

Natural Heritage Features In Eastern Ontario

**Summary Report
8 July 2003**

Eastern Ontario Natural Heritage Working Group

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Summary Report, Eastern Ontario Natural Heritage Working Group, 8 July 2003

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Reference for this document: Eastern Ontario Natural Heritage Working Group. July 2003.
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1. About This Report

This is a report to municipalities and interested citizens in eastern Ontario, from a collaborative project called the Eastern Ontario Natural Heritage Working Group. This report provides information about natural heritage features, which may be used by municipalities in preparing official plans or by other interested parties for conservation planning. The complete report consists of separate components presented together on two CDs. These components are as follows:

1. **Summary Report:** Natural Heritage Features in Eastern Ontario. The document you are now reading is the Summary Report. It gives an overview of the project and results, and introduces the other components of the report.
2. Wetlands Folder
 - **Technical Report:** Eastern Ontario Wetland Valuation System - A First Approximation (June 2003). This technical report provides the scientific rationale for the criteria and analysis used in the Wetland Valuation System, as well as technical details about the Wetland Valuation System GIS Maps.
 - **Results:** The maps and results of the Wetland Valuation System are illustrated in a PowerPoint presentation.
 - **Data:** Wetlands Valuation System raw shapefile data. This folder contains GIS files, as discussed in the Wetland Valuation System Technical Report. Separate GIS layers are included for each of the criteria as well as for the complete model combining all the criteria.
3. Wildlife Habitat Folder
 - **Technical Report:** Significant Wildlife Habitat Summary and Recommendations (April 2003). While there were no maps produced for significant wildlife habitat, the technical report provides recommendations on integrating significant wildlife habitat in land use planning and other conservation efforts.
4. Woodlands Folder
 - **Technical Report:** Woodland Valuation System Version 2.0 - Methods and Rationale for Assigning Woodland Value at the Patch Scale for Consideration in Planning and Conservation in Eastern Ontario (June 2003). This technical report provides the scientific rationale for the criteria and analysis used in the Woodland Valuation System, as well as technical details about the Woodland Valuation System such as methodology and data sources.
 - **Maps:** Woodland Valuation System results are shown as maps in JPEG format.
 - **Data:** Woodland Valuation System raw data and sample maps, Version 2.0 (June 2003). This folder contains GIS files in ESRI grid format compatible with ArcView 3.x and ArcGIS 8.x, as discussed in the Woodland Valuation System Technical Report. Separate GIS layers are included for each of the criteria as well as for the complete model combining all the criteria.

These components of our report reflect the four natural heritage themes that were the focus of the Working Group's efforts. These four themes, which are mandated in the Provincial Policy Statement issued under the Planning Act, are: Significant Woodlands, Significant Wetlands, Significant Wildlife Habitat, and Natural Connections (e.g. wildlife corridors).

Because of deadlines in the official plan process, we provided an interim report to three townships (Leeds & the Thousand Islands, Elizabethtown & Kitley, and Rideau Lakes) in April 2003 with initial results and recommendations. That interim report is now superseded by this new report, which contains more up-to-date information and more complete documentation.

2. Using These Maps and Documents

The Woodland and Wetland maps cover all of Eastern Ontario (MNR's Kemptville District), including the counties of Lanark, Leeds & Grenville, Prescott-Russell, and Stormont-Dundas-Glengarry, and the new City of Ottawa. (The study area for the woodlands theme is somewhat larger; see the technical report.) Depending on the application however, they can be used at different scales, such as a county, a township, a watershed, or specific local area. The information on these CDs represents our best analysis of available data as of July 2003. We plan to continue our work to refine natural heritage mapping, and to collaborate with similar projects in Ontario, so you may wish to contact us to inquire about up-to-date information.

For further information please contact us:

General inquiries: Jean Langlois, (613) 232-8097, jlanglois@cpaws.org

Municipal use: Don Ross, (613) 659-4590, dmross@1000island.net
Gary Nielsen, (613) 342-8526, gary.nielsen@mnr.gov.on.ca

Woodlands theme: Mark Rowsell, (613) 258-8400, mrowsell@eomf.on.ca
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Wetlands theme: Phil Wilson, (613) 233-8665, pjwilson@cyberus.ca
Chris Burns, cburns@magma.ca

Wildlife habitat: Nick Stow, (613) 236-5767, nstow5767@rogers.com

Natural Connections: For this theme we make reference to the Big Picture 2002 project. For information about Big Picture 2002 please contact Pete Sorrill or Mike McMurtry at the Natural Heritage Information Center, Ontario Ministry of Natural Resources, 300 Water St., 2nd Floor, North Tower, P.O. Box 7000, Peterborough, Ontario K9J 8M5, or John Riley at the Nature Conservancy of Canada, 110 Eglinton Avenue West, Suite 400, Toronto, Ontario M4R 1A3.

3. About the Eastern Ontario Natural Heritage Working Group

The Eastern Ontario Natural Heritage Working Group is a partnership of organizations in eastern Ontario with expertise in conservation biology, GIS mapping, data analysis and community networking. Our purpose in collaborating on this project was to assist municipalities in meeting the natural heritage conservation requirements of the Planning Act by filling gaps that exist in the information available to municipalities and planners, and also to provide this natural heritage information to conservation organizations and other interested parties.

The work of the Eastern Ontario Natural Heritage Working Group complements several other initiatives: the Greater Park Ecosystem Community Atlas Initiative (www.cpaws-ov.org), the Algonquin to Adirondacks Conservation Initiative (www.A2ALink.org), the Eastern Ontario Model Forest (www.eomf.on.ca) and the Thousand Islands-Frontenac Arch Biosphere Reserve (www.thewatershed.ca).

The members of the Eastern Ontario Natural Heritage Working Group are:

Chris Burns, Wildlife Biologist/Ministry of Natural Resources
Karen Frazer, United Counties of Leeds and Grenville
Stew Hamill, Wildlife Biologist, Merrickville
Jean Langlois, Canadian Parks and Wilderness Society
Gary Nielsen, Leeds Stewardship Council
Kevin Robinson, St Lawrence Islands National Park
Don Ross, The Watershed Nature and History Network
Mark Rowsell, Eastern Ontario Model Forest
Norm Ruttan, The Watershed Nature and History Network
Greg Saunders, St Lawrence Islands National Park
Bill Stephenson, Parks Canada
Nicholas Stow, Canadian Parks and Wilderness Society
Philip Wilson, Canadian Parks and Wilderness Society

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4. Summary of Results

Woodland Valuation System

The Woodland Valuation System identifies all known woodlands and scores each one based on six criteria. The criteria are: patch size, forest interior, proximity to other woodlands, proximity to water, slope, and islands. For each criterion, a map was produced in which each woodland patch received a score from 0 to 3 based on thresholds discussed in the technical report. A higher score represents a higher natural heritage value. These layers corresponding to the six criteria were then combined into a layer showing each woodland's total score from 0 to 18. Map 1 provides an illustrative example.

For municipal planning purposes, a method was developed to classify each woodland as to whether or not it is a "Significant Woodland" in the sense of the Planning Act. Our method takes into account the woodland's total score in the Woodlands Valuation System and an ecological target, the percent forest cover in its quaternary watershed. The Provincial Policy Statement (PPS) Policy 2.3 provides policy direction for the treatment of significant woodlands in municipal official plans, and also indicates the need for official plans to include local policies to maintain other woodlands of high natural heritage value.

The Woodland Valuation System technical report provides details such as the rationale for each of the criteria, data sources, methodology, limitations, recommendations, and references.

Wetland Valuation System

The Wetland Valuation System complements the existing "Provincially Significant Wetland" data by identifying all known wetlands (including those that have not been evaluated) and scoring each one based on nine criteria. The criteria are: wetland size, wetland interior, wetland edge, adjacent vegetation, wetland disturbance, wetland habitat linkage, wetland hydrological linkage, headwater wetland, and flood attenuation. For each criterion, a map was produced in which each wetland received a score from 0 to 3 based on thresholds discussed in the technical report. A higher score represents a higher natural heritage value based on our analysis. These layers corresponding to the nine criteria were then combined into a layer showing each wetland's total score from 0 to 27. Map 2 provides an illustrative example.

For municipal planning purposes, "Provincially Significant Wetlands" are already identified by the Ministry of Natural Resources, but these maps include only those wetlands that (a) have been formally evaluated in the field by MNR using the *Ontario Wetland Evaluation System*, and (b) were designated by this process as Provincially Significant Wetlands (PSW). The map does not contain wetlands that were evaluated and given another status (i.e. locally significant) or wetlands that have not been evaluated in the field. While the Provincial Policy Statement (PPS) provides specific policy direction only for Provincially Significant Wetlands, Policy 2.3.3 indicates the need for official plans to include local policies to maintain other wetlands of high natural heritage value.

The Wetland Valuation System technical report provides details such as the rationale for each of the criteria, data sources, methodology, limitations, recommendations, and references.

Significant Wildlife Habitat

We have not provided maps for Significant Wildlife Habitat, since the available data were not of consistent quality. We are providing instead a number of recommendations on incorporating Significant Wildlife Habitat into official planning. The key **recommendations** are:

1. Implement provincial policies regarding other natural heritage features (e.g. woodlands and wetlands).
2. Establish a conservation advisory committee (CAC), and/or enhance consultation with local environmental stakeholders, as a way to improve local natural heritage information.
3. Incorporate some level of enhanced planning for Significant Wildlife Habitat that makes provision for future improvements in local information, record keeping and mapping. The Significant Wildlife Habitat Technical Report provides **policy suggestions** in this regard, modeled upon the MNR's *Significant Wildlife Habitat Technical Manual*, the draft (August 2002) *Significant Wildlife Habitat Technical Manual for the Oak Ridges Moraine*, and policies currently in use by other Ontario municipalities.

The Significant Wildlife Habitat Technical Report describes the process we used to develop Significant Wildlife Habitat criteria based on MNR's *Significant Wildlife Habitat Technical Manual*. It also describes the technical difficulties in applying these criteria in a GIS mapping analysis. In the face of this difficulty in producing useable mapping results, we decided to focus our efforts on reviewing the MNR's *Significant Wildlife Habitat Technical Manual*, the draft (August 2002) *Significant Wildlife Habitat Technical Manual for the Oak Ridges Moraine*, and policies currently in use by other Ontario municipalities. These were used to formulate our policy suggestions.

The **policy suggestions** in the Significant Wildlife Habitat Technical Report outline how Significant Wildlife Habitat can be incorporated into an official plan while allowing for continually improving information. The approach is based on distinguishing between *known significant wildlife habitat*, and *potential significant wildlife habitat*. The approach suggested here will lay the groundwork for the municipality to make use of MNR's Ecological Land Classification (ELC) mapping when it becomes available for this region, as well as improvements in GIS data availability and management, and information from conservation advisory committees or other stakeholders.

Natural Connections

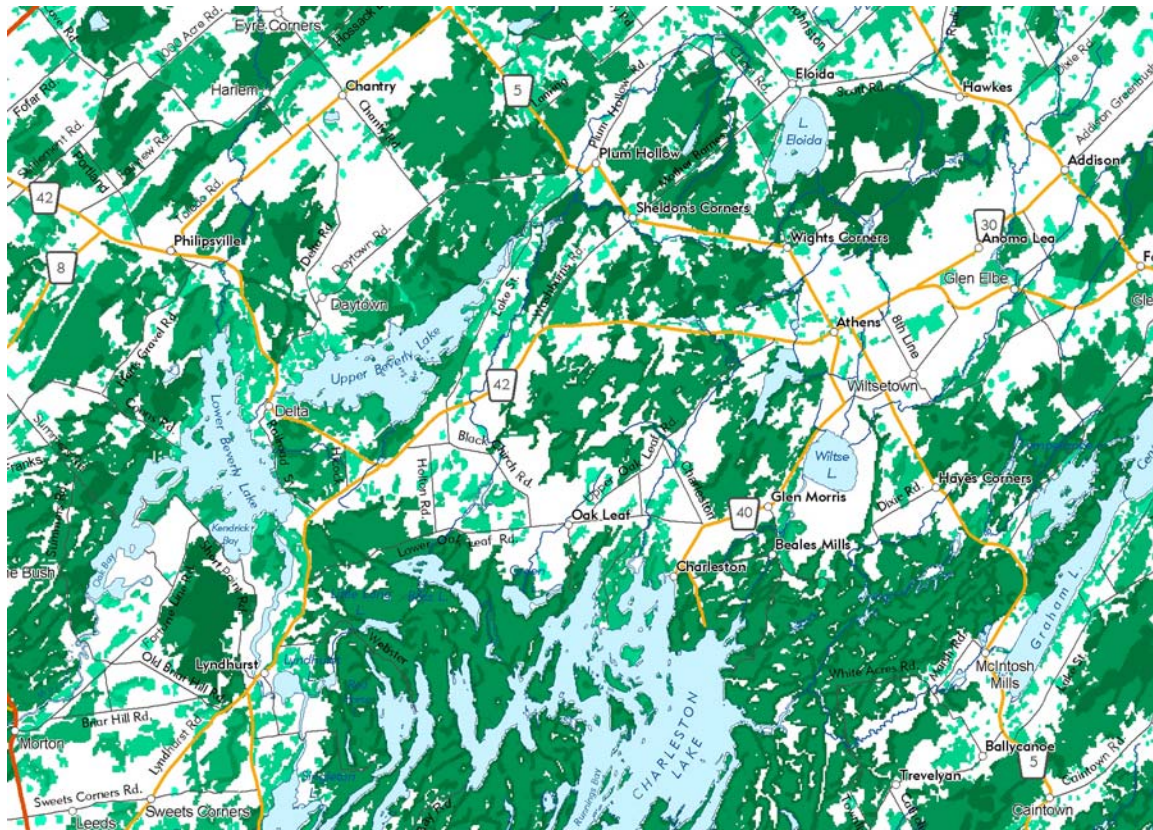
We believe that the results of *Big Picture 2002* (formerly called *The Bigger Picture Project*) will provide an efficient and effective way to identify significant natural connections such as wildlife corridors, in combination with the woodlands and wetlands results presented earlier. *Big Picture 2002* is a partnership of the MNR Natural Heritage Information Centre, the Nature Conservancy of Canada, the Federation of Ontario Naturalists, and Parks Canada. Using the best available

data on Ontario's settled and wild lands, *Big Picture 2002* has produced a map showing a vision of the future natural landscape of southern Ontario, emphasising core natural areas and their connections. These cores and corridors include all current naturally vegetated areas, as well as potential corridors in regions of high development, agricultural use and natural landscape fragmentation. *Big Picture 2002* is not intended to be prescriptive, but is designed as a tool for municipal planning, conservation and natural heritage restoration.

Policy 2.3.3 of the Provincial Policy Statement states that natural connections "should be maintained, and improved where possible". We are including a copy of the recent *Big Picture 2002* report. *Big Picture 2002* information and data are available by contacting the Natural Heritage Information Centre in Peterborough.

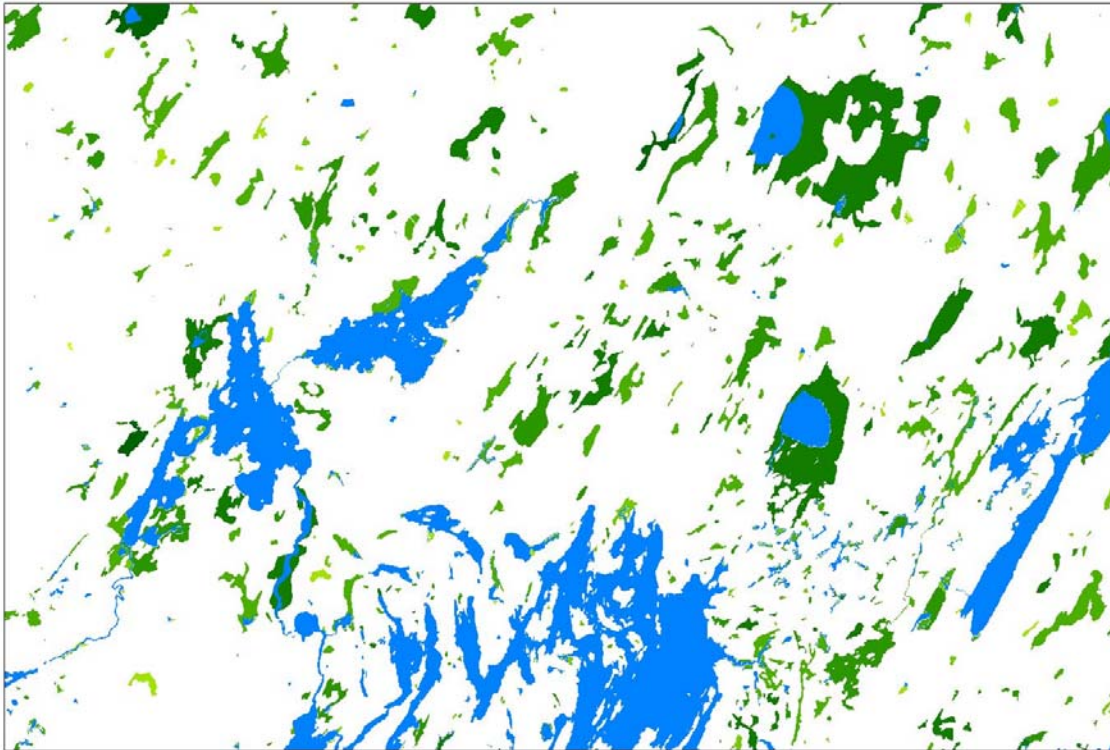
Sample Maps

Map 1: Relative Natural Heritage Values of Woodlands - an example from the Township of Leeds and the Thousand Islands. Darker green represents a higher natural heritage value based on the woodlands valuation analysis of the Eastern Ontario Natural Heritage Working Group. This example illustrates the combined scores based on all six criteria.



Map produced by Mark Rowsell for the EONHWG.

Map 2: Relative Natural Heritage Values of Wetlands - an example from the Township of Leeds and the Thousand Islands. Darker green represents a higher natural heritage value based on the wetlands valuation analysis of the Eastern Ontario Natural Heritage Working Group. This example illustrates the combined scores based on all nine criteria.



Map produced by Philip Wilson for the EONHWG.

Appendix: Provincial Policy Statement 2.3

The following excerpt is Policy 2.3 of the Provincial Policy Statement. This Provincial Policy Statement was issued under Section 3 of the Planning Act. It came into effect on May 22, 1996 and was amended on February 1, 1997. The Planning Act requires that, in exercising any authority that affects planning matters, planning authorities "shall have regard to" policy statements issued under the Act.

2.3 Natural Heritage

2.3.1 *Natural heritage features and areas* will be protected from incompatible development.

a) *Development and site alteration* will not be permitted in:

- *significant wetlands* south and east of the Canadian Shield₁; and
- *significant portions of the habitat of endangered and threatened species.*

b) *Development and site alteration* may be permitted in:

- *fish habitat;*
- *significant wetlands* in the Canadian Shield;
- *significant woodlands* south and east of the Canadian Shield₂;
- *significant valleylands* south and east of the Canadian Shield₂;
- *significant wildlife habitat;* and
- *significant areas of natural and scientific interest*

if it has been demonstrated that there will be no *negative impacts* on the natural features of the *ecological functions* for which the area is identified.

2.3.2 *Development and site alteration* may be permitted on *adjacent lands* to a) and b) if it has been demonstrated that there will be no *negative impacts* on the natural features or on the *ecological functions* for which the area is identified.

2.3.3 The diversity of natural features in an area, and the natural connections between them should be maintained, and improved where possible.

2.3.4 Nothing in policy 2.3 is intended to limit the ability of *agricultural uses* to continue.