

The Land Between

Collaborative

Technical Report
June 2006

Submitted by the Couchiching Conservancy & Kawartha Heritage Conservancy.

Intended Use:

**This report characterizes The Land Between
as determined by findings of Phase I of The Land Between Collaborative.**

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The Land Between

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TABLE OF CONTENTS

1. OVERVIEW	Page 1
I. Physical/Ecological Description	Page 1
II. Cultural and Socio-Economical Description	Page 2
III. Threats/Need for Protection	Page 2
2. COMPLIMENTARY INITIATIVES	Page 4
I. Canadian Biodiversity Strategy	Page 4
II. The Ontario Biodiversity Strategy	Page 5
III. The Provincial Policy Statement	Page 6
IV. Natural Spaces Program	Page 6
V. NABCI/ Partners in Flight	Page 7
VI. Natural Heritage Systems/Landscape Initiatives	Page 7
VII. The Ontario Heritage Act	Page 8
VIII. Ontario Heritage Trust	Page 8
3. BACKGROUND: PHASE 1	Page 8
I. Goals	Page 9
II. First Steps: Data Access and Delineating a boundary	Page 9
4. PHASE 1: CORE ACTIVITIES	Page 13
I. Building a Constituency	Page 13
II. Natural and Cultural Heritage Planning	Page 14
i. Distinctive Natural Values	Page 15
ii. Protected Areas Network	Page 15
iii. Focal Areas	Page 16
iv. Policy, Protection and Stewardship	Page 16
5. RESULTS and ACHEIVEMENTS	Page 17
I. Building a Constituency	Page 17
II. Natural and Cultural Heritage Planning	Page 18
i. Distinctive Natural Values	Page 18
ii. Protected Areas Network	Page 24
iii. Focal Areas	Page 24
iv. Policy, Protection and Stewardship	Page 26
6. DISCUSSION	Page 26
a. Emerging Priorities	Page 26
b. Gap Analysis/Research Requirements	Page 30
c. Obstacles/Challenges	Page 31
d. Opportunities	Page 32
7. NEXT STEPS	Page 32

APPENDICES

APPENDIX A –
PRESENTATIONS AND CONFERENCES/WORKSHOPS ATTENDED Page 34

APPENDIX B –
ARTICLES AND NEWSLETTERS Page 35

LIST OF FIGURES

Figure 1: **The Land Between**, Primary Focus Area Page 11

Figure 2: Land Cover (Gamma) Diversity Focus Area Page 12

Figure 3: Ecological Systems Page 21

Figure 4: Distribution of Golden-winged Warbler Page 22

Figure 5: Distribution of Whip-poor-will Page 23

Figure 6, Policy and Protected Areas Page 28

Figure 7: Target Species and Communities Page 29

1. OVERVIEW

The Land Between is approximately 240 km long extending roughly from Georgian Bay in west to Kingston in the east. The average north to south width of the corridor is about 35 km. **The Land Between** spans eight Ecodistricts identified by the Ontario Ministry of Natural Resources (5E7, 5E8, 6E6, 6E9, 6E8, 5E11, 6E10) and it also occurs in eight Municipalities; Simcoe, Muskoka, Haliburton, Victoria, Peterborough, Hastings, Lennox and Addington, and Frontenac. The estimated population of the preliminary focus area of **The Land Between** is 120,850 people (Stats Canada 2001). The estimated population found within a two-hour drive to **The Land Between** is 6,841,056 people (Stats Canada, 2001).

The Collaborative began as a network of individuals interested in **The Land Between** and its landscape character and conservation. Three years ago an informal steering committee was gathered, and in 2005, **The Land Between** Collaborative was formed by Mr. Peter Alley, Mr. Ron Reid of the Couchiching Conservancy, and Mr. Ian Attridge of the Kawartha Heritage Conservancy to provide structure and leadership to a formalized program.

I. Physical/Ecological Description

“Wetlands and water between open dry granite ridges; a border of limestone plains (featuring) alvars; and patches of cool shaded forest” – these are the patterns of a unique natural heritage system along Ontario’s southern edge of the Canadian Shield. What is it? Call it **The Land Between**, for this little-known landscape lies between the agricultural heartland of southern Ontario and the forests of the Canadian Shield to the north.

This complex natural system is varied in its habitats and rich in wildlife. It is a classic example of a mosaic ecotone: a zone of transition between ecological regions of differing character. In this case, the transition is particularly pronounced, since the contact zone between limestone and Precambrian geology overlaps with considerable changes in elevation and climate. In addition, many areas on both sides of the contact line have been scoured by glaciation, leaving extensive outcrops of exposed and shallow bedrock.

Traditional landscape ecology outlines that preservation of biodiversity involves the protection of larger habitat patches with greater connectivity between them. **The Land Between** is relatively intact showing high connectivity across its length, especially when compared to the highly fragmented nature of Southern Ontario. Preliminary analysis shows that habitat diversity (gamma diversity) within **The Land Between** is amongst the highest found in South and Central Ontario, in a large part because of its role as an ecotone. Additionally large tracts of privately owned and stewarded lands as well as large areas of Crown and protected lands contribute to a basic protected areas network in **The Land Between**.

II. Cultural and Socio-Economic Description

Indigenous Native Peoples used **The Land Between** for centuries (10,000 years) for foraging in the manner of the hunter-gatherer. Evidence suggests Native Peoples may have also used **The Land Between** as a travel corridor given its open and accessible nature, and by way of its connected navigable waters.

European settlement introduced crop farming to the area lasting only a generation before the thin soils were exhausted and livestock grazing was established. Europeans immigrants logged the forests extensively and also began mining minerals and valuable aggregates.

Today, a scattering of residents live in small towns and rural properties and many thousands of seasonal cottagers provide an influx. Overall however, the population of **The Land Between** and degree of development is relatively light; especially in the western half which contrasts with much more intensive cottage development to the north in the Muskoka-Haliburton regions, and intensive agricultural areas to the south.

Industry in **The Land Between** includes public service as the largest employer (educational, health and social services), and secondarily forestry, construction, and limited farming. Primary extraction of aggregate, minerals and lumber and services for seasonal residents continue to provide basic subsistence for residents. However, the group providing by far the largest economic investment in the landscape is seasonal cottagers (www.strategis.gc.ca).

Ecotourism is an emerging trend, as there is an estimated 61% participation in outdoor activities amongst tourists. Most businesses across the area are small, however a growing technological capacity is making the area increasingly attractive to entrepreneurs (www.strategis.gc.ca).

The Land Between has a larger elderly population compared to areas in the south and north, with 30% of the region's resident population being over the age of 50 years. Numbers in this demographic are also dramatically increasing with the trend of seasonal vacationers taking up permanent residences due to retirement (www.strategis.gc.ca).

III. Threats/Need for Protection

The Land Between is vulnerable to disruption due to its stark climates, shallow soils and interconnected aquatic resources. Shallow soils have a limited absorption capacity, and the connected pockets of water are virtually open to contamination. Alterations to natural features in this area are slow to recover and rebound and pollution is quick to affect. Overall the area has a severely limited buffering capacity against disturbance.

The traditional classification system used to describe ecosystems, focuses on large homogeneous areas. Management of identified regions is therefore based on these same parameters. Little attention is given to the heterogeneous areas that lie between the large and

uniform clusters. For example, small management units are classified as “one-type” habitats such as forests, wetlands, prairies or alvars. This approach also applies to larger ecosystems, and among resource managers is reflected in the designation of ecoregions, parks and wildlife management units. Therefore, prior to 2002, **The Land Between** was not recognized as a unique entity because of its transitional and heterogeneous nature. Furthermore, it was and still remains an area fixed between various managed units: ecodistricts, counties and municipalities. Low recognition of this patterned transition zone is still prevalent.

Until recently, **The Land Between** did not have a name or a shared sense of identity. No holistic and comprehensive scientific or planning studies of **The Land Between** have been completed, and so there is an urgent need to fill gaps in scientific knowledge and understand how the area functions and the ecological services it provides (e.g. patterns of water connectivity and flow, hydrological corridors, the significance of the area as a connector between the natural systems of the Georgian Bay shoreline and the Frontenac Axis).

Low recognition of this transition zone coupled with rapid changes in Ontario’s demographics threatens the future of the system. And **The Land Between** is a target zone - for more people, for resource extraction, for habitat conservation and for provincial planning. As the Greater Toronto Area (GTA) continues to expand, hundreds of thousands of people will be added to nearby communities within the next 30 years². Although an important step, the Greenbelt Plan has effectively increased the growth pressures on the areas beyond its protected landscape. Increased development pressures are already evident in many parts of **The Land Between**. Furthermore, restrictions on aggregate extraction on the Niagara Escarpment and Oak Ridges Moraine are creating enormous pressures for quarry development within the limestone plains of **The Land Between**.

Recent studies have verified that significant financial savings are realized by protecting natural habitats rather than destroying them and later pouring millions of dollars into efforts to clean air, purify polluted waters and prevent contamination of our food sources. For example, a recognized report for the boreal forest region of Canada, estimated the combined economic value of ecosystem services such as water filtration and carbon storage as 2.5 times greater than forestry, electricity production, mining and oil and gas extraction combined.¹

But, today’s land management and planning practices are failing to protect this vulnerable landscape. An improved portfolio of conservation approaches is needed to guide the inevitable changes. Land use planning that gives priority to environmental values and stewardship may reduce future harm. Engaging stakeholders through research-based and educational activities, in an informal collaboration could lead to public processes for the development and implementation of an array of conservation measures.

² Ontario Government, 2005. Final Growth Plan for the Greater Golden Horseshoe, released in spring 2006.

¹ Anielski, M. and S. Wilson. November, 2005. Counting Canada’s natural capital: assessing the real economic value of Canada’s Boreal ecosystem services. Published by Pembina Institute.

Given the population growth forecasts in southern Ontario, time is of the essence. Successful planning decisions to accommodate growth also need to conserve local heritage, which includes cultural features, community vitality, and a healthy system of natural areas.

Newly recognized, **The Land Between** has been dubbed “the next frontier in conservation” by the Ministry of Natural Resources. Broader recognition of **The Land Between** as a true and distinct system and increased conservation efforts in this region can maintain many of its unique values before the coming wave of development removes the opportunity to do so.

2. COMPLIMENTARY INITIATIVES

Concern about conserving its high level of biodiversity was the motivation for undertaking an initial study of **The Land Between**. Federal and Provincial directives and initiatives speak to long-term strategies for the maintenance of biodiversity and have provided examples for the management and protection of larger natural systems. A series of other policies and programs also champion this issue. The following are brief overviews of these strategies:

I. Canadian Biodiversity Strategy

The Canadian Biodiversity Strategy was initiated after the inception of the United Nation’s Convention on Biological Diversity (CBD) (Earth Summit - June 1992). Here Canada not only played a role in the negotiations, but was the first industrialized country to ratify the convention (Dec. 1992). The three objectives of the CBD are:

- i) the conservation of biodiversity
- ii) the sustainable use of biological resources; and
- iii) the fair and equitable sharing of the benefits that result from the use of genetic resources.

Signatory countries were asked to come up with their own national strategies for preserving biodiversity. Developed by representatives of Canada’s federal, provincial and territorial governments, the vision for the Canadian Biodiversity Strategy is: “A society that lives and develops as a part of nature, valuing all life, taking no more than nature can replenish and leaving to future generations a nurturing and dynamic world, rich in its diversity of life.”

The national strategy also proposes five goals:

- i) To conserve biodiversity and sustainably use biological resources;
- ii) To enhance both our understanding of ecosystems and our resource management capability;
- iii) To promote an understanding of the need to conserve biodiversity and sustainably use biological resources;
- iv) To provide incentives and legislation that support the conservation of biodiversity and the sustainable use of biological resources; and

- v) To work with other countries to conserve biodiversity, use biological resources sustainably and share equitably the benefits that arise from the utilization of genetic resources.

II. The Ontario Biodiversity Strategy

The Ontario government has adopted the Ontario Biodiversity Strategy. The Ontario direction is based in part on the Canadian Biodiversity Strategy. The two main goals in Ontario are:

1. Protect the genetic, species and ecosystem diversity of Ontario; and
2. Use and develop the biological assets of Ontario sustainably, and capture benefits from such use for Ontarians.

The six approaches of the Strategy are:

1. Engaging Ontarians,
2. Promoting stewardship
3. Working together
4. Integrating biodiversity conservation into land use planning,
5. Prevention, and
6. Improving understanding.

Section 5.4 *Integrate Biodiversity Conservation into Land Use Planning* recognizes the need for conserving biodiversity and economic development. Also, the importance of a natural system in maintaining biodiversity is stated, as is the need to minimize the footprint of new growth.

Section 5.5 *Prevention* listed under “*Ecosystem Representation and Integrity*” emphasizes the need to preserve large tracts of land. Additionally, reference is made to the need for maintaining linkages between natural areas and to re-establish linkages between isolated ‘islands’ of natural habitat. Section 5.5’s highlights include:

- Line 22. Seek opportunities to establish protected areas that contribute to the completion of a well-designed system of protected areas representative of Ontario’s natural ecosystems;
- Line 23. Enact and implement updated provincial protected areas legislation that enhances ecological integrity;
- Line 24. Work to re-establish and/or retain natural linkages and connectivity on the landscape between natural areas, including protected areas, with a high priority on reducing landscape-level habitat fragmentation in southern Ontario, through the securement of lands by such mechanisms as conservation easements, donation, purchase, protected areas and/or long-term leases.

Lastly and importantly, the Ontario Biodiversity Strategy supports the “precautionary approach” from the 1992 *Rio Declaration on Environment and Development*, where “lack of full scientific certainty shall not be used for postponing cost-effective measures to

prevent environmental degradation”.

III. The Provincial Policy Statement

As a policy under the Planning Act, the revised Provincial Policy Statement (PPS) was released on March 1st 2005. The province directs land use planning and development interests through this policy and aims to direct sustainable growth through proper planning of competing interests such as traditional economics and environmental and social factors. In the recent update of 2005, significant changes in the PPS included new protections for cultural features and landscapes and more detailed directives for water systems. The Planning Act requires planning authorities to make decisions on lands use consistent with the PPS.

Details of new protections include:

Section 2.0, Wise Use and Management of Resources: "Ontario's long-term prosperity, environmental health, and social well-being depend on protecting natural heritage, water, agricultural, mineral and cultural heritage and archaeological resources for their economic, environmental and social benefits."

Subsections of 2.0: "Development and site alteration shall not be permitted in:" significant habitats; including that of wildlife and endangered and threatened species, wetlands, woodlands, valley lands, and in areas of natural and scientific interest. However, should a site not fit the criteria or remain unevaluated, no protection applies.

The PPS makes it clear that municipalities must take the lead in planning for natural heritage protection: "Municipal official plans shall provide clear, reasonable and attainable policies to protect provincial interests and direct development to suitable areas."

New legislation, such as the Places To Grow Act, has a major influence on the location and nature of growth and development in southern Ontario. Also as outlined in Part V 1.2, municipalities must coordinate planning on natural heritage and ecosystems.

As **The Land Between** is still unrecognized, appropriate planning relies on the capacity of the Collaborative to highlight values and transfer knowledge, and on the varying and generally limited capacities of municipalities to affect and fund research.

IV. Natural Spaces Program

In order to direct conservation and stewardship across a comprehensive natural heritage system in southern Ontario, the provincial government established the Natural Spaces Program (NSP). Stewardship and land securement are key tools of the program. The development of an external advisory group (of which the former Land Between Collaborative Project Manager, Ben Porchuck, was a member) helps to provide input into the identification of a natural heritage system. The NSP is also working with the Ontario

Heritage Trust (OHT), the province's heritage agency. The 2-year NSP, through the Natural Spaces Partnership Alliance, brings together many organizations to foster stewardship and securement.

V. NABCI/Partners in Flight

The North American Bird Conservation Initiative (NABCI) was formed to ensure long-term health and conservation of North America's native bird populations through combined efforts of governments, non-governmental organizations and citizens across North America. Bird Conservation Regions (BCRs) are outlined as management zones for NABCI. In using these broad scale units that are ecologically related to bird populations, conservation efforts can be focused to support groups of species throughout the core of their ranges. **The Land Between** falls within BCRs 12 and 13. Collaborative work with Bird Studies Canada is ongoing to uncover the relative importance of this natural system to specific bird assemblages.

Under the umbrella of NABCI, a subgroup was launched in 1990 called Partners In Flight (PIF) in response to growing concerns about declines in populations of land bird species. PIF goals are directed at the conservation of birds not covered by other existing conservation initiatives. Initially, the focus was on neo-tropical migrants, species that breed in North America and winter in the Central and South America, but the focus has spread to include most land birds and other species requiring terrestrial habitats. Partners In Flight (PIF) has outlined the need for international collaboration among public and private organizations in order to achieve success in conserving bird populations in this hemisphere.

VI. Natural Heritage Systems/Landscape Initiatives

Various planning initiatives have been undertaken on a landscape-level in Ontario, including plans for the Niagara Escarpment and Oak Ridges Moraine, as well as the Boreal Initiative. These initiatives aim to protect and manage entire natural systems through considered land-use planning mechanisms. Each initiative began as an exercise in outlining natural values and distinct features and functions, becoming legislated plans and/or tiered and strategic delivery programs. They first two are provincially led and administered through specific legislation and plans, where some local authority is replaced by provincial direction. These programs developed over many years and in part in response to highly profiled concerns at times within a context of considerable controversy. They are precedent setting and provide benchmarks for further actions of this scale.

Additional initiatives with these scales of systems' planning and with primary focuses on an influence model also include Carolinian Canada, Algonquin to Adirondack, and various Biosphere Reserves to name a few. Each of these may provide lessons about how to foster appropriate conservation approaches for **The Land Between**.

VII. The Ontario Heritage Act

On January 25, 2006, for the first time since the *Ontario Heritage Act* was introduced in 1975, the government has made comprehensive amendments to bring Ontario's heritage legislation in line with leading jurisdictions in Canada and around the world. The amendments to the Ontario Heritage Act:

- Give the province and municipalities new powers not only to delay but also to stop demolition of heritage sites. Enhanced demolition controls are balanced with an appeals process to respect the rights of property owners.
- Further expand the province's ability to identify and designate sites of provincial heritage significance.
- Provide clear standards and guidelines for the preservation of provincial heritage properties.
- Enhance protection of heritage conservation districts, marine heritage sites and archaeological resources.

VIII. Ontario Heritage Trust

As the province's lead heritage agency, the Trust:

- Promotes the importance of heritage conservation
- Preserves and protects provincially significant built, cultural and natural heritage sites
- Upholds and advocates the highest standards of conservation
- Demonstrates the adaptive reuse of heritage properties
- Advises the Minister of Culture on designation of provincially significant properties throughout Ontario
- Celebrates community heritage
- Encourages young people to get involved in heritage activities
- Raises revenue to support heritage activities

3. BACKGROUND: PHASE 1

Mr. Peter Alley, the Kawartha Heritage Conservancy, and The Couchiching Conservancy lead **The Land Between** Collaborative. Both organizations represented are established, regionally based land trust charities dedicated to conserving the rich heritage of the Kawartha and Couchiching areas. Their work is partnership and stewardship based, building on community knowledge, research and scientific practice to protect land and enhance the sustainability and well being of their regions. As part of the Phase I project, the Collaborative engaged the involvement of other land trusts, provincial and national conservation organizations, and government agencies at all levels.

The Collaborative's long-term vision for **The Land Between** is to raise broad understanding of the distinctive and vulnerable nature of this region and to engage a wide spectrum of participants in a public and open dialogue and to foster a suite of

conservation measures and pilot projects that sustain and celebrate the features, cultures and landscapes of **The Land Between**.

I. Goals

The first year of the Collaborative's activities, in 2005, were formalized and formulated around five goals. These goals are as follows:

- 1) **Building a constituency** of interested agencies and organizations for future **Land Between** projects;
- 2) Documenting and communicating the **distinctive natural values** of **The Land Between** corridor;
- 3) Identifying potential areas of special ecological significance as **focal points** for future inventory and conservation activity;
- 4) Documenting **land patterns and stewardship and securement opportunities** on private lands within the corridor; and
- 5) Developing and **supporting land protection projects** that are consistent with emerging priority areas within **The Land Between** corridor.

II. First Steps: Data Access and Delineating a boundary

In May 2005 a Project Manager (Ben Porschuk) was hired and stationed at Couchiching Conservancy (CC) in Orillia, and a Project Research Assistant (Brenda Van Sleuwen) was hired for technical support and stationed at the offices of Kawartha Heritage Conservancy (KHC) in Peterborough. In order to lay the foundation for research and future data capture and management, a data sharing agreement with the Ontario Ministry of Natural Resources (OMNR), Ontario Geospatial Data Exchange Section was needed. The Project Manager's initial tasks were focused on arranging this agreement.

In order to scope and support further research a boundary for **The Land Between** was needed. As natural communities often integrate into one another in an irregular fashion, as boundaries are often seasonal or fluctuating, and as varying parameters (environmental, socio-economic, cultural, and historical) contribute to differing limit extents, delineating a boundary for **The Land Between** proved challenging. Furthermore, boundaries are perceived by some as fixed and constraining. Therefore, a "hard" boundary was considered neither desirable nor feasible, but an approximate or working boundary; a focus area, was chosen.

In order to determine **The Land Between** focus area, two methods or models were used:

- i) The first method is straightforward and intuitive; Limestone plains and granite barrens along the southern edge of the Canadian Shield were outlined on a topographical map. The physiographic features were established using biological inventory assessments, evaluations and reports, and were further estimated by field research and local knowledge. The priority was placed on

areas within the ecotone where both limestone and granite were in close proximity and excluded a similar mosaic ecotone east of the Frontenac Arch as well as excluded the continuing limestone plains of Manitoulin Island. The resulting core contact zone of limestone and granite was mapped as a preliminary 'focus area'. (See Fig. 1)

- ii) The second method used Geographic Information Systems to analyze and highlight areas of high gamma-diversity (areas where numerous vegetation communities were present and interspersed at a scale of 5 km²). The *Land Cover Diversity* (Fig. 2) map was completed by Parks Canada (Zorn and Quirouette 2006). A sketched boundary was mapped encircling areas of highest gamma-diversity along the limestone-granite contact zone. The result was a larger and refined focus area. (See Fig. 2)

Additional methods to reveal diversity and outline the unique characteristics of **The Land Between** have been proposed by spatial ecologists from academia, government and the

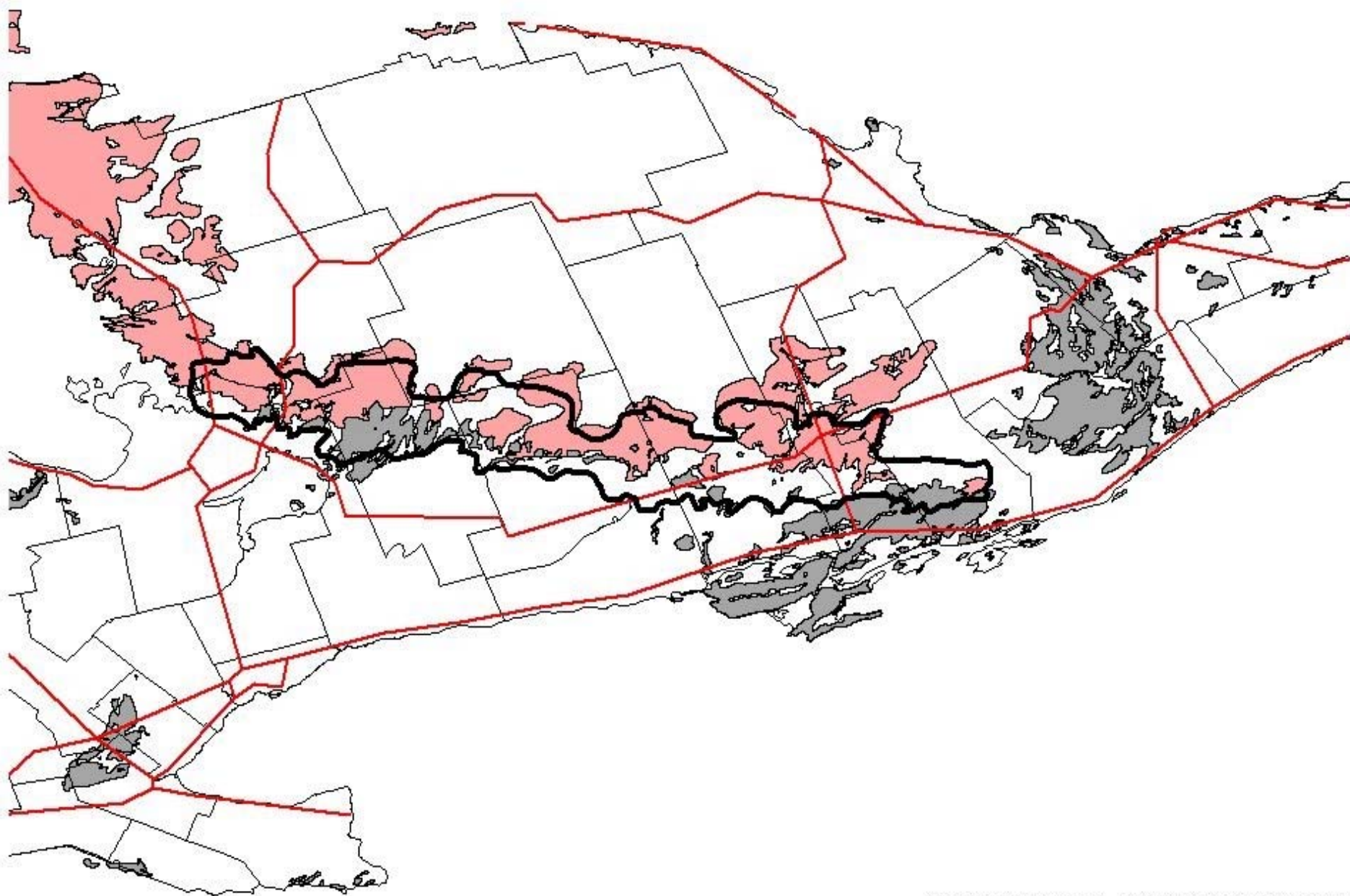


Figure 1: The Land Between, Primary Focus Area

Created for The Land Between initiative by
Brenda Van Sleeuwen
August 23rd, 2005
Data source: NRVIS, ESRI

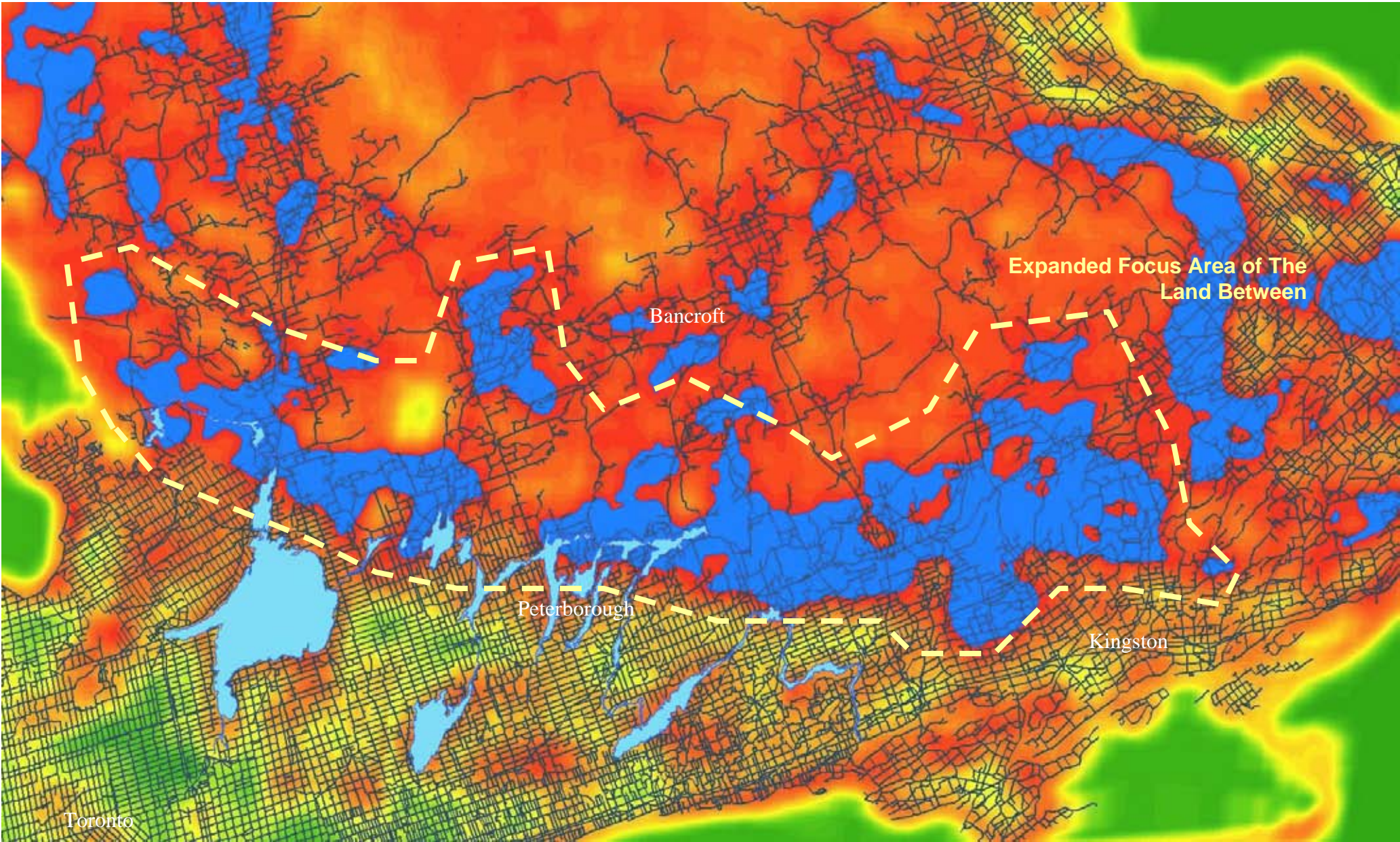


Figure 2: Land Cover (Gamma) Diversity Focus Area

Figure 2 displays the spatial pattern of **land cover diversity** as measured by the Simpson's Diversity Index. The analysis was conducted using Fragstats moving window method at a scale of 5Km². Twenty colours are shown with the two blues as the highest diversity, representing the top 10th deciles of diversity). *Parks Canada, Zorn and Quirouette.*

private sector, including by the Ministry of Natural Resources' *Southern Ontario Land Resource Information System (SOLRIS)* team (Sylvia Strobl and Danijela Puric-Mladenovic). Overlaying and comparing or relative modeling of many of the following variables through efforts of key partners, has been initiated and will provide strong scientific evidence supporting further refinement and assurance of the focus area:

- a. soil depth
- b. climate (plant hardiness zones)
- c. surficial geology (limestone and granite barren mapping)
- d. elevation: especially the use of a digital elevation model (DEM).
- e. Species ranges and affiliated species
- f. First Nations, early European and current cultural elements
- g. Road densities
- h. Percent shoreline to area calculations

A leading researcher in landscape and spatial ecology, Dr. Marie-Josée Fortin from the University of Toronto, has supported the use of these parameters in a model to predict an appropriate boundary. Dr. Fortin will be involved in the design and delivery of a project using some of these parameters to define the ecological location of **The Land Between**. However, due to the high costs and effort required, as well as significant gaps in existing data sets, some analyses of these parameters have not yet been initiated, and will be pursued in the future.

4. PHASE 1: CORE ACTIVITIES

I. Building a Constituency

In order to increase the profile and capacity of **The Land Between** and that of partner agencies as well as reach potential new partners and stakeholders, the Collaborative began in 2005 by approaching the members of the Ontario Land Trust Alliance. Additionally, in this first year, expertise and in-kind assistance was provided to community-scale ventures; promotional and communication materials drafted and distributed (newsletters), newspaper and magazine articles were drafted and published and presentations were given at conferences and various venues. The Collaborative attended municipal meetings and provided comments for Official Plans. The concept of **The Land Between** was introduced to officials from the various municipalities including Muskoka District and the City of Kawartha Lakes as well as to Conservation Authorities such as the Otonabee Region Conservation Authority in Peterborough and the Cataraqui Region Conservation Authority in Kingston. Various University and College faculty across the region, scientists and government agents were also approached to discuss research requirements and highlight goals as well as new findings.

Furthermore, partnerships were sought where mutual-benefits would be achieved through the collaboration. Desirable partners had similar mandates or directives and would derive benefits from the deliverables and/or research.

Many organizations were approached within the first year of the Collaborative in efforts to raise local and regional capacity and profile. In addition, face-to-face engagements and discussions with over 150 other individuals, in environmental organizations, environmental consultants, academia, municipal and provincial governments and industry groups took place from 2003 – 2006. An estimated audience of 700 people was reached as a result of participation at conferences, workshops and presentations in 2005 to 2006. A list of these venues is presented in **Appendix A**.

Articles highlighting **The Land Between** have appeared in publications across the region. Details of these are presented in **Appendix B**.

Furthermore, **The Land Between** supported two community-mapping events with direct contributions of \$1,300.00 each:

a) The Land Conservancy for Kingston, Frontenac, Lennox and Addington (LCKFLA), December 3rd, 2005, with over ten organizations (21 people) within the land trust's region in attendance to discuss land protection priorities and including securing connections between existing protected areas. Taking a watershed-based approach and working at a landscape level were highlighted.

b) Hastings Prince Edward County Land Trust (HPELT), 'Land Heritage Day', January 14th 2006: with over 70 people in attendance including 15 children. The event served as a promotional tool and introduction to the mandate of the HPELT and that of **The Land Between**. The event included a community mapping exercise and a presentation with live native reptiles and amphibians.

One of the communication vehicles developed during Phase I was **The Land Between** Newsletter, The 'Heterogeneity Herald'. The newsletter highlighted collaborator participation as well as provided basic and new information about the area for new audiences. No. 1, Sept. 05 and No. 2, Aug. 06 were drafted, however only the first issues was released. However over 200 copies of this issue were distributed to over 15 organizations and individuals from western Ontario to Ottawa. The initial distribution led to wider-spread circulation by email.

As **The Land Between** becomes a known entity or idea, other tools will be used to communicate the values and characteristics of the region, as well as the goals and activities of the Collaborative. In 2006, a communications specialist will be contracted to highlight the best and most feasible communication tools, and a website will be initiated.

II. Natural and Cultural Heritage Planning

i. Distinctive Values

In order to better understand and protect the natural and cultural features of **The Land Between**, the following agencies were approached:

- *Parks Canada, Ottawa*

- Paul Zorn, Conservation Biologist
Purpose: Analyses of **The Land Between** special values and habitat diversity.
- ***University of Guelph (U of Guelph), Biology Department/Faculty***
 - Yolanda Wiersma, Ph.D. Candidate; Tom Nudds, professor of Biology.
Purpose: Investigate beta-diversity characteristics of **The Land Between** and determine diversity attributes and relative importance of **The Land Between** to surrounding natural areas and ecological systems.
- ***University of Toronto (U of T), Zoology and Geography Faculties***
 - Professor Tenley Conway, Geography; Professor Marie Josee Fortin, Zoology
Purpose: To better detect ecological boundary of **The Land Between**; to discern the importance of the entire system to that of nearby natural systems such as the Oak Ridges Moraine; and to predict development and natural area stresses based on historical colonization data and modern day trends.
- ***Bird Studies Canada (BSC)***
 - Andrew Couturier, GIS Analyst
Purpose: To examine breeding bird patterns within and around **The Land Between**.
- ***Ducks Unlimited (DUC) and Ontario Ministry of Natural Resources (OMNR), Lands and Waters Branch***
 - Brian Potter, OMNR Wetland Biologist; James Holland, DUC, GIS Technician
Purpose: Conducting Phase 2 Rapid Wetland Assessments and/or mapping of small wetlands characterizing **The Land Between**.
- ***Muskoka Heritage Foundation***
 - Phung Tran, GIS Technician; Judi Brouse, Manager Watershed Council
Purpose: to outline natural heritage values for terrestrial and aquatic features in the Muskoka River Watershed and secondly for the greater Muskoka District (intercepting **The Land Between**).

ii. Protected Areas Network

To assist with characterizing land use patterns and to more fully identify existing protected areas, the following organization was approached:

- ***Sir Sanford Fleming College (SSFC), Ecosystem Management, Credit for Product Course***
 - Sara Kelly, Instructor, Ecosystem Management, Credit for Product Course
Purpose: To determine and map the extent of protected areas in **The Land Between** within land trust jurisdiction and to relate the cultural heritage

expressions of two pilot townships based on the type and availability of local landscapes and natural resources.

iii. Focal Areas

To assist in identifying and describing focal areas for future inventory and conservation, the following organizations were contacted:

- ***The Ontario Natural Heritage Information Centre (NHIC)***
 - Colin Jones, Zoologist, Herpetologist; Jim McKenzie, NHIC Manager; Mike McMurtry, Ecosystem Analyst

Purpose: To access data records for species and communities at risk, prioritize themes for field work, and plan for coordinated approaches for Phase 2 projects
- ***Nature Conservancy of Canada (NCC)***
 - Dan Kraus, Director of Science

Purpose: To work collaboratively in testing the Great Lakes Conservation Blueprint model using a large natural system and to access tools to examine property parcel sizes and design strategies for acquisition

iv. Policy, Protection and Stewardship

The following projects were intended to support land protection, land use policy, and stewardship by identifying trends, threats and opportunities within the context of a systems approach:

- ***Laurentian University, Zoology Department***
 - Prof. Jacqueline D. Litzgus, Zoology

Purpose: To promote research studies regarding growth implications within **The Land Between**
- ***Ontario Nature (ON)***
 - Wendy Francis, Director of Conservation

Purpose: To explore possibilities for integrating natural heritage systems within municipal planning, specifically in regions with thin soils
- ***Trent Severn Waterway (TSW)***
 - Norm Ruttan

Purpose: To explore collaborative efforts in mapping and assessing Species At Risk, environmental indicators and other bioindicators of ecosystem health

5. RESULTS

I. Building a Constituency

Since the completion of Phase 1 in spring 2006, there has been a noted increase in the profile of **The Land Between** among government agencies, non-government organizations and municipalities. An understanding has emerged that this is an area constituting a unique ecological system, and an area that merits further attention. The Coordinator of the Natural Heritage Information Centre (NHIC), Jim Mackenzie, suggested that **The Land Between** is “the next frontier” with respect to large-scale conservation efforts in Ontario. Several prominent academics including Dr. M.J. Fortin and Dr. Tenley Conway of University of Toronto and Dr. Tom Nudds of the University of Guelph, among others have supported the opinion that **The Land Between** is a transitional mosaic ecotone deserving greater attention and directed efforts for conservation. Administrators of the Great Lakes Conservation Blueprint (a partnership between the Nature Conservancy of Canada and the Ontario Ministry of Natural Resources) have acknowledged the distinctiveness of **The Land Between** and further supported the notion, by inviting research and presentations as to its function and form at conferences and workshops.

Letter of support have been received for **The Land Between** Collaborative from each land trust within the region. Colleagues and agencies expressed surprise that a whole and significant system had been overlooked until recently.

As noted previously there was much support from the land trusts across **The Land Between** and this cooperation will be vital to future conservation efforts as these organizations will be able to capitalize on the desire of private citizens to protect their land in trust for future generations.

Other collaboration with government agencies has helped break down some barriers that typically exist between regulatory and non-profit sectors. The Ontario Ministry of Natural Resources (OMNR), Parks Canada and other agencies have well-established programs and are typically at capacity. The discovery of a significant region, **The Land Between**, opened the door for cooperation with several key individuals at OMNR (within the Southern Region Planning Unit, Lands and Waters Branch, Biodiversity Section, Natural Heritage Information Centre etc.), Parks Canada, and Trent Severn Waterway. Data access was granted, technical support offered, groundbreaking partnerships initiated, and funding considered for Phase II.

In summary the following accomplishments from Phase I, indicate strong interest and a growing collective:

- Convened a workshop of academics, agency staff, and conservation groups to provide a peer review of work-to-date and suggestions for priority tasks;

- One-on-one meetings with a diverse set of potential collaborators, resulting in the proposed Phase II participation of 8 organizations in direct collaborative projects and another 7 related projects;
- Developed strong relationships with OMNR staff, especially those associated with the “Natural Spaces” initiative;
- Supported an initial gathering of agencies and organizations in the Kingston area, a community mapping workshop in Madoc, and a ratepayer forum in Marmora;
- Coordinated credit-for-product projects at Sir Sandford Fleming College to digitize land trust properties within **The Land Between** and to discern historical relationships between natural and cultural heritage of two townships;
- Initiated Trent University student research on planning policies and cultural heritage in **The Land Between**.

Although **The Land Between** was featured in talks, seminars, newsletters and web sites (within the Couchiching Conservancy site), a larger segment of the public, including local residents, seasonal residents and others have not yet been contacted. It will be crucial for Phase II to undertake a more orchestrated communication strategy.

II. Natural and Cultural Heritage Planning

i. Distinctive Values

Land Cover Diversity

Parks Canada

The Simpson’s Diversity Index was used to highlight vegetation and habitat -diversity in **The Land Between**. Land cover classification data (2000) for southern Ontario was used. Habitat diversity was calculated based on the number and proportion of land cover classifications for a given area (using 5 x 5 km grids). This analysis revealed that high diversity and interspersed habitats coincided with **The Land Between**, paralleling the preliminary focus area, or contact zone of granite and limestone (see Figures 1 and 2).

Based on its complex nature of a mosaic of habitats, **The Land Between** was suspected to harbor high species as well as habitat diversity. Preliminary analysis by Parks Canada using the Simpson’s Vegetation Diversity Index confirmed that **The Land Between** shows among the highest land cover interspersed and so gamma diversity levels in Ontario. The diversity of landscape types and their condition and connectivity may determine the richness and range of organisms using these spaces, and then the provision of refugia in comparison to surrounding fragmented and altered systems.

Wetland, lake, stream, grassland, forest, barren, and open alvar communities all occur in significant patches throughout **The Land Between**, producing a relatively intact and healthy system. The wide ranges of core habitats support species diversity. Diversity is further enhanced by species whose ranges terminate in **The Land Between**: northern, forest-dependent wildlife such as Moose and Black Bear appear in **The Land Between** as

the southern extent of their range, and southern species occurring here as their northern limits such as Butternut, White Oak and Blanding's Turtle.

Given the priority of sustaining biodiversity at global, national, and provincial levels, **The Land Between** represents an opportunity for proactive and cost effective management in order to meet conservation targets. According to researchers, the significance of this ecotone may be much greater than at first anticipated. Transitional mosaic ecotones, even if smaller than adjacent regions, are often significant for sustaining genetic diversity for the adjacent areas. This would suggest that areas of the St. Lawrence Lowlands, the Canadian Shield and even the Boreal North might depend partly on **The Land Between** to sustain their diversity. Lastly, related studies have discussed the possibility of intact ecotones providing refuge for species during climate change.

The Great Lakes Conservation Blueprint and Land Cover Diversity

The Great Lakes Conservation Blue Print (GLCBP) completed by the Nature Conservancy of Canada and OMNR's Natural Heritage Information Centre, contributes frameworks for a protected natural system in Ontario to meet biodiversity conservation goals. However, limitations include incomplete data sources such as municipal, land trust or public institution holdings thus influencing the identification of priority areas, which rely on the proximity to protected areas. These issues may be addressed and refined at local scales.

The preliminary reviews of various vertebrate taxa (i.e. reptiles, mammals) indicate that **The Land Between** supports 60% of the species found in Ontario, reflecting the importance of this zone. Aquatic and terrestrial sites from the GLCBP are now being reviewed, and further work with gap analysis techniques and the property ownership fabric will be useful in identifying the top priority properties.

Breeding Bird Diversity

Bird Studies Canada

With an interest in testing the validity of preliminary findings within the recent *Breeding Bird Atlas*, Bird Studies Canada (BSC) provided resources for GIS analysis. A pilot study examined priority species found in BCR 12 and 13, and related species richness. The results demonstrated the importance of **The Land Between** for conservation of targeted species, and further highlighted the area as significant to sustain breeding bird diversity in Ontario (see Figures 3 and 4).

Mammal Diversity.

Of the 80 plus mammals occurring in Ontario, approximately 48 (or 60%) occur in **The Land Between**. These numbers are based on range distribution maps found in the *Atlas of the Mammals of Ontario* (Dobbyn 1994). Thanks to PhD. candidate Yolanda Wiersma from the University of Guelph, a short preliminary analysis of mammal ranges was conducted. Wiersma further concluded that **The Land Between** is high in beta diversity

or the rate of change of species richness. Furthermore, because many of the mammals in **The Land Between** are found either at the northern boundary (Marten, Moose, River Otter) or across southern extents (Big Brown Bat, Cottontail Rabbit, Striped Skunk), **The Land Between** may play an important role in the support of mammal diversity in adjacent areas, such as the greater St. Lawrence Lowlands, the Canadian Shield and specifically the Oak Ridges Moraine, the Georgian Bay Littoral Biosphere Reserve, Algonquin Park, etc.

Other Vertebrates

Ontario has 58 species (including subspecies) of reptiles and amphibians. A preliminary review of the Natural Heritage Information Centre's *Herpetofaunal Atlas* species range maps indicates that 35 (or 60%) of these species are found in **The Land Between**. The high number of closely linked or connected wetlands; the physical nature of granite barrens and limestone plains; and the distinctive climate of **The Land Between** all contribute to the occurrence herpetiles including many species at risk (e.g. Blanding's Turtle, Eastern Hognose Snake, many frog species etc.) and our only lizard, the Five-lined Skink. Protecting the habitats of this guild is important for the maintenance of herpetiles across Ontario.

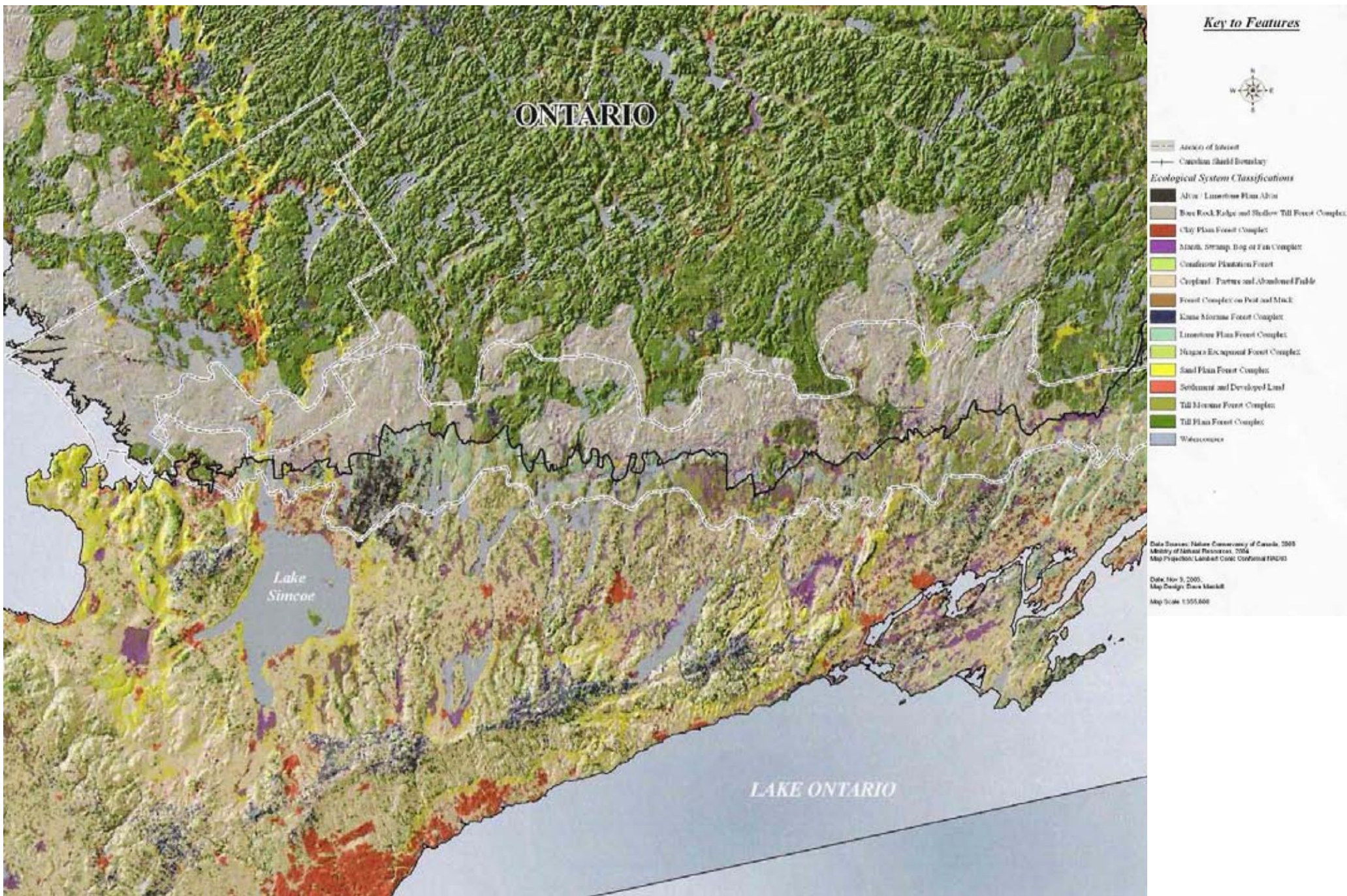


Figure 3: Ecological Systems

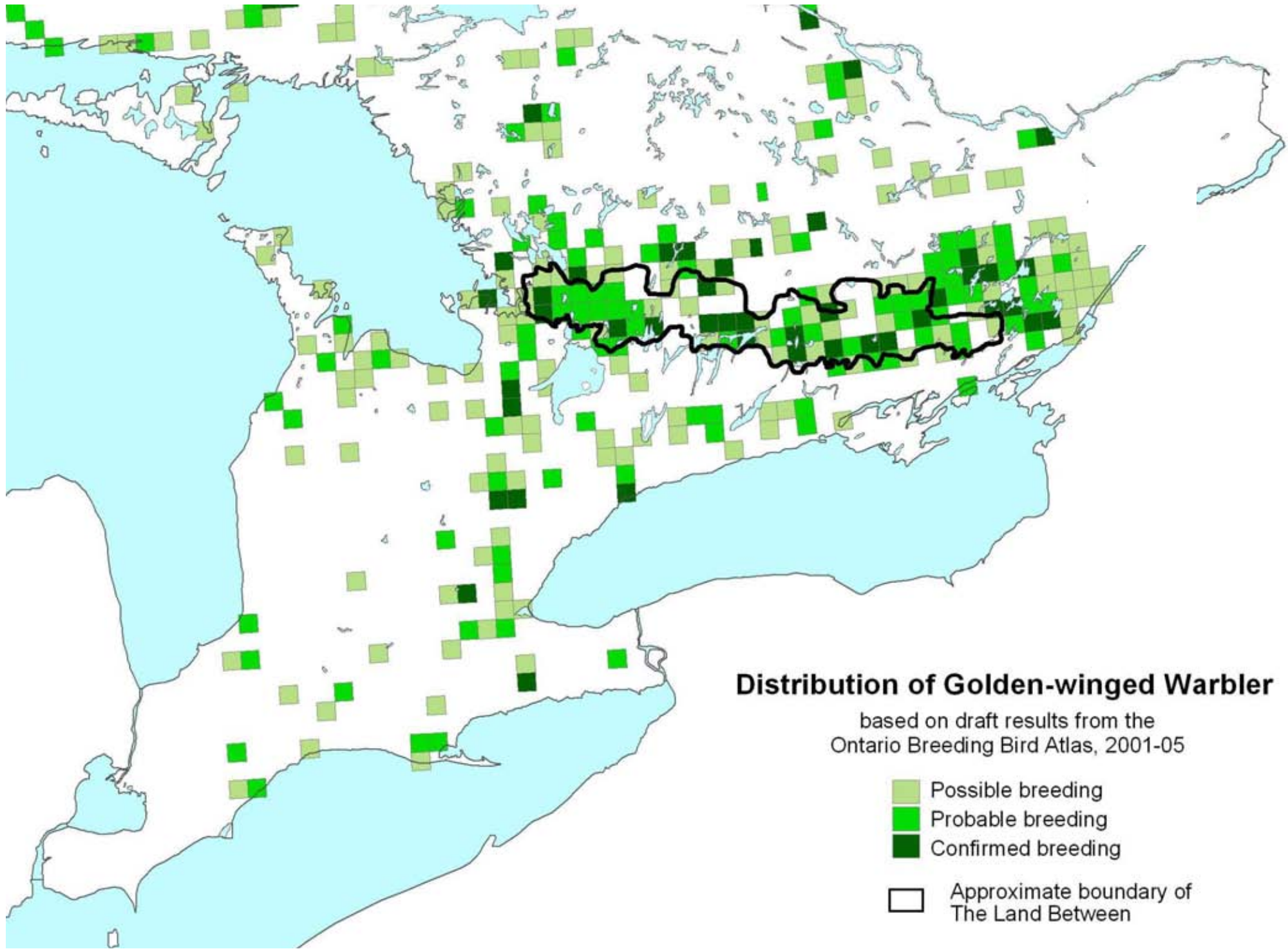


Figure 4: Distribution of Golden-winged Warbler

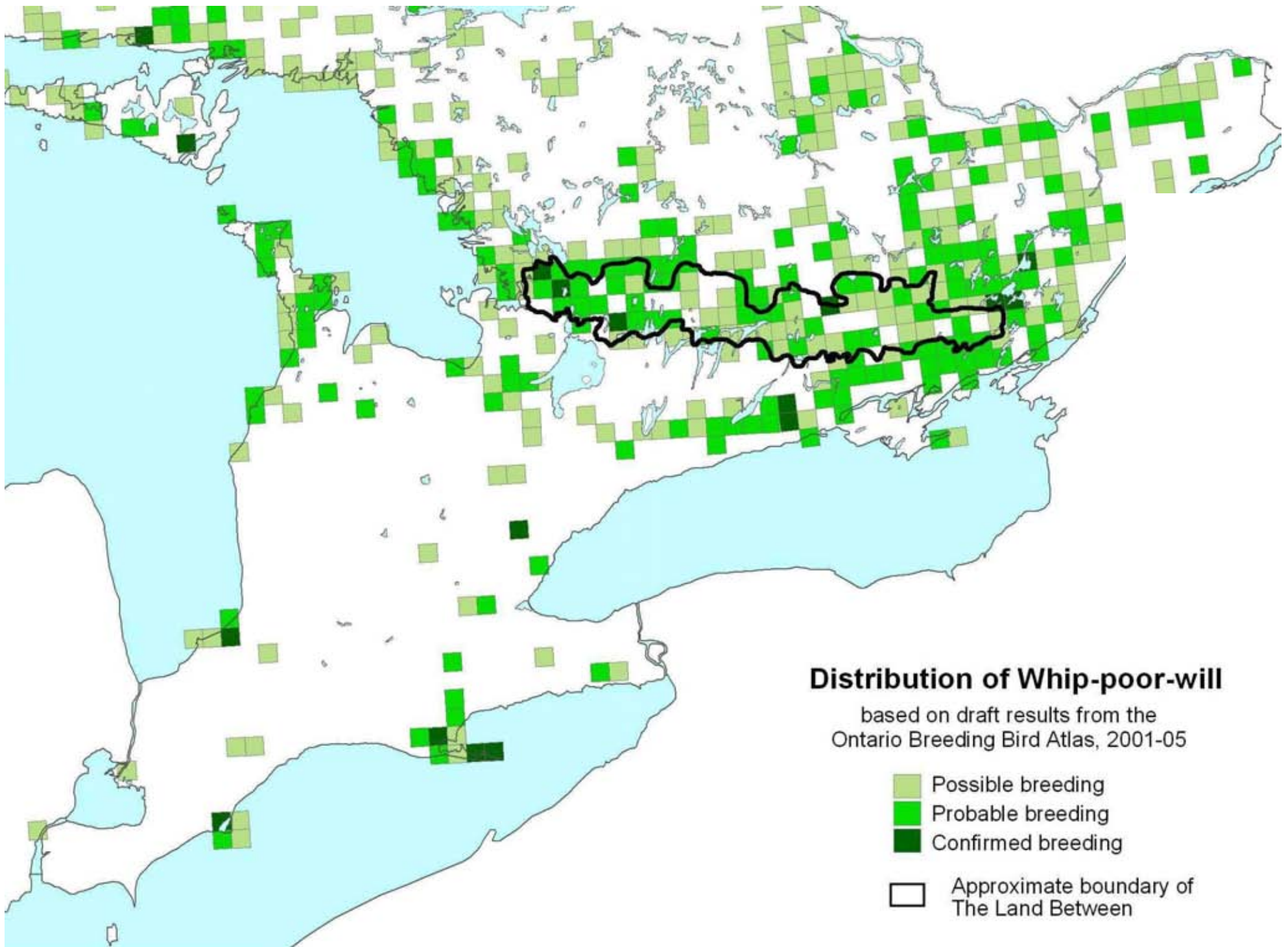


Figure 5: Distribution of Whip-poor-will

ii. Protected Areas Network

GIS Parcel Fabric

Access to land parcel GIS mapping was arranged through the Nature Conservancy of Canada. In some of the emerging priority sites, land ownership mapping has been completed, including detailed mapping of Crown land and other public lands as well as documentation of ownership and assessment values.

Heritage Sites And Protected Areas

Sir Sanford Fleming College

Two townships were investigated for cultural heritage elements: at least 54 significant features were captured and georeferenced. Students also conducted a preliminary ecological assessment of a key focal area. Lastly, many properties owned by land trusts, conservation organizations, and municipalities across **The Land Between** were digitized and added to **The Land Between's** compilation which includes the Nature Conservancy of Canada's database of parks and protected areas. An attempt to rank the level of protection of these properties was made by examining the International Conservation Union's (IUCN) natural areas ranking system, in addition to the Greenlands Ranking System (Neptis).

Further analysis is required to determine the exact percentage of protected area within **The Land Between**; varying estimates suggest suggest between 10% and 30% is protected.

The Nature Conservancy of Canada's mapping of protected areas (Fig. 6) shows many of the protected areas within the preliminary focus area of **The Land Between**. Many of these protected areas are Crown lands that were designated as parks and conservation reserves during the Lands for Life/Ontario's Living Legacy process. The majority appears in the northern half. The southern portions of **The Land Between** have a much higher proportion of private lands and limestone features and for the most part have seen less conservation activity.

iii. Focal Areas

Direction in identifying priority sites is being guided by the following preliminary findings:

The Conservation Blueprint

Figure 8 demonstrates the importance of **The Land Between** for target species (provincially rare S1 – S4 and globally G1 – G4 rare), nationally listed Species At Risk, and provincially ranked Endangered Species) and vegetation communities. Note the large concentrations (shaded background) of these designations within **The Land Between** particularly in the western end (Georgian Bay), then next in Carden (northeast of Lake Simcoe), followed by Kawartha Highlands and then slightly smaller concentrations in the east, north of Belleville

and Kingston. Further detailed analysis would depict trends in various groups of species underlining specific needs for habitat preservation to maintain or recover populations of rare species. Again enhancement of the analyses to include other secure land holdings may shift or increase the identification of target areas.

Habitats of Species at Risk

An estimated 50 aquatic and terrestrial species at risk (SAR) are found across **The Land Between** as well as rare communities and assemblages of species at risk. The Trent Severn Waterway is investigating and inventorying species at risk occurrences and habitats to affect stewardship and management of these federal lands and associated areas. Ron Reid and Ian Attridge of **The Land Between** Collaborative participate on the Trent Severn Waterway advisory group.

Bird Conservation Regions/Priority Species

The richness and diversity of breeding birds, when related to their geographic distribution and thus habitat availability, provide indicators of overall biodiversity and provide parameters to prioritize conservation efforts. *Partners in Flight*, a group of the North American Bird Conservation Initiative, have recently listed several priority species for specific Bird Conservation Regions (BCRs).

BCR 12 lies within the northern boundary of **The Land Between** and is characterized by coniferous and northern hardwood forests, nutrient-poor soils, numerous clear lakes, bogs, and rivers. BCR 13 is of the Lower Great Lakes/St. Lawrence Plain and covers the low-lying areas to the south of the Canadian Shield.

Bird Conservation Regions 12 and 13 within **The Land Between** were reviewed to ascertain which assemblages of conservation priority or rare species are prevalent in the region. Bird species revealed through this exercise as being associated with **The Land Between** and requiring conservation management include Golden-winged Warbler, Bobolink, Vesper Sparrow and Loggerhead Shrike. Species of concern such as Field Sparrow, Whip-poor-will, and Common Nighthawk are also strongly affiliated with **The Land Between**.

Areas Under Threat

Areas under greater threat are emerging as areas to focus conservation efforts. These include areas with higher pressures for aggregate extraction, areas with increasing concentrations of roads and pavement, areas highly sensitive to disruption and which are declining due to development such as shorelines, and those with extreme growth pressures and planning concerns.

iv. Policy, Protection and Stewardship

Field Investigations/Land Securement Sites

Three properties within **The Land Between** totaling 2375 acres were acquired during Phase I by partner land trusts. These properties are:

- Windmill Ranch: 1,600 acres within the Carden alvar
- Prairie Smoke Reserve: 689 acres within the Carden alvar
- Waterthrush Woods: 86 acres of Soft Maple Swamp on the Head River

Negotiations are underway to secure several other significant sites as part of Phase II, including a 1200-acre property near Coopers Falls; a 350-acre conservation easement near Apsley; and other privately owned sites totaling 1000 acres. These sites will either link or buffer existing public land holdings.

Conservation Site Planning

The Nature Conservancy of Canada and The Couchiching Conservancy developed a detailed 10-year acquisition-conservation plan for the Carden Alvar. This plan categorizes properties within a 26,000-acre area by the degree of significance and the degree of urgency. It will guide acquisition activities for the next decade, as well as provide a template for conservation planning elsewhere in **The Land Between**.

Official Plans

Students of Trent University and staff of The Haliburton Highlands Land Trust conducted comparative studies of planning mechanisms, stewardship and policies for natural heritage conservation across North America and Ontario. Further synthesis and refinement of data will occur in Phase 11 to reveal trends and opportunities for **The Land Between**. Furthermore, review and input was provided by the Collaborative for Official Plans of City of Kawartha Lakes and Hastings County. The Collaborative will continue to outline, discover and then pursue opportunities to provide input into related planning documents.

6. DISCUSSION

a. Emerging Priorities

A number of prioritization exercises can now be conducted with the preliminary understanding of values of **The Land Between**. Analyses need to be flexible to respond to new scientific knowledge (new insight into ecological and cultural values and functions, emerging threats), and information on areas with greater potential. The following parameters or factors form the basis for a preliminary prioritization exercise, and when mapped will reveal preliminary focal areas:

Connectivity and Corridor Areas

Although extensive Conservation Blueprint priority and protected sites have been defined, explicit gaps exist between the identified areas. Much of this ‘in between’ habitat is in a natural state, and so if these lands are maintained and/or stewarded, connectivity will be reserved at a landscape-level. Immediate attention is needed to keep the integrity of the natural systems across **The Land Between**, as many of these sites have no protection status or stewardship plans and are vulnerable to alterations or development.

Roads and Roadless Areas

Large tracts of land in **The Land Between** are devoid of roads or trails. These areas support the function of connectivity within **The Land Between**. The introduction of roads or excessive traffic would alter, remove or destroy habitat making the management and stewardship of these key sites imperative. Also, increasing the understanding of ATV and other traffic impacts is necessary to support appropriate management. Lastly, highway corridor expansions are underway in **The Land Between** making greater use of linked networks and increased road kills likely: these trends and evidence need to be studied in order to target management techniques such as wildlife over/underpasses etc.

Priority Conservation Areas

The “Blueprint Portfolio” best demonstrates the urgent need to conserve greater parts of **The Land Between**. Both the Aquatic and Terrestrial Blueprint priority sites are widely distributed from west to east in **The Land Between** with some prominent areas in southern Georgian Bay; the Carden Alvar; Kawartha Highlands Provincial Park; and in the east north of Belleville and also Kingston. These sites will require further, more refined conservation planning to direct priority stewardship and conservation activity. (See Figure 6; Policy and Protected Areas).



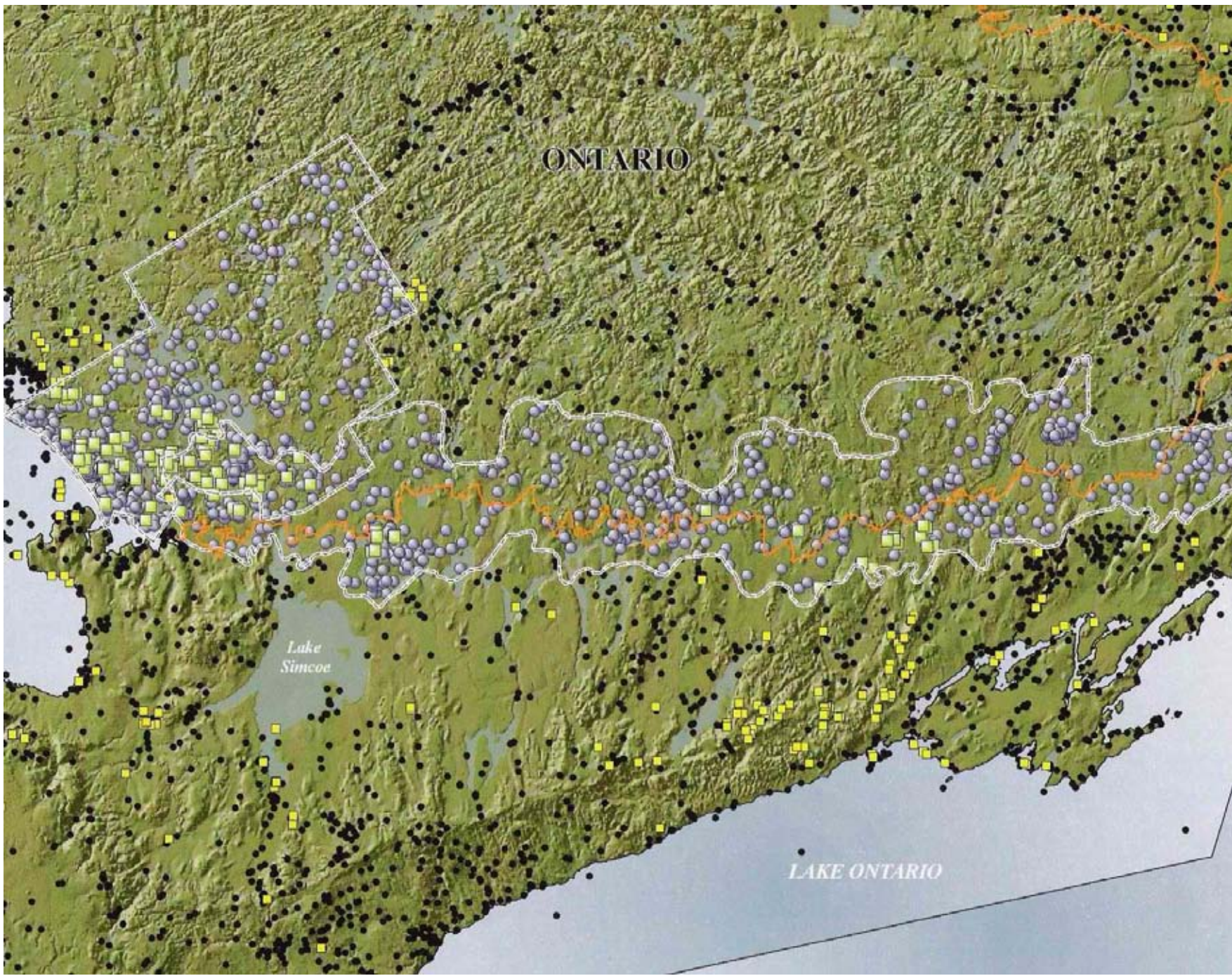
Key to Features



- Areas of Interest
- Canadian Shield Boundary
- Policy and Protected Areas**
- ANSI
- Indian Reserve
- Conservation Authority Properties
- National Parks
- Provincial Conservation Reserves
- Provincial Parks
- BCV Properties
- Crown Land
- Provincially Significant Wetlands

Data Sources: Nature Conservancy of Canada, 2005
 Ministry of Natural Resources, 2004
 Map Projection: Lambert Conformal NAD83

Figure 6, Policy and Protected Areas



Key to Features



-  Areas of Interest
-  Canadian Shield Boundary
- Target Species and Communities**
-  Element Occurrences
-  Exterior Element Occurrences
-  Community Occurrences
-  Exterior Element Occurrences

Data Sources: Nature Conservancy of Canada, 2005
 Ministry of Natural Resources, 2004
 Map Projection: Lambert Conformal NAD83

Date: Nov 9, 2005
 Map Design: Dave Mackinnon

Figure 7: Target Species and Communities

b. Gap Analysis/Research Requirements

From an analysis of Phase I information and results, a number of areas have been identified as priorities for additional research, data gathering, and analysis. In most instances these priorities have emerged from discussions with various experts and stakeholders. For example, preliminary analyses of breeding birds identified the importance of **The Land Between** to a group of species warranting closer examination; community discussions highlighted the distinct cultural history of this area and the potential for engaging communities; an improved understanding of the nature of wetlands in **The Land Between** corridor (a pattern of multiple small wetlands) demonstrated why they are not captured and mapped by traditional evaluation procedures, and so on. A preliminary listing of research needs, organized in categories of immediacy, includes:

Primary Pursuits

- Research on processes and interactions that illustrate and explain the ecological system of the mosaic ecotone.
- Research on cultural, including First Nations and European settlement, histories (social, economic and political) and how these affect appreciation, use and patterns of the landscape.
- Research on ecological parameters and patterns (both abiotic and biotic) leading to an understanding of the ecological bounds of **The Land Between**.
- Research on cultural elements and historical patterns leading to an understanding of the cultural bounds of **The Land Between**.
- Research on species of responsibility: declining avian species and species at risk associated with **The Land Between**.
- Research on emerging threats including road network development, settlement and expansion areas, development of shorelines, aggregate extraction sites etc.
- Research on rare habitat types, vegetation communities and their distribution.
- Research on habitat providing refugia for species at risk to assess best management approaches.
- Research on municipal; land trust; institutional; and otherwise protected land holdings.

Secondary Pursuits

- Site specific inventories
- Research on bioindicators specific to **The Land Between**.
- Research on population growth patterns/demographics and development trends/pressures.
- Research on hydrological connectivity of wetland areas and percent shoreline to area as compared to neighboring regions.
- Research on species ranges and productivity and related to climate change affects.
- Research on the hydrological processes and vulnerabilities of groundwater to contamination and the adequacy of source water protection regimes.

- Research on comparative soil depths within and north and south of **The Land Between**.
- Research on the significance of small limestone outcrops in maintaining specialized species and vegetation communities.
- Research comparing limestone and granite cliff species and ecology.
- Habitat classification (Ecological Land Classification) and species associations for various bedrock types and situations.
- Research on municipal capacities and municipal planning: Official Plan environmental-designations, allowances and inclusions.
- Research on partnerships and shared objectives: complimentary organizations and initiatives within **The Land Between**.

c. Obstacles/Challenges

The Land Between lies within the reach of the expanding Greater Toronto Area and so experiences leapfrog development as a result of the Greenbelt Plan and other landscape scale programs. The forecast for millions of future residents to be added to areas (within a 2-hour drive of the GTA) is a potential influence that demands advanced planning in order to limit activities and degradation of sensitive areas. Furthermore, this “boom” is leading to rising property prices, and so the severing and development of lands for profit as well as a higher cost to securement/acquisition.

Development patterns in **The Land Between** are mostly focused along major north-south roads, and even though the landscape patterns and small communities share many similarities across **The Land Between**, there has been very little east-west interaction to recognize those similarities. The jurisdictional framework within **The Land Between** is also fragmented and so presents significant challenges to conservation planning: **The Land Between** forms only a small part of individual municipalities along its length, and is split amongst several OMNR districts. Leadership and collaborative communications by organizations are needed to overcome these challenges. New technological services may help to facilitate coordination of efforts amongst key partners. A framework for reporting, monitoring, and cooperation within the collaborative must also be developed as capacity expands. Coordinated outreach and communications is required, especially to conservation-minded landowners.

A significant challenge during Phase I was gaining access to digital data sets and carrying out GIS-based analyses on a landscape of this magnitude and one that lies between jurisdictional boundaries. Gains were made through the signing of data-sharing agreements with OMNR and Ducks Unlimited Canada, as well as through the cooperation of several parties to carry out analysis on our behalf. However, there are gaps in data sets (e.g. mapping of soil depth, wetlands habitats in central areas, alvar and limestone habitats, mammal abundance and distribution, etc.), and methods for capturing these features are at times expensive, require high levels of effort and coordination, or necessitate advanced technologies and training. In particular parcel fabric to enable greater prioritization of threatened areas, and greater landowner contact capacity is difficult to obtain.

A final challenge that must be considered is the rising influence of “landowner rights” groups in some sections of **The Land Between** and adjacent areas. These groups call for substantially fewer government restrictions on land use, and particularly resist designations based on environmental concerns. These views appear to have special appeal in areas where agricultural or resource-based activities are economically marginal. Together with a generally weak understanding of the costs of environmental degradation across the board, it will be important to building community understanding and support for **The Land Between** to seek opportunities for clear community benefits, rather than relying solely on top-down regulation of land use in this area.

d. Opportunities

As part of Phase II of this project, the broad themes and priorities identified in Phase I will be taken to the next level, so that conservation mechanisms can be incorporated into a range of different approaches. The collaborative approach will be continued and expanded, with support from a core program to coordinate individual projects and synthesize results. The broad goals that will be the focus of this phase are:

- To encourage research and then information dissemination so that all stakeholders can participate in open forums for informed decision making processes;
- To increase public awareness and support of cultural and natural heritage and conservation initiatives within the region of **The Land Between**.
- To identify a system of potential protected landscapes that capture the distinct natural and cultural values of **The Land Between** region;
- To contribute to and encourage the development of conservation strategies for focal areas of ecological and/or cultural significance;
- To build collaborative partnerships and increase local capacity for stewardship within priority areas; and
- To encourage the inclusion of an appropriate natural heritage system and recognize the unique planning needs in provincial and municipal plans for **The Land Between**.

Funding for the core program of Phase II has been largely achieved. Additional funding is being sought for a series of support projects, as listed below, and valuable additional input is anticipated from a number of concurrent projects such as a study of species at risk carried out by the Trent-Severn Waterway.

7. NEXT STEPS

The Ontario Trillium Foundation and the George Metcalf Foundation have approved funding for a Phase II proposal to build on the work to date in **The Land Between**. Together with a core program to provide coordination and outreach, a series of support projects have been developed to address priority needs. The partners and projects are as follows:

- The Haliburton Highlands Land Trust: *Haliburton Natural Heritage Mapping Project.*
- The Muskoka Heritage Foundation: *Filling the gaps and engaging the community*
- The Land Conservancy for Kingston, Frontenac, Lennox & Addington: *Capacity building, public outreach and protected lands mapping.*
- The Natural Heritage Information Centre: *Expert field biologists for priority site investigations, project guidance.*
- University of Toronto (M.J. Fortin): *Quantifying the spatial relationship between environmental heterogeneity and biodiversity.*
- University of Toronto (Tenley Conway): *Calculating residential expansion pressures on natural systems in **The Land Between.***
- Bird Studies Canada: *Assessing the distribution, abundance & richness of breeding birds in and the transitional nature of **The Land Between.***
- Sir Sanford Fleming College: *Credit for Product Course examining relationship of cultural and natural heritage in **The Land Between,** and assessment of communities.*

The success of next steps will depend on the skills of the Phase II Project Manager (Leora Berman) and the direction provided by the Steering Committee and other partner-advisory groups, however, a solid base of understanding, support, and enthusiasm has been provided by Phase I. **The Land Between** is well positioned to emerge as an area of focused conservation activity over the next several years.

APPENDIX A
PRESENTATIONS AND CONFERENCES/WORKSHOPS ATTENDED

- *Algonquin to Adirondack Conservation Association Board of Directors* – presentation Winter 2003
- *Muldrew Lakes Cottagers' Association*, short report at annual meetings in 2003, 2004 and 2006
- *North Simcoe Stewardship Council*, presentation at monthly meeting, April 28, 2003.
- *Parks Research Forum of Ontario, Annual Conferences – Papers* presented in 2003 and 2005
- *Hike Ontario Board of Directors* – Presentation on **The Land Between** and discussion of relevance to HO, Mar 20, 2004
- *Ministry of Tourism and Recreation - Participation in Workshop on Ontario Trails Strategy* January 17 2005
- *Ministry of Municipal Affairs and Housing* – Presentations at *Public Consultations on Provincial Policy Statement* at Vaughan and Kingston; and participation in *Workshops* at Burlington and Ottawa Summer and Fall 2004
- **The Land Between** Partner Meeting, at Trent University – Presentation, June 29th, 2005
- *Orillia Fun Day* – Booth Host, July 1, 2005
- *Marmora and Lake Ratepayers Association* – presentation on **The Land Between**, August 24, 2005
- *Future of Carden Alvar Conference*; Technical Support, September 21, 2005
- *OMNR Biodiversity Forum* – Presentation to OMNR's newly formed Biodiversity Branch, October 2005
- *Greenbelt Gala* – Meeting with Executive Director Rick Smith, *Premier Dalton McGuinty* in attendance, October 26th, 2005
- *Ontario Land Trust Alliance (OLTA); Meeting before Annual Gathering, Fall 2003, of representatives of 7 Land Trusts operating in The Land Between*; Presentations, November 11 – 13, 2005
- *Land Conservancy for Kingston, Frontenac, Lennox and Addington* –Co-host, and Presenter, December 2005
- *Frontenac Biosphere Reserve*, Workshop attendee, December 2005
- *Laurentian University* – Presentation and Life Sciences Departmental Tour, December 9th, 2005
- *Hastings Prince Edward Land Trust (HPELT)* – Presentation, Jan. 14, 2006
- *Grants Woods*; Presentation, February 2006
- *OMNR Natural Spaces Program Workshop Forum*; Panel Participant, March 1, 2006
- *Sir Sanford Fleming Credit for Product Conference Finale* – Attendee, March 2nd, 2006

APPENDIX B
ARTICLES AND NEWSLETTERS

- *A Challenge and a Path – The Land Between*, June 2004
- *Why Has The Land Between Been Overlooked?*, June 2004
- *An Ecological Overview-The Land Between*, July 2004
- *So Little Time for The Land Between*, Autumn 2004
- *The Heterogeneity Herald – What’s New in The Land Between*, Vol. 1, 2005
- **The Couchiching Conservancy: website, The Land Between -An Overlooked Ecotone in Southern Ontario**, 2005
- **The Couchiching Conservancy: Conservancy News, Major new project on The Land Between**, May 2005 p1-2
- **The Community Press, Eastern Edition: Marmora sits in the middle of The Land Between**, September 2, 2005 p 4
- *A Hidden Pool of Diversity-Will it Last?* Spring 2005 and 2006
- **Federation of Cottager’s Associations: Lake Stewardship Newsletter, The Land Between, Grass roots efforts to preserve a vulnerable land.** Summer 2006 p 7.
- **Ontario Nature: ON Nature, Naming the Land.** Autumn, 2006 p 12