

# Niagara Natural Heritage System Terms of Reference



September 2010



## **1.0 BACKGROUND**

Natural Heritage Systems (NHS) are networks of connected or to be connected natural spaces that provide natural functions over an extended period of time, and enable movement of species.

Natural Heritage Systems include natural features such as woodlands, wetlands, successional areas, and watercourses. Included in the system are corridors that provide linkages between different landscapes including some that may not have been traditionally considered natural i.e: vineyards.

In recent decades, there has been growing recognition, backed by considerable scientific documentation, that individual natural features have strong ecological ties and work together in a systematic way to keep our environment healthy and resilient. Natural heritage systems are necessary for the maintenance and enhancement of biodiversity, protection of species at risk, mitigation of climate change, and protection and improvement of water quality.

A healthy environment is also important for a thriving economy and rich cultural heritage.

The concept of planning for the conservation of natural heritage on a systems basis is used worldwide. In Ontario, the approach is described in Riley and Mohr (1994) and is embraced in the Provincial Policy Statement (PPS).

This Natural Heritage System Project is a multi-partner project funded by the Region of Niagara through the Water Smart Program and Coordinated by the Niagara Peninsula Conservation Authority (NPCA). The project involves working with community members, practitioners, and other stakeholders in the thirteen Niagara municipalities, County of Haldimand, and City of Hamilton to ensure the protection of the social, environmental, cultural, and economic attributes of the area that we all value.

The project is a consensus-based, integrated, whole-system approach to develop a Natural Heritage System (NHS) for the Niagara watershed. We aim to combine data gathered in previous projects with ecological modeling tools and input from the public engagement process. It is our hope that the end products will be utilized by all of the stakeholders to help guide them in their operations, restoration efforts, land-use decisions, and policy development.

This Terms of Reference borrows from and builds on previous projects of a similar nature in Eastern Ontario and the Hamilton area.

## 1.1 Study Area

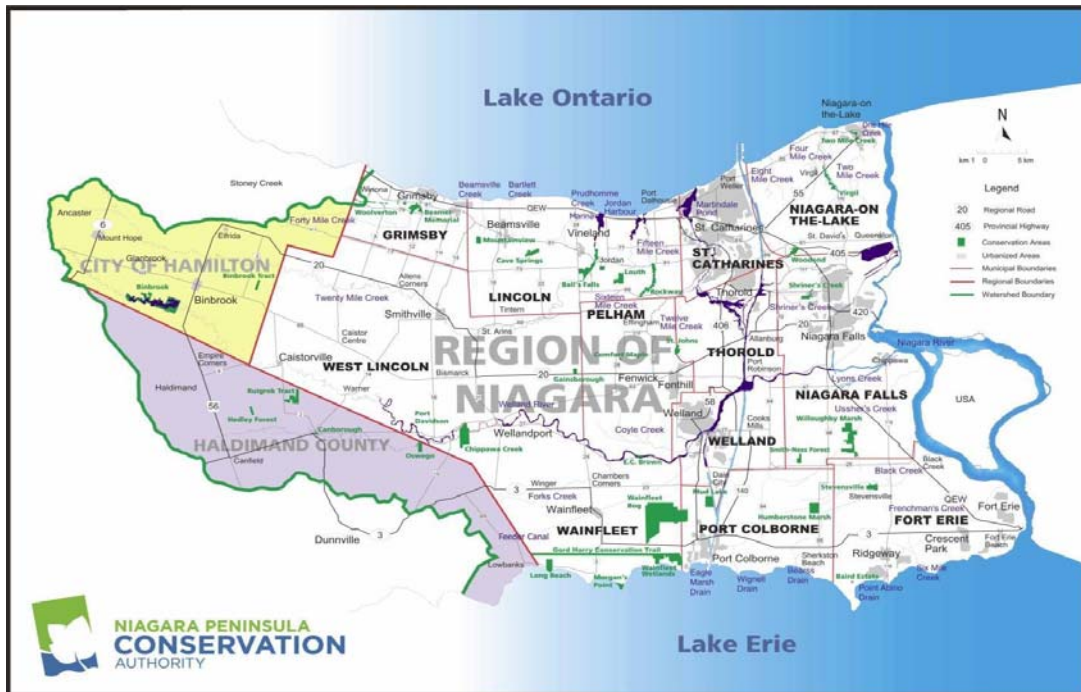


Figure 1 Study Area Map

## 2.0 PURPOSE

*To support and encourage the development of a strategic natural heritage design for the Niagara Peninsula Conservation Authority watershed.*

This Terms of Reference will guide the development of the NHS by a collaborative of stakeholders representing different interests from within the project study area. This stakeholder collaborative will subsequently be known as The Scenario Development Team.

The project officially commenced in June of 2010 with a general meeting of stakeholders in the City of Welland, Ontario and is expected to finish in June of 2011.

## 2.1 Vision Statement

*Through a consensus-based process create a natural heritage system for the Niagara watershed that embodies our shared vision for a sustainable natural environment in balance with socio-political, economic and cultural interests and values.*

## 2.2 Goals

In order to reach the Vision we have set the following goals:

1. **Education:** People have an awareness and understanding of the natural heritage system.
2. **Information Tool:** We will create an information tool that the stakeholders agree with and that can be used to better understand natural heritage.
3. **Collaboration:** To collaborate on this process and better understand and respect all perspectives.

## 2.3 Guiding Principles

- Identify a system of priority natural heritage features based on the best available science and information, local knowledge, and stakeholder interest;
- Engage and involve local stakeholders throughout the process;
- Be open and transparent with all reporting on process and results;
- Consider ecological, economic, social, and cultural values;
- Be consistent with all applicable legislation;
- Respect existing and approved land uses including: agriculture, urban development, tourism and recreation, resource extraction and mining, transportation and infrastructure and energy production;
- Consider ecological goods and services;
- Consider cultural heritage values.

## 3.0 Organizational Structure

Three committees (Steering, Outreach and Education, and Scenario Development) will form the governance of this NHS project. (See Appendix A for list of Committee membership)

**All committees** will meet as often as deemed necessary to complete the tasks as laid out in the workplan (See Appendix B). NPCA staff will provide logistical and technical support for all meetings. Time and location of meetings will be determined at each prior meeting.

Relevant data for discussion will be distributed by NPCA staff one week before each meeting allowing for sufficient time for review. It is therefore expected that committee members will arrive at the meetings prepared to represent the interests of their organization in the decision making process. At any time the represented organizations can make written comments directly to the Project Coordinator.

Recognizing that participants will be representing varied interests, it is imperative that as a group, the committees continue to move forward in the process. There will be periodic review of the goals and objectives in an effort to remind participants of their shared vision.

It is desirable that committee decisions and recommendations be arrived at by consensus. If this is not achievable, the various points of view will be recorded. Where decisions are required in order to move the project forward, majority decision of those present will provide direction.

All participants are expected to communicate in a respectful manner.

### **3.1 Steering Committee**

The Steering Committee will be made up of volunteer representatives of stakeholder groups within the NPCA watershed. (See Appendix A for list of Committee members)

Members are responsible for expressing the views of their respective organizations and for ensuring that all relevant information is disseminated to the appropriate individuals within those organizations. They are also expected to actively participate in meetings and to assign an alternate in their stead should they be unable to attend a meeting.

Steering Committee members contribute by:

- providing representation from their respective organizations in the NHS planning process; communicating frequently with those they represent to report on progress and solicit input for key decisions;
- helping to identify and select new committee members when needed;
- reviewing and advising on matters related to the development of the NHS (i.e. issues and concerns, goals and objectives, information needs, etc.);
- developing and implementing the communications and consultation plan by seeking the participation of all interested parties.

#### **Facilitation**

The Steering Committee meetings will be facilitated by a representative of the Region of Niagara or the Niagara Peninsula Conservation Authority as decided by the Committee.

#### **Meetings**

The Steering Committee will meet approximately 4 times from June 2010 to June 2011. Additional meetings can be scheduled as required or requested by members.

Meetings will be held at the Niagara Peninsula Conservation Authority boardroom.

Minutes will be kept at each meeting and will be approved by the Steering Committee at each subsequent meeting.

### **3.2 Scenario Development Team**

Members of this Committee will actively participate in the value-based decision-making process that will produce the recommendations for input of relevant data into the MARXAN modeling exercise. (See Appendix A for list of Committee members).

Scenario Development Team members contribute by:

- contributing to an inventory of existing data sets appropriate for use in the modeling exercise;
- working closely with NPCA technical staff and other experts to decide if/how data is used;
- making informed decisions on the targets and constraints associated with each identified value;
- providing direction for the development of scenarios through the use of the MARXAN model;
- communicating the results of the modeling to their respective organizations for comments and recommendations

## **Facilitation**

The Scenario Development Team meetings will be facilitated by a neutral third party that will assist the Committee in meeting its objectives. The Facilitator will be hired by the NPCA.

## **Role of the Facilitator**

- overall conduct of meetings;
- basic administration & adherence to this Terms of Reference;
- assist in building consensus;
- review and advise on matters relating to the development of the Natural Heritage System (i.e. issues and concerns, goals and objectives, information needs, etc.).

## **Meetings**

The Scenario Planning Team will meet approximately 6-8 times over a 5-6 month period from September 2010 to March 2011. Additional meetings can be scheduled as required or requested by members.

Meetings will be held at a designated location that is accessible by all members.

Minutes will be kept at each meeting and will be approved by the Scenario Development Team at each subsequent meeting. Approved minutes will be circulated to the Steering Committee.

## **3.3 Outreach and Education Committee**

The Outreach and Education Committee will be made up of volunteer representatives of stakeholder groups within the NPCA watershed as appointed by the Steering Committee. (See Appendix A for list of Committee members).

This Committee will work in partnership with both the Steering Committee and Scenario Development Team and will be responsible for the dissemination of information about the Natural Heritage System Project to interested organizations not participating in the process, and the public. (See Appendix A for list of Committee members).

Outreach and Education Committee members contribute by:

- developing information tools for the Natural Heritage System Project;
- developing the communication and consultation plan;
- providing consistent and positive messaging for stakeholder engagement, education activities, and for interested members of the public;
- providing updates to the Steering Committee.

## **Facilitation**

The Outreach and Education Committee meetings will be facilitated by a member of the Committee selected by the Committee.

## **Meetings**

The Outreach and Education Committee will meet approximately 4 times from June 2010 to June 2011. Additional meetings can be scheduled as required or requested by members.

Meetings will be held at a designated location that is accessible by all members.

Minutes will be kept at each meeting and will be approved by the Outreach and Education Committee at each subsequent meeting. Approved minutes will be circulated to the Steering Committee.

#### **4.0 Conclusion**

This Terms of Reference is provided as a basis for the governance and organization of the Natural Heritage System Project in the Niagara Peninsula Conservation Authority watershed. It is an ambitious undertaking but the community-based approach being employed, the process will lead to more informed decision-making that will have the support of those with a vested interest.

#### **References**

- Communities of South Frontenac, Lanark, and Leeds and Grenville Counties. (2009). *Sustaining What We Value: AN Integrated Landscape Management Project*. Final Terms of Reference. Brockville, Ontario.
- Ontario Ministry of Municipal Affairs and Housing. (2005). *Provincial Policy Statement*. Queen's Printer for Ontario: Toronto, Ontario.
- ReLeaf Hamilton. (2010). *ReLeaf Hamilton: Planning for Natural Heritage Systems Terms of Reference*. Hamilton-Wentworth Stewardship Council. Hamilton, Ontario.
- Regional Municipality of Niagara. (2003). *Niagara water quality protection strategy. Final technical report (Volume 1)*. Prepared for the RMN by MacViro Consultants Inc; CH2M Hill Canada Ltd; Philips Engineering Ltd. Thorold, Ontario.
- Riley, J. L., P. Mohr. (1994). *The Natural Heritage of Southern Ontario's Settled Landscapes*. Ontario Ministry of Natural Resources, Southern Region, Aurora, Ontario.

## **Appendix A**

### **Steering Committee Members**

Brock University  
Chamber of Commerce – St. Catharines  
City of Hamilton  
Haldimand County  
Haldimand Stewardship Council  
Hamilton Conservation Authority  
Land Care Niagara  
Niagara Area Planners  
Niagara Escarpment Commission  
Niagara Homebuilders Association  
Niagara Land Trust  
Niagara Peninsula Conservation Authority  
Niagara Peninsula Conservation Foundation  
Ontario Federation of Agriculture  
Ontario Ministry of Natural Resources  
Ontario Power Generation  
Peninsula Field Naturalists  
Region of Niagara  
Region of Niagara – Agricultural Subcommittee  
Six Nations

### **Outreach and Education Committee Members**

City of Hamilton  
Haldimand County  
Hamilton Conservation Authority  
Niagara Peninsula Conservation Authority  
Ontario Ministry of Natural Resources  
Region of Niagara  
Rep from Scenario Development Team  
Rep from Steering Committee

### **Scenario Development Team Members**

Brock University  
Chamber of Commerce – St. Catharines  
City of Hamilton  
Community Awareness and Emergency Response Group  
Haldimand County  
Haldimand Stewardship Council  
Hamilton Conservation Authority  
Land Care Niagara  
Niagara Area Planners  
Niagara College



Niagara Escarpment Commission  
Niagara Economic Development Corporation  
Niagara Homebuilders Association  
Niagara Land Trust  
Niagara Peninsula Conservation Authority  
Ontario Federation of Agriculture  
Ontario Ministry of Natural Resources  
Ontario Power Generation  
Ontario Stone Sand and Gravel Association  
Peninsula Field Naturalists  
Region of Niagara  
Region of Niagara – Agricultural Subcommittee  
Remedial Action Plan  
Six Nations

## APPENDIX B

<b>DRAFT</b>	<b>Niagara Natural Heritage System Workplan</b>		
	Project Title	Planned Start Date	Planned End Date
<b>1</b>	<b>INITIATION PHASE</b>	<b>10-Jan</b>	<b>10-Apr</b>
<b>1.1</b>	<b>Hire Project Coordinator</b>		
<b>1.2</b>	<b>Internal Start Up Meeting(s)</b>	<b>10-Feb</b>	<b>10-Jun</b>
1.2.1	Establish internal management team (NPCA), procedure and meeting schedule for project		
1.2.2	Review internal strategic objectives		
1.2.3	Review / Finalize Work Plan		
1.2.4	Discuss Facilitator Role		
1.2.5	Establish Steering Committee Membership		
1.2.6	Establish Scenario Development Team Membership		
1.2.7	Establish Outreach and Education Committee Membership		
<b>1.3</b>	<b>Establish Collaborative Linkages</b>	<b>10-Mar</b>	<b>10-Jun</b>
1.3.1	Consult directly with RMN		
1.3.2	Consult directly with MNR Southern Science and Information Branch (SIB, Silvia Strobl, Steve Voros), potentially Guelph District		
1.3.3	Consult directly with Hamilton-Wentworth Stewardship Council – ReLeaf Hamilton		
<b>1.4</b>	<b>Develop DRAFT ToF R</b>	<b>10-Mar</b>	<b>10-Jun</b>
<b>2</b>	<b>PREPARATION PHASE</b>	<b>10-Mar</b>	<b>10-Aug</b>
<b>2.1</b>	<b>Information Gathering and Organization</b>		
2.1.1	NHS Approach and MARXAN/ MNR Ecodistrict 7e5 Pilot		
2.1.2	Regional Policy Plan, PPS, and Natural Heritage Ref. Manual		

2.1.3	Existing Natural Heritage System Plans and Strategies (ie. Big Picture, Conservation Blueprints)		
2.1.4	Broader research on NHS Design and Potential Ecological Objectives and Targets		
2.1.5	Sustaining What We Value Project in South Frontenac, Lanark, and Leeds and Grenville Counties in Eastern Ontario		
2.1.6	Conservation Action Plans		
<b>2.2</b>	<b>Steering Committee Meeting</b>		
2.2.1	First Meeting of the Steering Committee (1)		10-Jun
2.2.2	Review and Approve ToF R		
2.2.3	Discuss how to inform and influence decision making processes		
<b>2.3</b>	<b>Scenario Development Team</b>		
2.3.1	Introductory meeting of Scenario Development Team (SDT) (i)		10-Sep
2.3.2	Hire Facilitator		10-Jun
<b>2.4</b>	<b>Outreach and Education Committee</b>		
2.4.1	First meeting of the Outreach and Education Committee (1)		10-Sep
2.4.2	First Press Release		Sept-10
<b>2.5</b>	<b>GIS Data Development and Analysis</b>	<b>10-Apr</b>	<b>10-Oct</b>
2.5.1	Complete CS Fabric		10-Oct
2.5.2	CS Fabric Analysis		
2.5.3	Delineate Large Scale Catchments		
2.5.4	Toe of slope capture		

2.5.5	Secure SAR hot spot mapping from local MNR		
2.5.6	Other spatial analyses with existing data that will investigate a concept or target and inform about the potential of a given ecological objective		
<b>2.6</b>	<b>Familiarize with Marxan</b>	<b>10-Jun</b>	<b>10-Jul</b>
2.6.1	Download model and companion software		
2.6.2	Tech transfer with MNR SIB		
2.6.3	Run model with pilot as test drive		
<b>2.7</b>	<b>Research Potential Ecological Objective Criteria and Thresholds</b>	<b>10-Apr</b>	<b>10-Aug</b>
2.7.1	Biodiversity Surrogates		
2.7.2	SW Hydrologic Functions		
2.7.3	GW Hydrologic Functions		
2.7.4	Course Filter Habitats		
2.7.5	Ecological Functions		
2.7.6	Other Resource Categories		
2.7.7	Steering Committee Meeting (1 cont)		Aug-10
<b>3</b>	<b>IMPLEMENTATION PHASE</b>	<b>10-Sep</b>	<b>11-Feb</b>
<b>3.1</b>	<b>Stakeholder Engagement</b>	<b>10-Sep</b>	<b>11-Nov</b>
3.1.1	Constraints Definition SDT Workshop (1)		10-Oct
3.1.2	Constraints Definition SDT Workshop (2)		10-Nov
3.1.3	Biodiversity Surrogates SDT Workshop (3)		10-Dec
3.1.4	SW Hydrologic Functions SDT Workshop (4)		11-Jan
3.1.5	GW Hydrologic Functions SDT Workshop (5)		11-Feb
3.1.6	Course Filter Habitats SDT Workshop (6)		11-Mar
3.1.7	Ecological Functions SDT Workshop (7)		11-Apr

3.1.8	Other Resource Categories SDT Workshop (8)		11-May
<b>3.2</b>	<b>NHS Analysis and Refinement</b>	<b>10-Dec</b>	<b>11-Feb</b>
3.2.1	Run Scenarios to produce a series of maps depicting a range of possible futures based on stakeholder input		
3.2.2	Preliminary Results Workshop with Scenario Planning Team		11-Jan
3.2.3	Refinement of NHS modelling and mapping to reflect values/ desired futures identified by stakeholders		
3.2.4	Final NHS Consensus Map		11-Feb
3.2.5	Steering Committee Meeting (2)		11-Feb
3.2.6	Outreach and Education Committee Meeting (2)		11-Feb
3.2.7	Valuation of Consensus Scenario Map		11-Feb
<b>4</b>	<b>DISSEMINATION AND PRESENTATION OF RESULTS</b>	<b>11-Mar</b>	<b>11-May</b>
<b>4.1</b>	<b>Map Final Scenario MARXAN result</b>		11-May
4.1.1	Scenario Development Team Meeting (ii)		11-May
4.1.2	Final NHS GIS Layers		11-May
4.1.3	Steering Committee Meeting (3)		11-May
4.1.4	Outreach and Education Committee Meeting (3)		11-May
<b>4.2</b>	<b>Application of final products as decision support tool</b>		<b>11-May</b>
4.2.1	Evaluation of Regional Environment Policy Core Natural Heritage Potential Corridors		11-May
4.2.2	Evaluation of Site Specific Development, Compensation		11-May
<b>4.3</b>	<b>Final Report</b>		11-May

4.3.1	Summary of Process		
4.3.2	Summary of Ecological Objectives and Targets		
4.3.3	Summary of Final Scenario		
4.3.4	Summary of Final Products as Decision Support Tool		
4.3.5	Steering Committee Meeting (4)		11-May
4.3.6	Outreach and Education Committee Meeting (4)		11-May
4.3.7	Metadata and Data Prep Summary		
<b>4.4</b>	<b>Presentations</b>	11-May	11-Jun
4.4.1	NPCA Board		
4.4.2	Municipal Councils		
4.4.3	Broader Stakeholders		