

ESA #	ESA Name	Criteria Met	Reason for Significance
na	Maple Spur of the Oak Ridges Moraine	na	► This ridge is composed of large quantities of sand and gravel that rise up to 60 m above the Halton Till plain (NHIC Record).
na	North Woodbridge Ravine	na	► Information for this feature is not available.

Note: \* According to Varga et al. (2000), these species have no status within York Region.

#### 4.4.4.2 TRCA Terrestrial Natural Heritage System Strategy

All of the above listed ESAs are encompassed within the TRCA's Terrestrial Natural Heritage System Strategy (TNHS 2007). The objective of the strategy is to identify and evaluate natural heritage features and functions within the landscape, for inclusion in a Natural Heritage System. The TNHS is composed of both Existing Natural Cover and Potential Natural Cover that can be restored to compliment existing units. A desktop exercise involving digital mapping was used to identify existing and potential cover within the TRCA jurisdiction. The quality, distribution and quantity of natural cover were evaluated according to scientifically rigorous Landscape Ecological Principles and combined to form a system that considered both feature and function, in existing natural communities and areas that could potentially be restored. Instead of considering natural cover on a patch by patch basis, the TRCA analyzed natural cover from a landscape perspective, which is the scale at which most ecological processes function. This holistic process allowed the identification of areas that should be restored to natural cover to enhance existing features. By securing the Potential Natural Cover areas within the Natural Heritage System, natural cover in the Toronto Region will increase from its current 17% to the goal of 30% cover, and likely improve the overall quality and functioning of cover within their jurisdiction (Figure 9).

#### 4.4.5 Conservation Areas

A Conservation Authority Area is a property owned and managed by the local conservation authority. Some have limited access in order to protect sensitive habitat, however most are open to the public for recreational and educational purposes.

The Kortright Centre for Conservation is 26.5 ha in size, and is the only Conservation Area within the City of Vaughan (Figure 14). Humber River and Cold Creek run through the property that has a diverse assemblage of vegetation communities including mature mixed Eastern Hemlock-Sugar Maple-American Beech forest, Crack Willow-Balsam Poplar-White Spruce-American Elm scrub communities, swamps, wetlands and old-fields.

## 5. Conclusions – Overall Sensitivities

The following table provides a summary of the key terrestrial features and land designations identified for the analysis area.

**Table 15. Overall Significant and Sensitive Features**

<b>Feature and/or Land Designation</b>	<b>Applicable Policy Documents/Policy Implications</b>
<b>Provincially Significant Wetlands (PSW)</b>	▶ Protected under the Provincial Policy Statement (PPS).
<b>Locally Significant Wetlands (LSW)</b>	▶ Protected under the Conservation Authorities Act. ▶ Municipal Official Plan policies may assess impacts of development and public infrastructure projects on LSW and unevaluated wetlands.
<b>Areas of Natural and Scientific Interest (ANSI)</b>	▶ Protected under the PPS.
<b>Undesignated Wetland Units</b>	▶ Wetland communities are rare in Vaughan. Perform important ecological, social and economic functions.
<b>Upland Forest Units</b>	▶ Upland forest communities are rare in Vaughan. Incorporated into TRCA TNHSS.
<b>Interior Forest Habitat/Area Sensitive Bird Species</b>	▶ High quality habitats with relatively minimal anthropogenic disturbance. ▶ Potential for high incident of rare or uncommon wildlife.
<b>Species at Risk</b>	▶ Protected under the PPS, Species at Risk Act and the Endangered Species Act.

## 6. Information Gaps and Further Analyses

Although our review of existing secondary information has been thorough, some data gaps still exist. The following information will be needed to provide a complete assessment of natural heritage features within the City of Vaughan:

1. Groundwater Quality;
2. ELC information to fill in TRCA gaps;
3. MNR Wetland Evaluation Reports;
4. Updated data for Fisheries sampled >20 years ago; and
5. Fisheries data for intermittent tributaries that have not been sampled.

## 7. References

Andren, H., 1994:

Effects of Habitat Fragmentation on Birds and Mammals in Landscapes with Different Populations of Suitable Habitat- A Review. *Oikos* 71 (3): 355-366.

AGRA Earth and Environmental Limited, 2001:

OPA 160 Official Plan Review, Kleinburg-Nashville Community Plan, Natural Environment-Background Report.

AMEC Earth and Environmental, 2002:

City of Vaughan Focus Rural Area Woodland Ecosystem Assessment.

Bird Studies Canada (BSC), Canadian Wildlife Service, Federation of Ontario Naturalists, Ontario Field Ornithologists, Ontario Ministry of Natural Resources:

Ontario Breeding Bird Atlas (2001-2005). <http://www.birdsontario.org/atlas/atlasmain.html> Website accessed December 18, 2007.

COSEWIC, 2007:

COSEWIC assessment and update status report on the redbside dace (*Clinostomus elongates*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa.

Don Watershed Council, TRCA and OMNR, 2007:

Don Watershed Fish Community and Habitat Management Plan, Draft.

Don Watershed Council, 2000:

A Time for Bold Steps: The Don Watershed Report Card 2000. Toronto Region and Conservation Authority. Downsview, ON

Environment Canada, 2004:

How Much Habitat is Enough? A Framework for Guiding Habitat Rehabilitation in Great Lakes Areas of Concern.

Eyles, N., 2002:

Ontario rocks: three billion years of environmental change. Fitzhenry & Whiteside Limited.

Fahrig, L., 2002:

Effects of Habitat Fragmentation on the Extinction Threshold: A Synthesis. Ecological Applications 12 (2): 246-353.

Gartner Lee Limited, 2007:

Vaughan Trunk Sewer Environmental Assessment.

Gartner Lee Limited, 2006:

Water Budget Discussion Paper Prepared for Toronto and Region Conservation.

Gartner Lee Limited, 2004:

Pine Valley Drive Transportation Corridor Environmental Assessment.

Gartner Lee Limited, 2004:

2001 and 2002 Block 12 Wildlife Monitoring Report.

Gartner Lee Limited, 2001:

Master Environmental Servicing Plan and Environmental Impact Statement.

Gartner Lee Limited, 1993:

The City of Vaughan Subwatershed Study-Background Report on Existing Environmental Conditions and Functional Assessment.

Hanna, R., 1984:

Life Science Areas of Natural and Scientific Interest in Site District 7-4. Ontario Ministry of Natural Resources, Central Region, Richmond Hill.

J.H. Stevens, Planning and Development Consultants, 2001:

City of Vaughan Woodlot Protection Strategy.

- Karrow, P.F., 1993:  
Quaternary geology, Stratford-Conestoga area; Ontario Geological Survey, Report 283, 104p.
- Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray, 1998:  
Ecological Land Classification for Southern Ontario: First Approximation and Its Application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.
- Metropolitan Toronto and Region Conservation Authority, 1982:  
Environmentally Significant Areas Study. Final Report. North York.
- Mitch, W.J. and J.G. Gosselink, 2000:  
Wetlands: Third Edition. John Wiley and Sons, Inc. New York
- MTRCA (Metro Toronto and Region Conservation Authority), 1992:  
Don River Watershed State of the Ecosystem. Prepared by Paragon Engineering Limited and Ecologistics Limited.
- Natural Heritage Information Centre (NHIC):  
Ontario Ministry of Natural Resources Website, 2007: <http://nhic.mnr.gov.on.ca/MNR/nhic/queries/nhic.mwf>  
Website Accessed on December 18, 2007
- Natural Heritage Information Centre (NHIC):  
Ontario Ministry of Natural Resources Website, 2008: <http://nhic.mnr.gov.on.ca/MNR/nhic/queries/nhic.mwf>,  
Accessed on January 14, 2008.
- Natural Academy of Science, 2008:  
[http://www7.nationalacademies.org/archives/International\\_Biological\\_Program.html](http://www7.nationalacademies.org/archives/International_Biological_Program.html) Website Accessed  
on February 14, 2008.
- North-South Environmental Inc., 2005:  
York Region Significant Woodlands Study.
- Ontario Ministry of Environment (MOE), 2006:  
Water Well Record Database.
- Ontario Ministry of Natural Resources, 2008:  
Species at Risk in Ontario. <http://www.mnr.gov.on.ca/mnr/speciesatrisk/> Accessed on January 31,  
2008.
- Ontario Ministry of Natural Resources (MNR), 2006:  
Ontario base Maps (Computer file). Web site: [www.mnr.gov.on.ca](http://www.mnr.gov.on.ca).
- Ontario Ministry of Natural Resources, 2005:  
Humber River Fisheries Management Plan.
- Ontario Ministry of Natural Resources, 2002:  
Wetland Evaluations: Phillips-Bond-Thompson Lakes Wetland Complex; Keele Wetland Complex;  
Tormore Wetland Complex; and King-Vaughan Wetland Complex.
- Lawrie, D., 2008:  
Pers Comm, Toronto and Region Conservation Authority: March 17, 2008.

- 
- Scott, W.B. and E.J. Crossman, 1998:  
Freshwater fishes of Canada. Galt House Publication, Oakville, ON.
- Sharpe, D.R., L.D. Dyke, M.J. Hinton, S.E. Pullan, H.A.J. Russell, T.A. Brennand, P.J. Barnett and A. Pugin, 1996:  
Groundwater prospects in the Oak Ridges Moraine area, southern Ontario: application of regional geologic models. *In* Current Research 1996-E, Geological Survey of Canada, p. 181-190.
- Struger, J. and T. Fletcher, 2007:  
Occurrence of Lawn Care and Agricultural Pesticides in the Don River and Humber River Watershed (1998-2002). *Journal of Great Lakes Research* 33:887-905.
- Toronto and Region Conservation Authority, 2007:  
Humber River Watershed Plan, Draft.
- Toronto and Region Conservation Authority, 2004:  
Toronto and Region Terrestrial Natural Heritage System Strategy Draft.
- Toronto and Region Conservation Authority, 2000:  
A report card on the health of the Humber River Watershed.
- Toronto and Region Conservation Authority, 1982:  
Environmentally Significant Areas Study.
- Urban Strategies Inc., 2008:  
Vaughan's Agriculture: Vaughan Tomorrow Background Paper (Draft).
- Varga, S., D. Leadbeater, J. Webber, J. Kaiser, B. Crins, J. Kamstra, D. Banville, E. Ashley, G. Miller, C. Kingsley, C. Jacobson, K. Mewa, L. Tebby, E. Mosley and E. Zajc, 2000:  
Distribution and Status of the Vascular Plants of the Greater Toronto Area. Ontario Ministry of Natural Resources. Aurora District. August 2000.
- Villard, M.A, M.K. Trzcinski, and G. Merriam., 1999:  
Fragmentation Effects on Forest Birds: Relative Influence of Woodland Cover and Configuration on Landscape Occupancy. *Conservation Biology* 13(4) 774-783.