the hydrological cycle that include the occurrence, circulation, distribution and chemical and physical properties of water on the surface of the land, in the soil and underlying rocks, and in the atmosphere, and water's interaction with the environment including its relation to living things.

**Green Infrastructure** means:

The physical environment within and between our cities, towns and villages. It is a network of multi-functional open spaces, including formal and naturalized parks, gardens, woodlands, green corridors, right-of-ways, waterways and street trees.

**Infrastructure** means:

Physical structures/facilities and the required connections and/or corridors to these structures/facilities that are necessary for *development* including sewage and water works, waste management, waste management systems, power generation, communications, transit and transportation, oil and gas, and other associated physical structures/facilities.

**Intermittent Stream** means:

Watercourses that contain water or are dry at times of the year that are more or less predictable, generally flowing during wet seasons of the year but not the entire year Where would this happen in Guelph

**Invasive Species** means:

Plants, animals and micro-organisms that are not native to the area and spread when introduced outside their natural distribution and can cause serious and damage to native or indigenous ecosystems.

**Linear Infrastructure** means:

Connections and/or corridors to *infrastructure* structures/facilities that are necessary for *development* including sewage and water works, waste management, waste management systems, power generation, communications, transportation and oil and gas

**Locally Significant Wetlands** means:

Evaluated *wetlands* that do not meet provincial criteria for significance but are still considered significant at the City level.

**Locally Significant Woodlands** means:

Dry-Fresh Sugar Maple Deciduous Forest Ecosites (FOD5) and Woodland types ranked as S1 (Critically Imperilled), S2(Imperilled) or S3 (Vulnerable) by the Ministry of Natural Resource Natural Heritage Information Centre and identified using the Ecological Land Classification (ELC) system for southern Ontario.

**Natural areas** means:

The areas with the City that are identified as *wetlands*, woodlands, *plantations*, *hedgerows* and successional areas, e.g. cultural meadows, cultural thickets, cultural savannas and *cultural woodlands*.

**Natural Features** means:

Features and areas included under *natural heritage features and area* and surface and groundwater features.

**Natural Heritage Features and Areas** means:

Features and areas including Significant *Areas of Natural and Scientific Interest* (Earth and Life Science), Habitat of Threatened and *Endangered species*, *Significant Wetlands*, Surface Water and Fisheries Resources, *Significant Woodlands*, *Significant Valleylands*, *Significant Landform* associate with the *Paris Galt Moraine*, *Significant Wildlife Habitat* and associated *Ecological Linkages*, and *Naturalization*

/Restoration Areas that are important for their social, ecological and *hydrological function* as a legacy of the remnants of the natural landscape of the City.

**Natural Heritage System** means:

A system comprised of natural heritage features, areas and *ecological linkages*, including surface and ground water features and *hydrological functions*, which are necessary to maintain the biological, hydrological and geological diversity and functions, and viable populations of indigenous species and ecosystems. The system also includes lands that have been identified for *naturalization* and/or *restoration* or have the potential to be restored to a natural state.

**Naturalization** means:

A process whereby an area that has been previously disturbed by humans or from natural events is allowed to regenerate naturally or with input of seeds and other propagules from the existing soil and/or adjacent *natural areas*.

**Negative Impacts** means:

- a) in regard to degradation to the quality and quantity of water, sensitive surface water features and sensitive ground water features, and their related hydrologic functions, due to single, multiple or successive *development* or *site alteration* activities;
- b) in regard to *fish habitat*, the harmful alteration, disruption or destruction of *fish habitat*, except where, in conjunction with the appropriate authorities, it has been authorized under the Fisheries Act, using the guiding principle of no net loss of productive capacity; and
- c) in regard to other natural heritage features and areas, degradation that threatens the health and integrity of the *natural features* or *ecological functions* for which an area is identified due to single, multiple or successive *development* or *site alteration* activities

**Normal Maintenance** means:

Activities undertaken in conjunction with public and private *infrastructure* including energy, communication, waste water, roads, railways, trails, water supply and storage, waste management and storm water management to ensure regular operation parameters and public safety in accordance with the associated guidelines, regulations and maintenance policies, procedures and risk mitigation strategies for the *infrastructure*.

**Other Wetlands** means;

*Other wetlands* capture all *wetlands* in the City, regardless of their size, that have not been evaluated by MNR or its designate, but have been identified through other studies or sources of information (as shown on Schedule X), or are identified from time to time through site-specific study.

**Paris Galt Moraine** means:

The geomorphic feature referred to as the Paris-Galt Moraine Complex that extends in a 6.4 to 8 km belt wide that extends over most of the City's south end (south of Clair Road) and occurs in a few more isolated patches in the central portion of the City. The Paris and Galt Moraines were both deposited by the Ontario ice lobe during the Port Bruce Stadial (15,000 - 14,000 yr. B.P.) and are considered one of the best examples of moraine topography in the area.

**Passive Recreational Activities** means:

Secondary or Tertiary trails in accordance with the City's Trails Master Plan, including boardwalks and/or platform lookouts, trail markers, signage and benches.

**Plantations** means:

Forested areas where tree cover is greater than 60% and dominated by canopy trees that have been planted and maintained for *forest management* purposes, as per the Ecological Land Classification system for southern Ontario definition. *Plantations* are forested communities consisting of trees planted generally in rows and maintained by management practices typically designed to harvest mature trees on a cyclical basis, or may also be managed for Christmas tree production.

Abandoned *plantations* may over time meet the criteria for *Significant Woodlands* if naturalized, with other species of trees and shrubs growing up in the understory, or managed for the purpose of *naturalization*. In such situations they will be assessed based on the criteria of this Plan.

**Pollinator Habitat** means:

*Natural areas* within the landscape that contain a high percentage of native plants, shrubs and trees which provide nectar, pollen and nesting sites for pollinating insects and birds throughout the majority of the growing season. (Definition as per that provided)

**Provincially Significant Wetlands (PSW)** means:

*Wetlands* or a wetland complex identified by the Ministry of Natural Resources as being of provincially significance as determined through the Ontario *Wetland Evaluation System*.

**Renewable Energy** means:

Energy that is renewed by natural processes and includes wind, water, solar, geothermal and the associated structures required to generate and transmit the energy but does not include the buildings or structures required for biomass, biogas and co-generation.

**Restoration** means:

Active management of an area that results in accelerated the regeneration and recovery of a desired vegetation community or habitat. This may include the creation or re-creation of *wetlands*, woodlands or grasslands.

**Significant Landform** means:

Portions of the *Paris Galt Moraine* containing 20% slope concentrations, and closed depressions located in close proximity to other *Significant Natural Areas* of the *Natural Heritage System*.

**Significant Wetlands** means:

*Provincially Significant Wetlands* as identified by the Ontario Ministry of Natural Resources, *Locally Significant Wetlands* and *Other Significant Wetlands* (0.2 ha or greater in size) identified by the Ministry of Natural Resources, the Grand River Conservation Authority, through the City of Guelph Natural Heritage Strategy and subsequently identified through detailed site-specific studies using evaluation procedures established by the Province, as amended from time to time and having a minimum size of 0.2 ha (0.5 ac.).

**Significant Habitat of Endangered or Threatened Species** means:

Habitat, as approved by the Ontario Ministry of Natural Resources, that is necessary for the maintenance, survival, and/or the recovery of naturally occurring or reintroduced populations of *endangered species* or *threatened species*, and where those areas of occurrence are occupied or habitually occupied by the species during all or any part(s) of its life cycle. (PPS)

**Self-sustaining** means:

The ability for natural wildlife to persist without direct human management or tending.

**Significant Woodlands** means:

Woodlands at least 1 ha in size and *locally significant woodlands* 0.5 ha in size that, in the context of the City are ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of remaining forest cover in the City.

**Significant Valleylands** means:

A natural area that occurs in a valley or other landform depression that has water flowing through or standing for some period of the year. This includes regulatory floodplains/riverine *flooding hazards*, riverine *erosion hazards* and apparent/other valleylands.

**Significant Vegetation Types** means:

Vegetation types ranked as S1, S2, S3 or S3/S4 by the Natural Heritage Information Center (NHIC) of Ontario, as well as those considered uncommon or representative within a given jurisdiction not already captured as *significant wetlands* or *Significant Woodlands*. Communities identified under this category are limited to cliff and talus communities associated with the remnants of Escarpment found within the City (i.e., Carbonate Open Cliff, Carbonate Shrub Cliff and Carbonate Treed Talus Ecosites).

**Site alteration** means:

Activities, such as grading, excavation and the placement of fill that would change the landform and the natural vegetative characteristics of a site.

**Special Concern** means:

When applied to wildlife, a wildlife species that may become a threatened or *endangered species* because of a combination of biological characteristics or identified threats. Surface water features means: Water- related features, including headwaters, rivers, stream channels, inland lakes and ponds, seepage areas, recharge/discharge areas, springs, *wetlands* and associated riparian lands that can be defined by their soil moisture, soil type, vegetation and topographic characteristics.

**Threatened species** means:

A species that is listed or categorized as a *Threatened Species* on the Ontario Ministry of Natural Resources official species at risk list, as updated and amended from time to time. A *threatened species* is a wildlife species likely to become endangered if the limiting factors to its survival are not reversed.

**Transportation infrastructure** means:

Works such as maintenance or repair or installation of roads or bridges / overpasses as well as underpasses and culverts, and rail lines, but does not include buildings or parking that may be associated with these *infrastructure* components with the exception of small-scale bus/rail boarding platforms and associated structures.

**Tree canopy cover** means:

The proportion of land area occupied by tree crowns when visualized from above. It is the two-dimensional horizontal extent of the combined canopies of all the trees on a given land area. (SUFMP)

**Urban Woodlands** means:

All woody vegetation including *plantations*, *hedgerows*, trees and shrubs that grow on public and private land contribute to the City’s tree canopy coverage.

**Wetlands** means:

Lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic plants or water tolerant plants. The four major types or *wetlands* are swamps, marshes, bogs and fens.

**Wetland Evaluation** means:

Evaluation of wetland carried out in accordance with the Ministry of Natural Resources *Wetland Evaluation* Manual as amended from time to time.

**Wildlife Habitat** means:

Areas where plants, animals and other organisms live, and find adequate amounts of food, water, shelter and space needed to sustain their populations. Specific *wildlife habitats* of concern may include areas where species concentrate at a vulnerable point in their annual or life cycle; and areas which are important to migratory or non-migratory species.

## Section 11            Glossary of Acronyms

ANSI	Area of Natural and Scientific Interest
EIS	Environmental Impact Study
EA	Environmental Assessment (under the Environmental Assessment Act)
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
COSSARO	Committee on the Status of Species at Risk in Ontario
dbh	Diameter at breast height (for trees)
GIS	Geographic Information System
GRCA	Grand River Conservation Authority
NHS	Natural Heritage System
NHIC	Natural Heritage Information Centre (Ministry of Natural Resources)
MNR	Ontario Ministry of Natural Resources
OMB	Ontario Municipal Board
OSW	Other Significant Wetland
PSW	Provincially Significant Wetland
SAR	Species at Risk
S1	Critically Imperiled
S2	Imperiled
S3	Vulnerable
S4	Apparently Secure
S5	Secure