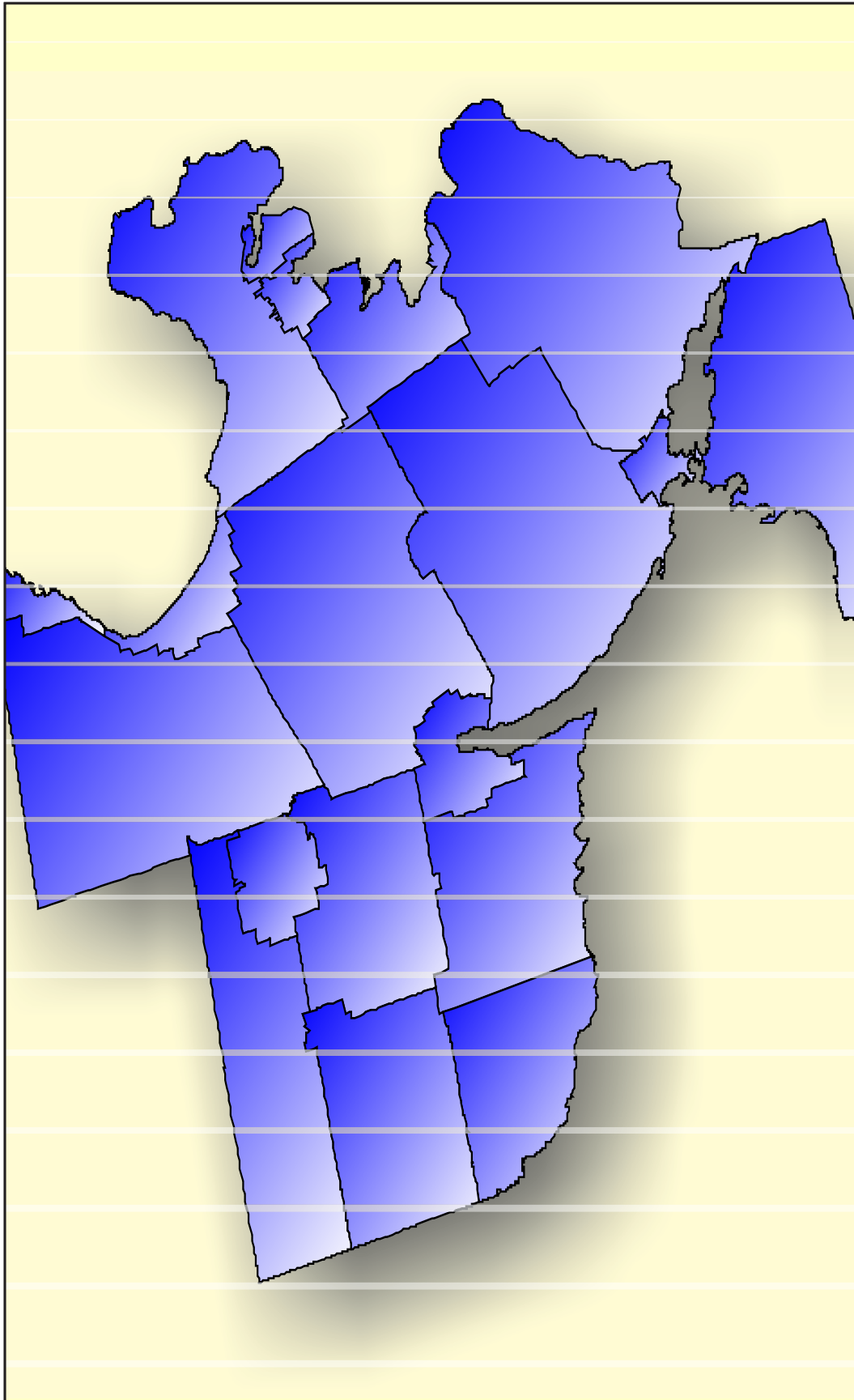


March
2006



**Intergovernmental Action Plan
for Simcoe, Barrie & Orillia**

*Existing Capacities Assessment
Resources Report*



Ainley Group
Bourrie & Associates
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EDP Consulting

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	iii
1.0 INTRODUCTION.....	1
1.1 Context for this Report	1
1.2 Purpose of this Report.....	4
1.3 Format of Report	4
2.0 APPROACH	5
2.1 Study Area Description.....	5
2.2 Data Sources.....	5
2.3 Data Gaps	6
2.4 Data Collection Protocols and Methods of Analysis	6
3.0 PROVINCIAL POLICY CONTEXT FOR THE RESOURCE ANALYSIS	7
3.1 The Planning Act.....	7
3.2 Provincial Policy Statement (PPS)	8
3.3 Places to Grow	12
3.4 Provincial Plans.....	13
3.4.1 Niagara Escarpment Plan.....	13
3.4.2 Oak Ridges Moraine Conservation Plan.....	13
3.4.3 Greenbelt Plan.....	14
3.5 Other Provincial/Federal Legislation.....	15
3.5.1 Fisheries Act.....	15
3.5.2 Conservation Authorities Act	15
3.6 Municipal Policy.....	16
4.0 NATURAL HERITAGE	17
4.1 Importance of Natural Heritage Systems.....	17
4.2 Natural Heritage In Simcoe, Barrie and Orillia.....	19
4.2.1 Groundwater	19
4.2.2 Natural Features	21
5.0 AGRICULTURE	23
5.1 Agriculture in Simcoe County	23
6.0 MINERALS AND PETROLEUM	33
7.0 MINERAL AGGREGATE RESOURCES.....	33
8.0 CULTURAL HERITAGE AND ARCHAEOLOGY	34
9.0 NATURAL HAZARDS	34
10.0 CONSOLIDATED RESOURCE OPPORTUNITIES.....	36
11.0 REFERENCES.....	38

List of Appendices

- Appendix A: Data Sources
Appendix B: Agriculture Stakeholder Contacts in Simcoe County

List of Figures

- Figure 2.1. Study Area Context
Figure 3.1. Provincial Plans
Figure 3.2. Land Use Designations – County Official Plan
Figure 3.3. Planned Land Use – Barrie, Orillia and Lower Tier Municipalities
Figure 4.1. Intrinsic Susceptibility Index
Figure 4.2. South Simcoe WHPA 25 year Capture Zones
Figure 4.3. Intrinsic Susceptibility Index
Figure 4.4. North Simcoe WHPA 25 year Capture Zones
Figure 4.5. Natural Cover
Figure 4.6. Evaluated Natural Heritage Features
Figure 5.1. Simcoe Soils
Figure 5.2. Agricultural Land Capability
Figure 7.1. Aggregate Resources
Figure 10.1 Consolidated Resource Opportunities
Figure 10.1A Consolidated Resource Opportunities- South
Figure 10.1B Consolidated Resource Opportunities – Northeast
Figure 10.1C Consolidated Resource Opportunities -Northcentral
Figure 10.1D Consolidated Resource Opportunities - Northwest
Figure 10.2 Agricultural Issues
Figure 10.3 Natural Heritage System

List of Tables

	Page
Table 5.1 Simcoe County Farms.....	25
Table 5.2 Distribution by Size of Farm.....	25
Table 5.3 Land Use and Ownership.....	26
Table 5.4 Farms (with sales over \$2,500) by Major Product Type	27
Table 5.5 Major Field Crops, 2001	28
Table 5.6 Major Fruit Crops, 2001	28
Table 5.7 Farms and Land Resources by Community	30
Table 5.8 Simcoe County Farms Financial Data	31

EXECUTIVE SUMMARY

The Province and municipalities in Simcoe County, as well as the Cities of Barrie and Orillia, recognize the need to plan for long-term population growth and a healthy environment. Since August of 2004, the Province has been in discussions with the municipalities in south Simcoe, where current growth pressures appear to be most pressing. The purpose of these discussions was to determine how best to address common concerns in a cost effective and timely manner. Resulting from the discussion was the development of an *Intergovernmental Action Plan* (IGAP) for the County of Simcoe, and the Cities of Barrie and Orillia.

The four desired outcomes of the Action Plan are:

1. A defined growth (assimilative) capacity of the Lake Simcoe and Nottawasaga River watersheds;
2. Development (servicing) certainty for intensification and approved growth;
3. Defined capacity for Barrie and area's additional growth; and,
4. Effective and sustainable municipal governance.

The purpose of the IGAP is to provide the affected municipalities with the proper tools to assist them in their planning and development decision-making. Upon completion of the IGAP, it is expected that the participating governments will have a basis for:

- A long-term urban structure plan for Simcoe County and the Cities of Barrie and Orillia;
- A sustainable infrastructure strategy for Simcoe, Barrie and Orillia;
- Development certainty for affected stakeholders; and,

A suitable governance structure and/or service coordination mechanisms to manage future growth and development.

The IGAP proposes a four-phase approach to address the above-noted matters of common interest. Phase I of the IGAP is an analysis of assimilative capacity of the Nottawasaga River and Lake Simcoe watersheds by the Lake Simcoe Region (LSRCA) and Nottawasaga Valley (NVCA) Conservation Authorities. Phase II of the IGAP is an Environmental Scan and Phase III (Part 1) an Existing Capacities Assessment which are being undertaken by Dillon Consulting in association with the Ainley Group, Clara Consulting, Bourrie & Associates and EDP Consulting. Phase III (Part 2) – Growth Potential Assessment and Phase IV - Implementation Assessment of the IGAP are scheduled for project initiation in February 2006 by MMAH.

This Resources Report is one component of the Phase II Environmental Scan (ES) for the IGAP. The purpose of the ES is to:

- Assemble a sound and defensible database on infrastructure and services; and
- Determine existing capacity to accommodate approved development and growth.

The ES includes a review of:

- Approved development and planned land use in settlement areas;
- Existing and planned water and sanitary sewage infrastructure;
- Natural and cultural heritage resources;
- Transportation facilities;
- Public service facilities; and
- Economic indicators.

The results of the ES are documented in three foundation reports: this Resources Report, a Communities Report (under separate cover) and an Infrastructure Assessment Report (under separate cover). The results of the ES will be synthesized with the results of the Assimilative Capacity Study in the SWOT Analysis in Phase III (Part 1) – ECA of the IGAP program. In the SWOT Analysis, key planning principles concerning growth management will be applied. The ECA will provide a defensible base of foundation information for Phases III (Part 2) and IV of the IGAP process.

This Resources Report describes existing resources and associated issues in the study area in regards to natural heritage, agriculture, mineral aggregates and natural hazards.

The resources within the IGAP study area are quite diverse and include a strong agricultural industry, aggregate resources and abundant natural features. To identify resource features, mapping and background materials from various sources were reviewed.

Policy Directions

The discussion of a long-term sustainable resource base for the study area must be done in the context of the existing policy framework and policy permissions reflected in approved planning documents. Existing and proposed provincial plans address the need for management of resources in the Greater Golden Horseshoe and are intended to reinforce core components of the policy framework. Key drivers for policy direction including the *Planning Act*, Provincial Policy Statement, Places to Grow, Provincial Plans such as the Niagara Escarpment Plan, the Oak Ridges Moraine Conservation Plan and the Greenbelt Plan were reviewed. Other relevant

legislation such as the *Fisheries Act* and the *Conservation Authority Act* were also reviewed and the municipal policy context for resources was addressed.

Natural Heritage

The IGAP study area contains a diverse natural system. It contains a range of prominent physiographic features including the Niagara Escarpment, the Oak Ridges Moraine, and the Oro Moraine. The Canadian Shield is in the northern part of the Study Area. The area has extensive shoreline areas along Georgian Bay and Lake Simcoe, as well along several smaller lakes. The area contains several large rivers that drain into Georgian Bay, including the Nottawasaga and the Wye Rivers as well as large wetlands such as the Minesing Swamp and the Wye Marsh.

To maintain a healthy ecosystem, natural heritage objectives usually include the preservation and restoration of natural areas, the native species, landscapes as well as ecological processes to promote a healthy ecosystem. A natural heritage system (NHS) was prepared for the County in 1996 and has been incorporated into County and local official plans. Local official plans have also evolved over time to further the County's NHS. Overall, the level of data available covering ground water resources and evaluated and non-evaluated features is reasonably consistent and up to date.

In addition to the value of the system itself, natural heritage systems contribute to the health of the environment by protecting biodiversity, protecting water quality for drinking, and reducing the risks associated with natural hazards. In addition, the natural heritage system in the IGAP study area is beneficial because it is a foundation of the important tourist sector and is also fundamental to attracting a vibrant labour force and new talent.

Aquifers across most of the study area are well to moderately protected from surface contamination. High vulnerability aquifers are in Barrie, along Georgian Bay and in Adjala-Tosorontio, Severn, Ramara and parts of Tiny Township. Ground water quality for municipal wells is typically excellent and use is generally sustainable.

The extent and significance of the natural heritage systems is reflected in the following numbers:

Wooded Areas	- 28 % of the total IGAP study area (339,900 acres)
All Wetlands (evaluated and non-evaluated)	- 9 % of the total IGAP study area (109,500 acres)
Provincially Significant Wetlands	- 6 % of the total IGAP study area (72,600 acres)
Locally Significant Wetlands	- 1 % of the total IGAP study area (11,600 acres)
All ESAs	- 2% of the total IGAP study area (21,900 acres)
All ANSIs	- 6 % of the total IGAP study area (71,500 acres)

It should be noted that these numbers should not be seen as cumulative as ESAs, wooded areas, wetlands and ANSIs can overlap with one another.

Based on the Draft Framework for Guiding Habitat and Rehabilitation (1996), a document prepared by Environment Canada to assist in decision making related to restoration and

protection of natural features, the guideline suggests that the target for forest cover in a watershed should be greater than 30% of the total area and that wetland habitat in a watershed should be 10% or more. Forest cover varies within the watersheds in the study area. Throughout the entire study area, forest cover is close to the target of 30%, although the amount of cover differs in the north and south and within watersheds. In the Nottawasaga River watershed 25% of the total watershed area is forested and in the portion of the Lake Simcoe watershed that is within the IGAP study area, 27% of the watershed area is forested. Wetland cover also varies in the watersheds and across the entire study area is below the target. In the Nottawasaga River watershed, total wetland cover within the watershed is approximately 21% and in the portion of the Lake Simcoe watershed that is within the IGAP study area, approximately 6% of the watershed is wetland. However it should be noted that current wetland cover should be assessed based on historical wetland cover.

Agriculture

Agriculture and related industries are an important part of the Simcoe County economy and land resource base. Based on Statistics Canada data for 2001, 4,375 people in Simcoe County were employed in the agriculture, forestry, fishing and hunting sector in 2001, representing 2.2% of the county labour force. A total of 2,463 farms were in operation in the county, accounting for about 4% of the farmland in the province. Based on the reported employment multiplier, the agriculture sector including related jobs in Simcoe County in 2001 likely was in excess of 12,000 people.

Farming in Simcoe County can be characterized as follows:

- The number of farms has been declining in Simcoe County: between 1986 and 2001, the number of farms in Simcoe County declined by around 18%; this is consistent with the provincial trend.
- Farms in Simcoe County tend to be slightly smaller than the provincial average.
- Simcoe County has lower farmland ownership levels compared to the province: 59% compared to 69%.
- Simcoe County has a relatively large number of beef operations, accounting for 31% of overall farming operations in the county; this may be compared to a provincial average of 25%.
- Major field crops in the county include corn, hay, and soybeans.
- Major fruit crops in the county are apples and strawberries.
- About 35% of farms in Simcoe County are located in the northwest portion. Another 35% are located in the southern part and around 30% in the northeast portion.
- Farming, when considered at a regional level, appears to be more extensive and prosperous in the southern part of the county than in the northeast or northwest. The southern part of Simcoe County accounts for about half of the farm economic activity: 53% of the gross farm receipts and 46% of the farm capital.
- At the municipal level, the highest level of agricultural activity and farm revenues are in Springwater and Clearview in northeast Simcoe, collectively accounting for 28% of the total hectares of farm land in Simcoe County and 29% of total gross farm receipts.

Most of the land in the County is high quality Classes 1-3 land. Based on the PPS, prime agricultural areas shall be protected for long-term use for agriculture. Specialty crop areas shall be given the highest priority for protection, followed by Classes 1, 2, and 3 soils.

Specialty crops (celery, onions, carrots and others) are typically located in the organic soil areas of the study area.

Minerals and Petroleum

Data related to minerals and petroleum in the County was not available. The County does not have mapping of these resources and cannot confirm if there are any resources within the County.

Although there are some abandoned petroleum wells, the Mineral and Petroleum industry is not highly active in the County. Only 0.2% of the labour force works in the minerals and oil and gas extraction sector.

Mineral Aggregate Resources

There are areas with aggregate potential throughout the study area, including areas of Primary and Secondary sand and gravel. Sand and gravel are extracted in many parts of the County, with abundant resources in Severn, Oro-Medonte and Ramara. Sites with high potential for bedrock aggregate extraction are concentrated in North Simcoe, in Severn and Ramara Townships. Licensed pits (for sand, gravel) are scattered throughout the County, while licensed quarries are found only in Severn and Ramara Townships, near the main bedrock area.

Mineral aggregate areas (sands, gravel) in Simcoe have considerable economic value for the County, because the aggregate resources in the GTA have been depleted to within 50 km. of the GTA (Harry Cummings and Associates 1999). The close proximity of Simcoe to the GTA means that there is a relatively low cost of transporting the extracted aggregates to construction sites in Southern Ontario.

Cultural Heritage and Archaeology

Cultural heritage is rich in Simcoe County and is a significant contributor to the tourism industry. Cultural heritage and archeology in the IGAP study area have not been summarized for this report because comprehensive and consistent data was not available. However, there are policies and legislation that apply to cultural heritage and archaeology that need to be considered in terms of urban development and growth.

Natural Hazards

With extensive shoreline areas, low-lying and flood prone areas, there are many natural hazards throughout the Study Area. Although the data for the Generic Regulations for the conservation authorities has not yet been completed, other secondary source information from the

conservation authorities and municipalities on natural hazards in the study area was available. The amount of information varied for different areas in the County. For example, digital flood plain mapping for New Tecumseth is much more extensive than elsewhere in the County due to the frequency of flooding events in that area. Available data was compiled for the report.

Consolidated Resource Opportunities

Resources within the IGAP study area are quite diverse and include a strong agricultural industry, wide-spread aggregate resources, abundant natural features and a relatively robust natural heritage system. Resources overlap with one another in places and are experiencing stress from urban development. To demonstrate where there are overlapping and concentrated resources where sensitivities exist for potential urban growth, a consolidated resource opportunities map has been prepared as a tool for identifying and evaluating growth options. This map consolidates the County Greenlands System, aggregate resources, agricultural and natural heritage features/systems data. Note that cultural heritage as well as minerals and petroleum data were not included as this mapped data was not available. The objective for the consolidated mapping is to highlight the key features/systems protected by Provincial Policy and the County Greenlands system.

Aggregate resources data included in the consolidated map consists of areas of primary and secondary sand and gravel as well as bedrock and pit and quarry licenses. Agricultural resources included in the consolidated resource opportunities map include agricultural lands that are protected under the PPS. This includes prime agricultural land (Class 1, 2 and 3) as well as organic soils. Natural heritage data included in the consolidated resource opportunities map is based on a proposed natural heritage system with a three level land use protection system. This system is very similar to the existing Greenlands systems but addresses more recent policies and suggested targets, such as the definition of significant woodlands from the PPS/Natural Heritage Reference Manual. The protection levels for natural features in this updated system include Development Permitted (subject to standard requirements), Development Restricted (subject to further study), and No Development. The natural features included in each category are described in the text of this report.

The Consolidated Resources Opportunities map demonstrates that policies for growth in the IGAP study area need to address the diverse and widespread resource base in the IGAP study area. Issues related to balancing land use demands for resources with growth will be described in the SWOT report for this IGAP study.

1.0 INTRODUCTION

1.1 Context for this Report

The Province and municipalities in Simcoe County, as well as the Cities of Barrie and Orillia, recognize the need to plan for long-term population growth and a healthy environment. Since August of 2004, the Province has been in discussions with the municipalities in south Simcoe, where current growth pressures appear to be most pressing. The purpose of these discussions was to determine how best to address common concerns in a cost effective and timely manner. Resulting from the discussion was the development of an *Intergovernmental Action Plan* (IGAP) for the County of Simcoe, and the Cities of Barrie and Orillia.

The four desired outcomes of the Action Plan are:

1. A defined growth (assimilative) capacity of the Lake Simcoe and Nottawasaga River watersheds;
2. Development (servicing) certainty for intensification and approved growth;
3. Defined capacity for Barrie and area's additional growth; and,
4. Effective and sustainable municipal governance.

The purpose of the IGAP is to provide the affected municipalities with the proper tools to assist them in their planning and development decision-making. Upon completion of the IGAP, it is expected that the participating governments will have a basis for:

- A long-term urban structure plan for Simcoe County and the Cities of Barrie and Orillia;
- A sustainable infrastructure strategy for Simcoe, Barrie and Orillia;
- Development certainty for affected stakeholders; and,
- A suitable governance structure and/or service coordination mechanisms to manage future growth and development.

The Province's Strong Communities program includes developing long-range planning solutions for Central Ontario. Multiple interrelated initiatives are in-place, including, the Growth Plan for the Greater Golden Horseshoe, Planning Reform, Watershed-based Source Water Protection Planning, Golden Horseshoe Greenbelt, and the 10-Year Strategic Infrastructure Investment Plan.

Unique growth and development challenges exist in Simcoe County and the Cities of Barrie and Orillia (study area). South Simcoe and Barrie, in particular, are experiencing increased development pressure, and are expected to continue to have rapid growth. A number of the municipalities in the study area rely on inland water systems which have been demonstrated to

be under strain (for example the Lake Simcoe watershed has known issues as a result of phosphorous loadings). Without intervening action, the available potable water and aquatic habitats of these watersheds are threatened.

Through their approved official plans, the municipalities in the study area make provision for a significant amount of growth. At the same time, several major developments are being proposed that involve the establishment of new urban settlement areas or the expansion of existing urban areas. Based on current conditions, there may be insufficient existing sewer and/or water capacity to accommodate approved development and/or planned land uses within existing settlement areas.

In order to accommodate planned growth, several major infrastructure municipal class environmental assessments are underway and/or nearing completion. However, these studies have not been undertaken in a comprehensive or coordinated fashion.

The municipalities in the study area are also under increasing administrative and financial capacity constraints.

By February 2005, the Province and the municipalities in the study area had agreed to partner in the IGAP, which has resulted in the commissioning of this study.

The partnership is made up of the following Provincial Ministries and municipalities:

Provincial Ministries include:

- Municipal Affairs and Housing
- Environment
- Public Infrastructure Renewal
- Natural Resources

Municipalities include:

- Simcoe County
- Township of Adjala-Tosorontio
- Town of Bradford West Gwillimbury
- City of Barrie
- Township of Clearview
- Town of Collingwood
- Township of Essa
- Town of Innisfil
- Town of Midland
- Town of New Tecumseth
- City of Orillia
- Township of Oro-Medonte
- Town of Penetanguishene
- Township of Ramara

- Township of Severn
- Township of Springwater
- Township of Tay
- Township of Tiny, and
- Town of Wasaga Beach

The partners want to further their common interests in:

- Protecting the environment, including the water quality and quantity of the Nottawasaga River and Lake Simcoe watersheds.
- Fiscally sustainable growth, through efficient, cost-effective development and land use patterns.
- Effective municipal governance and service delivery, through inter-governmental cooperation and coordination.

The IGAP proposes a four-phase approach to address the above-noted matters of common interest. Phase I of the IGAP is an analysis of assimilative capacity of the Nottawasaga River and Lake Simcoe watersheds by the Lake Simcoe Region (LSRCA) and Nottawasaga Valley (NVCA) Conservation Authorities. Phase II of the IGAP is an Environmental Scan and Phase III (Part 1) an Existing Capacities Assessment which are being undertaken by Dillon Consulting in association with the Ainley Group, Clara Consulting, Bourrie & Associates and EDP Consulting. Phase III (Part 2) – Growth Potential Assessment and Phase IV - Implementation Assessment of the IGAP are scheduled for project initiation in February 2006 by MMAH.

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- Assemble a sound and defensible database on infrastructure and services; and
- Determine existing capacity to accommodate approved development and growth.

The ES includes a review of:

- Approved development and planned land use in settlement areas;
- Existing and planned water and sanitary sewage infrastructure;
- Natural and cultural heritage resources;
- Transportation facilities;
- Public service facilities; and
- Economic indicators.

The results of the ES are documented in three foundation reports: this Resources Report, a Communities Report (under separate cover) and an Infrastructure Assessment Report (under separate cover). The results of the ES will be synthesized with the results of the Assimilative Capacity Study in the SWOT Analysis in Phase III (Part 1) – ECA of the IGAP program. In the SWOT Analysis, key planning principles concerning growth management will be applied. The ECA will provide a defensible base of foundation information for Phases III (Part 2) and IV of the IGAP process.

1.2 Purpose of this Report

This Resources Report describes existing resources and associated issues in the study area in regards to natural heritage, agriculture, mineral aggregates and natural hazards.

The Communities Report documents the situation in the municipally serviced (full and water only) settlement areas with regards to existing land use, approved development and planned land use. It also provides an overview of public service facilities and a snapshot of the economic base of the study area.

The Infrastructure Assessment Report quantifies and analyzes the capacities of the existing municipal infrastructure within the study area and describes any issues related to the water, sanitary sewer, stormwater and transportation infrastructure.

1.3 Format of Report

This Resources Report is divided into nine main sections as shown in the Table of Contents. The Introduction provides the context and purpose of this report in regards to IGAP. Section 2.0 describes the study area and outlines the approach used to describe the existing conditions in the study area. Section 3.0 describes the Provincial policy context for the report. Sections 4.0 to 9.0 provide an overview of the existing conditions for natural heritage, agriculture, minerals and petroleum, mineral aggregate resources, cultural heritage and archaeology and natural hazards.

2.0 APPROACH

2.1 Study Area Description

The IGAP study area consists of Simcoe County as well as the Cities of Barrie and Orillia (*Figure 2.1*). The resources within this area are quite diverse and include a strong agricultural industry, aggregate resources and abundant natural features.

Agriculture in Simcoe County is one of the three key economic sectors in the County. Because of the climate and diverse geography and soils there is a wide variety of agriculture in the County, including beef, hog, poultry and dairy farming as well as field crops, grain/oil seeds and vegetable production.

There is a strong and vibrant natural heritage system in the area: the Canadian Shield in Ramara and Severn Townships; portions of the Niagara Escarpment in Clearview Township; the Oak Ridges Moraine in Adjala-Tosorontio and New Tecumseth; and the Oro moraine in Oro-Medonte. Many watersheds are found in the study area, including the Nottawasaga River watershed, Lake Simcoe watershed and a very small portion of the Humber River watershed, the Severn River watershed, Lake Couchiching watershed and Georgian Bay watershed. Although most of the land area of the County is within the Nottawasaga River watershed approximately half of the County's population is within the Simcoe Basin (*Simcoe County the New Growth Frontier*). Note that the Humber River watershed is in the southern end of the County, along the southern boundary of Adjala-Tosorontio. Natural cover (wetlands and woodlands) is abundant in the study area but is greater in the north than in the south.

2.2 Data Sources

To identify resource features and systems, mapping and background materials from various sources were reviewed. Data sources included GIS mapping as well as information from background reports, such as the *Severn Sound Remedial Action Plan Urban Stormwater Management Strategy*, *Simcoe County: The New Growth Frontier*, *State of the Lake Simcoe Watershed*, *The State of Greenlands Protection in South-central Ontario* were also used to describe the existing conditions.

Digital mapping was obtained from the Ministry of Municipal Affairs and Housing, Ministry of Natural Resources, Lake Simcoe Region Conservation Authority, Nottawasaga Valley Conservation Authority, Simcoe County, local municipalities, the Niagara Escarpment Commission and Ministry of Agriculture, Food and Rural Affairs and the Severn Sound Environmental Group. The list of the sources of data used for this study can be found in *Appendix A*.

Natural features data and mapping was provided to MNR and both LSRCA and NVCA for review to determine if data was missing and/or correct.

Note that the digital data on the natural areas did not include specific information about the type and/or quality of the natural features, but rather areas were only classified as wetland, woodland etc. For this scale of study more detail is not required. No field checking was conducted to verify the digital data. Note that wetland data for provincially and locally significant wetlands provided by MNR was used and was supplemented by the data on other wetlands from the CAs.

2.3 Data Gaps

While assembling the background information some data gaps were encountered. These gaps include:

- Background information that includes analysis and reporting of natural heritage features, and not just mapping showing feature locations and coverage in the northern portion of the study area is not as abundant as in areas covered by the Conservation Authorities.
- Non-evaluated wetlands. Both Conservation Authorities are in the process of completing this data set and it should be available within the next few months; and
- The Conservation Authorities are preparing generic regulations mapping, which includes flood hazards.
- Data was not available on minerals and petroleum in the county. Simcoe County did not have data on these resources and informed the consulting team that it has never been confirmed if there are any in Simcoe County.
- Data requests on cultural heritage and archeological resources were also made to the County. This information either did not exist or was confidential and therefore not available to the consulting team.

2.4 Data Collection Protocols and Methods of Analysis

Based on the scope of work for this phase of the IGAP, analysis of the natural resources was completed using secondary source materials, which were predominantly digital data. Some background studies were also used.

The analysis of the digital data was at a high-level that focussed on describing existing natural features. This analysis was conducted using a GIS (ArcMap 9.x).

Natural features were divided into two categories for analysis: natural cover and evaluated natural features. This was done to differentiate between features that have and have not been formally evaluated by a conservation authority or the MNR. To ensure that the resource data and mapping were accurate, meetings were held with both Conservation Authorities, Simcoe County and the MNR to review the mapping (including natural heritage) for Simcoe, Barrie and Orillia and to discuss the importance of the features. The County's natural heritage system was also used.

The assessment of agricultural lands was completed based on a secondary source assessment using OMAFRA mapping for soils and land capability (Class 1 to 8 lands). Background

documents on the agriculture were also used and discussions were held with key informants in the agricultural sector.

The assessment of hazards was conducted for only natural and not man-made hazards. In addition, it should be noted that the background information for natural hazards was incomplete at the time this report was prepared as generic regulation data from the conservation authorities will not be available until either December 2005 or January 2006. Although the data for the generic regulations has not yet been completed other secondary source information from the conservation authorities and municipalities on natural hazards in the study area was available.

3.0 PROVINCIAL POLICY CONTEXT FOR THE RESOURCE ANALYSIS

The discussion of a long-term sustainable resource base for the study area must be done in the context of the existing policy framework and policy permissions reflected in approved planning documents.

Land use planning is a matter of provincial interest, responsibility of which is vested in the Minister of Municipal Affairs, and delegated to regional and local governments. Recent legislative changes by the Province are intended to strengthen the role that municipalities have in their decisions related to growth and resource management. Existing and proposed provincial plans address the need for management of resources in the Greater Golden Horseshoe and are intended to reinforce core components of the policy framework.

This section highlights the key drivers for policy direction including the Provincial Policy Statement, Places to Grow, Provincial Plans, and other relevant legislation and policies.

3.1 *The Planning Act*

The *Planning Act as amended by the Strong Communities (Planning Amendment) Act* is the enabling legislation for land use planning in Ontario. The *Act*:

- makes provision for provincial policy-led land use planning system;
- promotes sustainable economic development in a healthy natural environment;
- integrates matters of provincial interest into provincial and municipal planning decisions by requiring all decision-makers to have regard to the Provincial Policy Statement;
- provides for planning processes that are fair by making them open, accessible, timely and efficient;
- encourages co-operation and coordination among various interests; and,

- recognizes the decision-making authority and accountability of municipal councils in planning.

Provincial ministries, municipal councils, planners and other stakeholders use the *Act* when:

- preparing official plans and planning policies that will guide future development considering provincial interests, such as protecting and managing our natural resources;
- establishing a streamlined planning process which emphasizes local autonomy in decision-making;
- regulating and controlling land uses through zoning by-laws and minor variances;
- dividing land into separate lots for sale or development through a plan of subdivision or a land severance; and,
- ensuring the rights of local citizens to be notified about planning proposals, to give their views to their municipal council, and to appeal decisions to the Ontario Municipal Board (OMB).

IGAP recommendations must conform with *The Planning Act as amended*.

3.2 Provincial Policy Statement (PPS)

The new Provincial Policy Statement (PPS) provides further direction on key Provincial interests related to land use planning. The PPS is issued under authority of the *Planning Act* and applies to all land use and planning matters as of March 1, 2005.

The complex interrelationships and inherent tensions among economic, environmental and social factors are recognized and drive the Province's policy-led planning system which is intended to be based on good planning principles. The underlying goal of PPS policy is to achieve an appropriate balance and support efforts to create strong, liveable and healthy communities.

The three main principles of the Provincial Policy Statement are:

1. Managing growth and promoting efficient, cost-effective land use patterns that not only optimize the use of land, resources and public investment in infrastructure; but that also minimize the undesirable effects of development such as impacts on air, water and other resources;
2. Wise use and management of resources in order to meet long-term environmental and economic needs; and

3. Minimizing the potential for risk to public health and safety as well as cost, by directing development away from areas of natural and man-made hazards and hazards that can not be mitigated.

In order to ensure that the policies in the PPS are applied in all communities as key component of the planning process, the *Planning Act* requires that all decisions affecting land use planning matters “shall be consistent with” the PPS.

Given the PPS focus on achieving policy outcomes rather than prescribing how the process must be followed, the new wording requires decision-makers to demonstrate that their actions achieve the desired outcome for strong communities, a clean and healthy environment and a strong economy.

Municipal official plans are one of the key tools for implementation of the PPS and for addressing complex interrelationships in order to achieve balance. The PPS requires official plans and related land use decisions to:

- focus growth within settlement areas and promote the vitality of those areas;
- restrict residential development in rural areas while protecting agriculture and promoting resource-based recreational activities;
- make provision for sufficient land to accommodate an appropriate range and mix of land uses to meet projected needs for up to 20 years; with a focus on maximizing intensification and redevelopment opportunities;
- avoid development patterns that would prevent the efficient expansion of settlement areas; only allowing expansion at the time of a comprehensive review and only where intensification, redevelopment and designated growth areas can not sufficiently accommodate projected needs; planned or available infrastructure and public service facilities must also be suitable for the development;
- make provision for land use patterns that offer a mix of use and density; efficiently utilize available or planned infrastructure and public service facilities – avoiding unjustified and/or costly expansion; and minimize negative environmental impacts;
- maintain the ability to accommodate residential growth for a minimum of 10 years through intensification and redevelopment, and if necessary, areas that are designated and available for residential development; where new development is to occur, land must have servicing capacity for at least a 3 year supply of units; and,
- permit and facilitate the provision of all types of housing, including all forms of residential intensification and redevelopment in order to meet current and future needs.

The policies of the PPS provide minimum standards. Municipalities are encouraged to build on these minimum standards to address matters of local significance, unless doing so would conflict with any other policy of the PPS.

The PPS articulates the broad provincial interests in all matters, while various provincial land use plans provide more geographic-specific detail on particular interests: i.e., growth management in Places to Grow (Proposed Growth Plan); natural resource conservation in the Niagara Escarpment Plan and the Oak Ridges Moraine Conservation Plan; and natural and agricultural resource protection in the Greenbelt Plan. These plans are described in more detail in sections that follow.

Sections of the PPS relevant to this study include policies on agriculture, mineral resources, natural heritage and water quality and quantity in the Resource section and policies on natural hazards in the Public Health and Safety section. In addition to the main PPS document there are supporting documents that provide more detailed information on proposed policy directions. These supporting documents include the Natural Heritage Reference Manual (OMNR 1999), the Significant Wildlife Habitat Technical Guide (OMNR 2000) and Understanding Natural Hazards (Government of Ontario 2001).

Resource policy direction from the PPS includes the following:

- Natural features shall be protected for the long-term.
- Water quality and quantity shall be improved or restored.
- Prime agricultural areas shall be protected for the long-term.
- Minerals and petroleum resources shall be protected for long-term use.
- Mineral aggregate resources shall be protected for long-term use.
- Significant built heritage resources and significant cultural heritage landscapes shall be conserved.
- Development shall be directed away from areas of natural or human-made hazards where there is an unacceptable risk.

A description of these policy directions is provided below.

Natural Heritage: The types of natural heritage features described in the PPS include provincially significant wetlands, significant habitat of endangered and threatened species, fish habitat, significant woodlands, significant valleylands, significant wildlife habitat, and areas of natural and scientific interest. Each of these features is described in the Natural Heritage Reference Manual. The Manual also provides information on a natural heritage system approach, an assessment process for addressing the impacts of development on natural heritage features and areas as well as performance indicators.

Water: In the PPS, planning authorities are directed to protect, improve and restore the quality and quantity of water using a watershed scale approach. Surface and ground water features need to be identified as well as hydrologic function, natural heritage features and areas that are necessary for the ecological and hydrological integrity of the watershed. All municipal drinking water supplies and designated vulnerable areas shall be protected from development and site

alteration. Vulnerable and sensitive surface and ground water and their hydrologic functions will also be protected, improved or restored during development or site alteration. Links between surface and ground water features as well as hydrologic functions and natural heritage features should be maintained. Planning authorities should also promote efficient use of water resources and ensure that storm water management practices minimize impacts and maintain or increase vegetative and permeable surfaces. Development and site alteration shall be restricted in or near sensitive surface and ground water features to protect hydrologic functions. Mitigative measures and/or alternative development approaches may be required.

Agriculture: According to the PPS, prime agricultural areas shall be protected for long-term use for agriculture. Specialty crop areas shall be given the highest priority for protection, followed by Classes 1, 2, and 3 soils. Permitted uses in prime agricultural areas include agricultural uses, secondary uses and agriculture related uses. The expansion of settlement areas into prime agricultural areas may be permitted where it has been demonstrated that: the lands do not comprise specialty crop areas; there are no reasonable alternatives which avoid prime agricultural areas and; there are no reasonable alternatives on lower priority agricultural lands in the prime agricultural areas.

Mineral and Petroleum Resources: Minerals and petroleum resources shall be protected for long-term use. Operations shall be protected from development and activities that would preclude or hinder their expansion or continued use or which would be incompatible for reasons of public health, safety or environmental impact.

Aggregate Resources: Mineral aggregate resources shall be protected for long-term use. As much of the resources as realistically possible shall be made available as close to markets as possible. Extraction shall be undertaken in a manner which minimizes social and environmental impacts. Mineral aggregate operations shall be protected from development and activities that would preclude or hinder their expansion or continued use or which would be incompatible for reasons of public health, safety or environmental impact.

Cultural Heritage: At the provincial level the establishment of policies to protect built heritage resources has traditionally been the realm of the *Ontario Heritage Act*. However in recent years there has been a strengthening of other provincial legislation pertaining to heritage conservation. In particular the recognition of cultural heritage landscapes as significant resources is a recent change, with the *Provincial Policy Statement (PPS)* now requiring that “significant built heritage resources and significant cultural heritage landscapes shall be conserved”.

Natural Hazards: Under Section 3.1 of the Provincial Policy Statement, development shall generally be directed to areas outside of natural hazard areas, including hazardous lands adjacent to rivers and streams. These hazardous lands include lands affected by dynamic beach hazards, flooding hazards as well as erosion hazards. Flood hazards have traditionally been defined for tributary reaches with significant design flow rates, i.e., tributary areas of 125 ha or greater. The identification of flood hazards throughout the study area is therefore required in order to identify potential development areas that would not be subject to such hazards, in order to protect public health and safety.

3.3 Places to Grow

The *Places to Grow Act* provides the legislative framework for growth planning in Ontario. The current focus is on the Greater Golden Horseshoe. A Proposed Growth Plan for the Greater Golden Horseshoe has been prepared in conjunction with the *Places to Grow Act* (November 2005).

The Proposed Growth Plan outlines a number of policies designed to grow the Greater Golden Horseshoe communities in a more complete and livable form. Under the plan's policies a large portion of the new growth will be accommodated in existing urban areas, thereby reducing pressures on natural areas and farmland. Settlement area expansions would be possible where and when it is needed.

The principles associated with this approach include:

- build compact, vibrant and complete communities;
- plan and manage growth to support a strong competitive economy;
- protect, conserve, enhance and wisely use the valuable natural resources of land, air and water for current and future generations;
- optimize the use of existing and new infrastructure to support growth in a compact, efficient form;
- provide for different approaches to managing growth that recognize the diversity of communities in the GGH; and
- promote collaboration among all sectors – government, private and non-profit sectors and citizens – to achieve this vision.

The proposed growth plan outlines a number of policies to maintain our economic competitiveness and provide a high quality life by providing excellent transportation, clean water and accessible community services.

The Proposed Plan commits the province and municipalities to identify a natural system that would include natural heritage features, sensitive and vulnerable surface water and ground water features and linkages between them.

The plan also recognizes that prime agricultural areas, particularly specialty crops are important to the economy and quality of life and proposes an approach to identify prime agricultural lands including specialty crops and where appropriate, policies for their protection.

The proposed Growth Plan includes an outline for an approach to developing a long-term strategy to ensure the wise use, conservation, availability and management of mineral aggregate resources in the Greater Golden Horseshoe.

Fundamentally, the Growth Plan promotes the understanding that water, energy and clean air are resources that need to be conserved.

3.4 Provincial Plans

Provincial plans, including the Niagara Escarpment Plan, Oak Ridges Moraine Conservation Plan and the Greenbelt Plan, apply to minor portions of the study area. The locations of these plan areas are shown on *Figure 3.1* and the plans are described below.

3.4.1 Niagara Escarpment Plan

The Niagara Escarpment, a world biosphere reserve, is in the western end of the study area. The *Niagara Escarpment Planning and Development Act* was approved by the Ontario Legislature in 1973 and is the legal basis for the Niagara Escarpment Commission operations and the Niagara Escarpment Plan. Development and site alteration on the escarpment are governed by policies in the Niagara Escarpment Plan. The objectives of this plan are to protect unique ecologic and historic areas; maintain and enhance the quality and character of natural streams and water supplies; provide adequate opportunities for outdoor recreation; maintain landscape character; ensure that all new development is compatible with the purpose of the *Act*; and provide public access to the Escarpment.

The plan includes seven land use designations with differing levels of protection corresponding to core, buffer and transition areas. The core areas are designated as Escarpment Natural Area. Buffer areas include Escarpment Protection Areas and Escarpment Rural Areas. Transition areas include Urban Area and Minor Urban Centres, Escarpment Recreation Areas and Mineral Resources Extraction Area.

The Escarpment Natural Areas have the most restrictive policies and the Urban Areas have the least restrictive. Single detached dwellings are permitted on Escarpment Natural Areas and Escarpment Protection Areas and only one new lot per original 40-hectare parcel is permitted in Escarpment Rural Area.

3.4.2 Oak Ridges Moraine Conservation Plan

The Oak Ridges Moraine is one of Ontario's most significant landforms. It stretches 160 kilometres from the Trent River in the east to the Niagara Escarpment in the west. The Escarpment and Moraine together form the foundation of south-central Ontario's natural heritage and greenspace systems. The Moraine has a unique concentration of environmental, geological and hydrological features that make its ecosystem vital to south-central Ontario. A small portion of the Oak Ridges Moraine is within the IGAP study area, in Adjala-Tosorontio and New Tecumseth.

The *Oak Ridges Moraine Conservation Act* was approved by the Ontario Legislature in December 2001 and is the legal basis for the Oak Ridges Moraine Conservation Plan. The Oak Ridges Moraine Conservation Plan is an ecologically based plan to provide land use and resource management direction for the land and water within the Moraine. Municipal planning decisions must conform with this Plan and it takes precedence over municipal official plans.

The Plan divides the Moraine into four land use designations: Natural Core Areas, Natural Linkage Areas, Countryside Areas and Settlement Areas. In Natural Core Areas, Natural Linkage Areas and Countryside Areas, only very restricted new resource management, recreational, transportation, infrastructure and utility uses are permitted within these features. Development near key natural heritage features and hydrologically sensitive features is only allowed if it will not adversely affect these features.

The Plan's water resource policies require municipalities to prepare watershed plans, water budgets and water conservation plans to be incorporated into their official plans. Restrictions on large-scale development are imposed if this work is not completed. Development in wellhead protection areas and areas highly vulnerable to groundwater contamination is limited. Limitations are also set on impervious surfaces in areas outside Settlement Areas.

3.4.3 Greenbelt Plan

The *Greenbelt Act* (Bill 135) 2005, enabled the creation of the Greenbelt Plan. The Greenbelt Plan identifies where development should not occur in order to protect agricultural land and ecological features and functions in the Greater Golden Horseshoe. The Greenbelt Plan includes lands within, the Niagara Escarpment Plan (NEP) and the Oak Ridges Moraine Conservation Plan (ORMCP) as well as areas outside of the NEP and ORMCP that are identified as Protected Countryside.

The Protected Countryside is composed of an Agricultural System and a Natural System, with a series of settlement areas. The Agricultural System includes specialty crop, prime agricultural and rural areas. The Natural System identifies lands that support both natural heritage and hydrologic features and functions. The settlement areas are the towns, villages and hamlets. The Greenbelt also contains important natural resources and supports a wide range of recreational and tourism uses.

The Greenbelt Plan builds in policies in the PPS and is to be implemented through municipal official plans. The Greenbelt protects 1.8 million acres of environmentally sensitive and agricultural land in the Golden Horseshoe from major urban development.

The plan permits new projects and additions to infrastructure, provided they:

- serve Greenbelt objectives;
- accommodate expected growth and economic development, as identified in the Growth Plan; and
- undergo an environmental assessment to meet important criteria, such as: avoiding natural features where possible; respecting the connectivity of the natural system; and maximizing existing infrastructure capacity and services.

Land within the Protected Countryside of the Greenbelt Plan will remain protected. This also includes the Greenbelt Plan Natural Heritage System (a subset of Protected Countryside). These classifications allow for the lands to remain in their existing predominantly rural and agricultural

use, and encourage the identification and protection of significant cultural heritage resources, which include structures, landscapes, neighbourhoods and archaeological sites. Most development in the Greenbelt is only permitted in the Settlement areas.

3.5 Other Provincial/Federal Legislation

3.5.1 Fisheries Act

This legislation needs to be considered in conjunction with the PPS because it is an important tool for protection fish habitat. Although it is difficult to apply the *Fisheries Act* to a broad scale planning study (it is applied more appropriately at the site specific level), the requirements of the *Act* must be considered.

The *Fisheries Act* states that: "*No person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat (HADD).*" However, it allows for authorization of the alteration, disruption or destruction of fish habitat. To determine if authorization will be granted the followed factors are considered:

- Is fish habitat present at the project site or in an area potentially affected by the project?
- Could the proposed project cause HADD of fish habitat?
- Can the impacts to fish habitat be fully mitigated?
- Should the HADD be authorized?
- Can the HADD be compensated?

In order to satisfy the **no net loss** guiding principle, the first priority is to avoid or reduce the proposal's potential for a HADD through appropriate mitigation measures. If a HADD is still expected to occur, the manager then determines if appropriate compensation is possible. At this scale of study, the *Act* is applied by avoidance of waterways or bodies that contain fish habitat.

3.5.2 Conservation Authorities Act

The *Conservation Authorities Act* was originally created in 1946 in response to watershed management issues. All Conservation Authorities have Fill, Construction and Alteration to Waterways regulations. Many of the regulations were developed in the 1960s and amended in the 1990s. Conservation Authorities regulated alteration of watercourses, construction in an area susceptible to flooding, and regulate the placement of fill in designated areas. These regulations ensure that development will not create a risk from flooding or erosion hazards, and that the health and natural features within watersheds are protected.

Recently, the *Act* has been amended to require the development of the Generic Regulation and the development of local regulations to implement the Generic Regulation. Local regulations that conform with the Generic Regulation are now required by all Conservation Authorities by May 1, 2006. This approach has been designed to achieve province-wide consistency in the Regulation of Development, Interference with Wetlands and Alteration to Shorelines and

Watercourses. These changes to the regulations provide Conservation Authorities with more responsibilities associated with regulating development within valleys, shorelines and wetlands.

3.6 Municipal Policy

County, Barrie, Orillia and Local Municipal Official Plan designations are shown on **Figures 3.2** and **3.3**.

The County, Barrie and Orillia's Official Plans incorporate the policies of the Resources Section of the Provincial Policy Statement as well as local requirements such as Environmental Impact Statements (EIS's). The OP includes policies statements on aggregate development, natural heritage conservation guidelines and cultural heritage conservation.

Natural Heritage policies in the County Official Plan are based on a greenland strategy that was developed in 1996. The policies are based on the objectives of conserving the natural character, form and function and rehabilitation of greenlands as well as surface and ground water. An Environmental Impact Statement (EIS) is required for development proposed within the Greenlands Designation. The purpose of an EIS is to determine the suitability of the proposed development including potential impacts and mitigative measures that can minimize disturbance to the natural environment.

The policies for protection of natural heritage features in the County's, Barrie's and Orillia's Official Plans meet the requirements of the PPS, in that development and site alteration are not permitted within provincially significant wetlands and the habitat of endangered and threatened. There are additional policies for features such as significant woodlands, ANSIs, watercourses, fish habitat, and natural hazards that require that there will be no negative impacts if site alteration or development occurs. As well, there are policies to protect a connected network of features and natural systems.

The Official Plans of the lower tier municipalities within Simcoe County have at a minimum adopted the County's greenlands strategy. Most municipalities have gone beyond the level of protection outlined in the County plan, including locally significant features in areas designated for protection from site alteration and development. In Ramara significant woodlands and corridors are included with provincially significant wetlands and habitat of endangered and threatened species as areas to be protected. Springwater has included all wetlands, significant wildlife habitat, Provincial ANSIs, significant valleylands and significant watercourses as areas in which development is not permitted. Municipalities such as Tay, Collingwood, Wasaga Beach, New Tecumseth and Essa have prepared their own natural heritage systems, that complement the County's.

Policies on agriculture include minimizing conflicting and competing uses in prime agricultural areas, in accordance with the *Farm Practices Protection Act* and its successors. Local municipalities are responsible for mapping prime agricultural areas in their official plans and this mapping is subject to agreement by the County and shall be based on the Canada Land Inventory soil classifications 1 to 3 and specialty crop lands.

Mineral aggregate resource extraction should have no negative impacts on the features and functions of the natural heritage system, shall not be located in provincially significant wetlands or the habitat or threatened or endangered species and not be located in Escarpment Natural or Escarpment Protection Areas. However, high potential mineral aggregate resources areas shall be protected for potential long term use and shall be progressively rehabilitated

In the County OP, significant built heritage resources, archaeological resources and cultural heritage landscapes will be conserved. The County will work with local municipalities to create and maintain an inventory of these resources.

Local municipal official plans also make reference to many County bylaws and policies, including tree-cutting bylaws. Local OPs also include the location of natural hazards, including flood plains. The development of natural heritage systems is underway for many local municipalities including Tay, Collingwood, Wasaga Beach, New Tecumseth and Essa.

4.0 NATURAL HERITAGE

4.1 Importance of Natural Heritage Systems

The preparation of a natural heritage system involves an ecosystem-based approach to planning and policies that includes features and ecological functions. It is a system-focused concept that includes the biological systems as well as groundwater and surface water systems. Rather than just addressing the individual features within each system, the interactions among the systems are considered. Natural heritage features can include parks, natural areas, rare species, woodlands, wetlands, fish and wildlife habitats, riparian corridors as well as geological features and landforms and water systems. These features can be both publicly and privately owned and managed and are maintained in trust for future generations. The quality and significance of the features is variable and are valued at the local, regional and provincial levels. Natural heritage objectives usually include the preservation and restoration of natural areas, the native species, landscapes and ecological processes to promote a healthy ecosystem. Before they can be protected, there must be an understanding of the relationships among the features.

In addition to the natural features themselves, the system must include preservation of water quality and quantity, air quality, soil conditions that support features including baseflow, key water quality parameters, temperature, light conditions that are needed to maintain the health and vitality in core features.

Retaining large natural cores areas is the best method to protect plants and animals in the fragmented landscapes that exist in southern Ontario. Habitat fragmentation results in isolated natural areas that are surrounded by agriculture or urban development. Retaining large core areas that can support a wide range of species is better than protecting many small natural areas that support few species. However, small areas also contribute to the quality of a natural system.

Corridors can reduce the impacts of isolation by providing passage for species among natural areas. These corridors can be used during foraging, for seasonal movements, as a part of

breeding behaviour, and for dispersal. Because movement can be crucial to the survival of many species and development often limits this movement, retaining natural areas for wildlife movement is important. However, movement patterns and requirements are species specific and thus knowledge of the species that might use the core areas and corridors are required in order to design the system.

Natural Heritage is important to preserve for many reasons. From an historical perspective the remaining natural areas provide us with an understanding of what the landscape was like before European settlement. Natural heritage systems contribute to a healthy environment, help protect biodiversity, protect water quality for drinking and can be used for recreation. Because air and water quality and quantity are preserved in natural heritage systems, there are direct benefits to human health. Aesthetic values of natural heritage systems include enhancing community form and attraction, increased recreation value on a local or regional scale, environmental education opportunities, and diversity of experiences.

Preserving natural features is also important in terms of protection from natural hazards and water quality. Natural areas provide storage of flood waters. With greater potential flood water storage potential injury, loss of life and property damage resulting from flooding is reduced. In addition, tree planting and good forest management reduce the risk of soil erosion. It should also be noted that natural hazards, such as flood and fill areas, often contain natural areas and are an important part of a natural system, in terms of feature protection and corridors and linkages. In addition, maintenance of water quality and quantity ensures the ecological integrity of creeks and streams. Maintaining creek flows to dilute waste water from treatment plants can improve water quality. In addition, preservation of wetlands is related to water quality improvement.

A fundamental characteristic of a natural heritage strategy is the consideration of the strategy on a regional scale. In other words, how the strategy works with and is linked to natural heritage strategies of surrounding areas.

According to the Provincial Policy Statement (PPS) natural heritage systems can include natural features such as wetlands, habitats of endangered and threatened species, fish habitat, woodlands, valleylands, wildlife habitat and areas of natural and scientific interest (Government of Ontario 2005). Other definitions of natural heritage systems have included successional (or thicket) areas as well as cultural meadows in the natural heritage system. The ORMCP and the Greenbelt Plan have defined natural systems that include the same features as the PPS, but the minimum standard of protection differs.

In Southern Ontario, a strategy for protection of natural systems is particularly important because of the fragmented nature of the landscape and increasing land use demands. Natural systems are vulnerable to pressure from urban growth, recreational development, natural resource development (forestry, agriculture, mineral resource extraction and water-taking) and scattered development. In the study area, the most significant pressure on natural systems to date has been agriculture, although in the southern part of the County, the pressure from urban development continues to increase.

In Simcoe County, the natural heritage system also has economic benefits. It is a foundation of the important tourist sector and is also fundamental to attracting a vibrant labour force and new talent (see Section 8.0 - Economic Base Analysis in the Communities Report).

4.2 Natural Heritage In Simcoe, Barrie and Orillia

A natural heritage system for the County has been described in the report: “*Development of a Natural Heritage System for the County of Simcoe*” (Gartner Lee 1996), which is a background report to the Official Plan. Simcoe is one of the most diverse counties in Ontario. As noted above, it contains a range of prominent physiographic features including the Niagara Escarpment, the Oak Ridges Moraine, and the Oro Moraine. The Canadian Shield is in the northern part of the County. The County has extensive shoreline areas along Georgian Bay, Lake Simcoe and Lake Couchiching, as well along several smaller lakes. The area contains several large rivers that drain into Georgian Bay, including the Nottawasaga and the Wye Rivers as well as large wetlands such as the Minnesing Swamp and the Wye Marsh.

The following sections describe the natural features and systems within Simcoe, Barrie and Orillia. Note that a natural heritage system has not been defined for this stage of the study, but will be defined as a part of the SWOT analysis.

4.2.1 Groundwater

Groundwater in the IGAP study area is important from both a water quality/supply perspective as well as from an ecological perspective. Information on groundwater quality and supply is abundant compared to ecological data. The importance of groundwater to natural systems needs to be addressed and balanced with water supply needs, as both are equally important.

Hydrological linkages are important to the ecological functioning of surface water bodies and natural heritage systems. For example, many species in streams are dependent on the discharge of groundwater to keep stream temperatures cool and wetlands are linked to the groundwater system as well. Large wetlands in the county such as Minnesing Swamp and Wye Marsh are important discharge areas. Because of the importance of the links between groundwater, surface water and natural features, growth plans need to consider issues such as the amount of impervious cover and runoff in watersheds.

More information on the groundwater resources in the IGAP study area is available in the ACS study and the County’s recent *South Simcoe Groundwater Study* and the *North Simcoe Groundwater Study*. The results of the South and North Simcoe Groundwater Studies are summarized below.

In south Simcoe, the majority of the land is underlain by significant overburden deposits and the majority of the groundwater resources are in the overburden aquifers, except in areas such as adjacent to the Niagara Escarpment. Four regional aquifer units have been defined in south Simcoe. In general, shallow water table aquifers are recharged in areas of higher elevation and most strongly in the Simcoe Uplands, Oro Moraine and the top of the Niagara Escarpment.

Baseflow to streams is provided through ground water discharge at the edge of the Simcoe Uplands, and at the base and valleys of the Niagara Escarpment. Flow in the deeper aquifers originates in the major upland areas and largely follows the patterns of the shallow system. The Minesing Swamp acts as a regional groundwater discharge area for both the shallow and deep ground water aquifers and flowing artesian heads have been reported in this area.

In general shallow water table aquifers are recharged in areas of higher elevation (Simcoe Uplands, Oro Moraine and the top of the Niagara Escarpment). Shallow groundwater discharge occurs along the Simcoe Uplands and provides baseflow to streams that eventually feed into the Nottawasaga River or into Lake Simcoe. Baseflow also originates from the base of the Niagara Escarpment and in the valleys cut into the Escarpment. Mean annual groundwater recharge ranges from 70mm to 335 mm in the south Simcoe. Surficial geology, slope, land use and regional variability in precipitation affect recharge rates.

Groundwater is important in the County because water supply needs of the municipalities and private residents within the County, Barrie and Orillia are obtained largely from groundwater.

Groundwater quality for municipal wells is typically excellent in south Simcoe, with a few exceptions in discreet areas. In addition, the degree of groundwater use is generally sustainable.

Factors considered in the assessment of aquifer vulnerability include the depth to the first significant aquifer, and the type of material overlying the first aquifer. Fine-grained sediments such as silts and clays provide greater protection than coarse-grained sands and gravels. The level of vulnerability of the first significant aquifer, based on Groundwater Intrinsic Susceptibility is shown on **Figure 4.1**. Aquifers across most of the study area are well to moderately protected from surface contamination. High vulnerability aquifers are in Barrie, along the Georgian Bay (Wasaga Beach) and the highest percentage is in Adjala-Tosorontio. However it should be noted that in many of these areas most residents obtain their water from municipal aquifers that are deep and well protected. Therefore the highly vulnerable near-surface aquifers are primarily important to baseflow in local streams and to shallow wells.

Wellhead Protection Areas were assessed for each of the 138 municipal wells in 72 well fields in the south Simcoe area. The time to travel is shown in **Figure 4.2**.

As for North Simcoe, most of it is also underlain by significant overburden deposits. The areas to the north and east are overlain by thin drift or are bare bedrock. Most of the groundwater is from the overburden aquifers, except in Tay, Severn and Ramara.

Four aquifer units have been defined in the North Simcoe study area. The uppermost aquifer is most widely distributed and largely associated with highland areas. The shallow water table aquifers are recharged in areas of higher elevation (especially in the Simcoe Uplands and the Oro Moraine). Baseflow to streams is provided through ground water discharge at the edge of the Simcoe Uplands, and the Oro Moraine. Flow in the deeper aquifers originates in the major upland areas and largely follows the patterns of the shallow system. The Wye Marsh acts as a groundwater discharge area for both the shallow and deep groundwater aquifers.

The shallow water table aquifers are recharged in areas of higher elevation, especially in the Simcoe Uplands and the Oro Moraine. Shallow groundwater discharge occurs along the Simcoe Uplands and Oro Moraine, providing base flow to streams that eventually feed in the Wye River, Nottawasaga River, Georgian Bay or into Lake Simcoe. Flow in the deeper aquifer is from the major upland areas and follows the patterns of the shallow system.

Groundwater quality in north Simcoe for municipal wells is typically excellent, with a few exceptions in discreet areas. In addition, the degree of groundwater use is generally sustainable.

In north Simcoe, the level of vulnerability of the first significant aquifer, based on Groundwater Intrinsic Susceptibility is shown on **Figure 4.3**. Aquifers across most of the study area are well to moderately protected from surface contamination. High vulnerability aquifers most common in the northeast is Severn and Ramara, as well as parts of Tiny Township. However, it should be noted that in many of these areas in north Simcoe, most residents obtain their water from municipal aquifers that are deep and well protected. Therefore, the highly vulnerable near-surface aquifers are primarily important to baseflow in local streams and to shallow wells.

Wellhead Protection Areas were assessed for each of the 100 municipal wells in 50 well fields in the north Simcoe area. The time to travel is shown in **Figure 4.4**.

4.2.2 Natural Features

Natural features cover in the County is less in the southern half than in the northern half because of impacts associated with the clearing of land for agriculture and urban development. Natural cover within the County, including woodlands and wetlands, is displayed on **Figure 4.5**.

The County supports a wide range of species including over 1500 species of vascular plants, over 150 nesting birds, 50 mammals and 33 reptiles and amphibians (Gartner Lee 1996). The vegetation communities within the County are diverse and many specialized communities are supported, including coastal plains, prairies and savannas, alvars, bogs and fens, the Great Lakes shoreline, Niagara Escarpment cliff faces and talus slopes. In the north end of the County, along the Canadian Shield, both the Boreal Forest and Great-Lakes St. Lawrence Forest types are represented.

There are over 200,000 hectares of forest in the County, with large continuous undisturbed tracts in the northern part of Severn and Tay. These large forest patches provide habitat for forest interior bird species and animals such as martens, black bears and fishers. There are also numerous wetlands, including provincially significant wetlands throughout the County. The County also contains many provincial Areas of Natural and Scientific Interest (ANSIs) and Environmentally Sensitive Areas (ESAs). Natural features that have been evaluated by the MNR and the Conservation Authorities are displayed on **Figure 4.6**.

The extent and significance of the natural heritage systems is reflected in the following numbers:

Wooded Areas	- 28 % of the total IGAP study area (339,900 acres)
All Wetlands (evaluated)	- 9 % of the total IGAP study area (109,500 acres)

and non-evaluated)

Provincially Significant Wetlands	- 6 % of the total IGAP study area (72,600 acres)
Locally Significant Wetlands	- 1 % of the total IGAP study area (11,600 acres)
All ESAs	- 2% of the total IGAP study area (21,900 acres)
All ANSIs	- 6 % of the total IGAP study area (71,500 acres)

It should be noted that these numbers should not be seen as cumulative as ESAs, wooded areas, wetlands and ANSIs can overlap with one another.

Based on the Draft Framework for Guiding Habitat and Rehabilitation (1996), a document prepared by Environment Canada to assist in decision making related to restoration and protection of natural features, the guideline suggests that the target for forest cover in a watershed should be greater than 30% of the total area and that wetland habitat in a watershed should be 10% or more. Forest cover varies within the watersheds in the study area. Throughout the entire study area, forest cover is close to the target of 30%, although the amount of cover differs in the north and south and within watersheds. In the Nottawasaga River watershed 25% of the total watershed area is forested and in the portion of the Lake Simcoe watershed that is within the IGAP study area, 27% of the watershed area is forested. Wetland cover also varies in the watersheds and across the entire study area is below the target. In the Nottawasaga River watershed, total wetland cover within the watershed is approximately 21% and in the portion of the Lake Simcoe watershed that is within the IGAP study area, approximately 6% of the watershed is wetland. However it should be noted that current wetland cover should be assessed based on historical wetland cover.

The Natural Heritage Information Centre lists over 100 rare species in the County, including nine nationally endangered species. The approximate locations of rare species are shown on **Figure 4.6**. Endangered species in the County include the northern bobwhite, king rail, piping plover, Henslow's sparrow, pitcher's thistle, spotted wintergreen, eastern prairie fringed orchid, forked three-awned grass. There are also 6 nationally threatened species listed for the County including least bittern, hooded warbler, grey fox, eastern foxsnake, eastern hog-nosed snake, and the eastern massasauga rattlesnake.

A greenlands system was developed by Gartner Lee (1996) for the County (including Barrie and Orillia) in the report: "Development of a Natural Heritage System for the County of Simcoe" (Gartner Lee 1996). This greenlands system is displayed on **Figure 3.2**. A functional assessment approach was utilized to examine landform structures, landform functions and natural features. Natural heritage units (53 were identified) were described based on their functions, attributes and linkages.

The description of natural heritage in the County report is divided by 10 major terrain units including the Oak Ridges Moraine, the Innisfil Till Plain, the Borden Sand Plain, the Niagara Escarpment, the Wasaga Lowlands, the Elmvale Clay Plain, the Oro-Moraine, the Carden Plain, the Rocklands and the Tiny-Tay Peninsula. Individual natural heritage areas were described within these units.

In addition to these units, critical elements that are important to the ecological integrity of the system were identified. General management guidelines were presented for critical elements such as headwaters, middle/lower reaches, wetlands, valleylands, major lakes and large forested areas. Existing and potential linkages were also identified.

According to the County's Official Plan, development or site alteration shall not be permitted within provincially significant wetlands or the habitat of threatened and endangered species. Development and site alteration will be directed away from the significant woodlands, significant wildlife habitat, significant valley lands, fish habitat, Areas of Natural and Scientific interest, Environmentally Sensitive Areas, major lake, river and creek systems, and Escarpment Natural Areas. New uses proposed within or adjacent to the above described features may only be permitted if it does not negatively impact on the nature feature(s) and/or associated ecological functions. Note that these policies meet the requirements for natural heritage under the PPS.

The greenland systems in the local official plans augment and support the County's system and can include locally significant features and functions in addition to the County's. Some of the local plans have included different levels of protection that usually include one category for features to be protected from development and another category in which development and site alteration would be permitted if it can be demonstrated that there will be no negative impacts.

5.0 AGRICULTURE

5.1 Agriculture in Simcoe County

Agricultural land is an important resource in Simcoe County. Agriculture and related industries are an important part of the Simcoe County economy and land resource base. Based on Statistics Canada data for 2001, 4,375 people in Simcoe County were employed in the agriculture, forestry, fishing and hunting sector in 2001, representing 2.2% of the county labour force. A total of 2,463 farms were in operation in the county, accounting for about 4% of the farmland in the province. While the agriculture sector narrowly defined as farms employs a relatively small number of people in Simcoe County, it has linkages to other agricultural related industries such as fertilizer manufacturing, food processing, agricultural equipment and chemical industries, retail and wholesale suppliers, farm credit organizations, veterinary medicine and government services. As such, the agriculture sector in Simcoe County is much broader than solely farming. It is estimated that for every job on the farm, there are 1.9 additional jobs outside of agriculture with the largest agriculture related business category being retail followed by wholesale and construction industries. In 1996, the Simcoe County labour force in agriculture and related jobs was estimated at around 14,000 (Harry Cummings & Associates, *Economic Impact of Agriculture on Simcoe County*, 1999). Based on the reported employment multiplier, the agriculture sector including related jobs in Simcoe County in 2001 likely was in excess of 12,000 people.

Farming in Simcoe County can be characterized as follows:

- The number of farms has been declining in Simcoe County: between 1986 and 2001, the number of farms in Simcoe County declined by around 18%; this is consistent with the provincial trend.
- Farms in Simcoe County tend to be slightly smaller than the provincial average.
- Simcoe County has a lower farmland ownership levels compared to the province: 59% compared to 69%.
- Simcoe County has a relatively large number of beef operations, accounting for 31% of overall farming operations in the county; this may be compared to a provincial average of 25%.
- Major field crops in the county include corn, hay, and soybeans.
- Major fruit crops in the county are apples and strawberries.
- About 35% of farms in Simcoe County are located in the northwest portion. Another 35% are located in the southern part and around 30% in the northeast portion.
- Farming, when considered at a regional level, appears to be more extensive and prosperous in the southern part of the county than in the northeast or northwest. The southern part of Simcoe County accounts for about half of the farm economic activity: 53% of the gross farm receipts and 46% of the farm capital.
- At the municipal level, the highest level of agricultural activity and farm revenues are in Springwater and Clearview in northeast Simcoe, collectively accounting for 28% of the total hectares of farm land in Simcoe County and 29% of total gross farm receipts.

A significant number of agricultural related industries are situated in the county such as fertilizer manufacturing, food processing, agricultural equipment and chemical industries, retail and wholesale suppliers, as well as farm credit organizations, veterinary medicine and government services. Simcoe County is home to the Ontario Stockyards that relocated from downtown Toronto in the 1990s and the Muck Research Station. Simcoe is quickly becoming well known for its pick-your-own operations, farmers markets, and Christmas tree retailers.

Due to Simcoe County's climate and diverse geography and soils, there is a wide variety of agriculture in the County. Types of farming include:

- Beef farming, especially in Clearview, Ramara, Severn, Oro-Medonte, Tiny and Tay;
- Dairy farming, especially in Springwater, Clearview, Oro-Medonte and Tay;
- Potato farms and processing plants in New Tecumseth and Essa;
- Specialty farms especially in Tiny, Tay and Severn;
- Field crop farming especially in New Tecumseth, Severn, Ramara, and Essa;
- Apple production in Clearview Township;
- Vegetable production in Bradford-West Gwillimbury and Innisfil with smaller pockets in Essa and New Tecumseth;
- Grain/oil seed, particularly in New Tecumseth;
- Sod farming in Innisfil and New Tecumseth;
- Hog farming and poultry/egg farming are also conducted in the County.

An overview of the characteristics of farming for Simcoe County as a whole is provided in the following section. It is followed by a discussion of farming trends at the sub-county level.

Number of Farms and Acreage

A total of 2,463 farms were in operation in Simcoe County in 2001, accounting for about 4% of the farms in Ontario.

The number of farms in Simcoe County in 2001 represents an approximate 18% decrease from the 3,007 farms in operation in the county in 1986. The overall level of decline is consistent with the provincial trend. It is noted that the number of farms in Simcoe County increased slightly between 1991 and 1996, however, the number then decreased by 11% between 1996 and 2001 – see **Table 5.1**.

The total farmland in hectares in Simcoe County decreased by less than 2% between 1986 and 2001, which, when compared to the much larger decline in the number of farms, may suggest some farm consolidation.

Table: 5.1 Simcoe County Farms

Year	Number of Farms	Hectares
1986	3,007	222,607
1991	2,709	204,943
1996	2,773	222,736
2001	2,463	218,882
% Change		
1986-2001	-18.1%	-1.7%

Source: Statistics Canada, 2006

Farms by Size

Farms in Simcoe County tend to be slightly smaller than the provincial average, with about 55% being less than 53 hectares as shown in **Table 5.2**. This may be compared to 49% for the province. Only 13% of Simcoe County farms, compared to 15% of Ontario farms, are over 179 hectares.

Table 5.2: Distribution by Size of Farm

Size of Farms, (2001) in hectares	Number of Farms	% Distribution
Under 53	1353	54.9%
Between 53 -161	795	32.3%
162 +	315	12.8%
Total	2463	

Source: Statistics Canada, 2001 Agriculture Community Profiles

Land Use and Ownership

About two-third of the farmland in Simcoe County consists of cropland as shown in **Table 5.3** below.

Around 59% of farm land in Simcoe is owned, while 41% is rented or crop shared. The level of ownership is lower than for the province as a whole, which is about 69%.

Table 5.3: Land Use and Ownership

<u>Land Use</u>	Hectares	% Distribution
2001		
Cropland	145,652	66.5%
Summerfallow	1,098	0.5%
Tame or seeded pasture	11,832	5.4%
Natural land for pasture	26,531	12.1%
Other land	33,769	15.4%
Total area of farms	218,882	
<u>Ownership</u>		
Area owned	129,167	59.0%
Area rented or crop shared	89,715	41.0%

Source: Statistics Canada, 2001 Agriculture Community Profiles

Cash Receipts

Cash receipts for farms in Simcoe County were \$275.8 million in 2001, representing about 3% of Ontario farm cash receipts. Key agriculture commodities in Simcoe County included:

- floriculture, nursery and sod, accounting for 16.9% of total farm receipts;
- cattle and hogs, accounting for 11.6% and 9.8% of total farm receipts, respectively;
- potatoes, accounting for 11.3% of total farm receipts;
- dairy, accounting for 11.1% of the total farm receipts.

Potatoes in particular are a significant crop for Simcoe County, accounting for 35.8% of the potato crop farmland in the province in 2001.

Farms by Major Product Type

In terms of classification by major product, Simcoe County has a relatively large portion of cattle farms accounting for 695 operations or around 31% of farms in the county with sales over \$2,500 as shown below. This may be compared to 25% at the provincial level.

Table 5.4: Farms (with sales over \$2,500) by Major Product Type

Major Product Type	Number of Farms	% Distribution
Dairy	170	7.6%
Cattle (beef)	695	31.2%
Hog	53	2.4%
Poultry and egg	35	1.6%
Wheat	20	0.9%
Grain and oilseed (except wheat)	327	14.7%
Other field crops	208	9.3%
Fruit	38	1.7%
Vegetable	98	4.4%
Miscellaneous specialty	454	20.4%
Livestock combination	67	3.0%
Other combination	60	2.7%
Total	2,225	

Source: Statistics Canada, 2001 Agriculture Community Profiles

Major Field Crops

Major field crops in Simcoe County include corn, hay and soybeans as noted below.

Table 5.5: Major Field Crops, 2001

Type	Hectares
Winter wheat	9,799
Oats for grain	1,673
Barley for grain	7,842
Mixed grains	3,751
Corn for grain	25,690
Corn for silage	3,865
Hay	46,088
Soybeans	26,302
Dry white beans	x
Flue-cured tobacco	x
Potatoes	6,289

Note: x = not reported due to confidentiality

Source: Statistics Canada, 2001 Agriculture Community Profiles

Major Fruit Crops

The major fruit crop in Simcoe County is apples, accounting for about 61% of total fruit crop hectares, and strawberries, which account for 21%.

Table 5.6: Major Fruit Crops, 2001

Type	Hectares	% Distribution
Apples	321	61.0%
Peaches	x	X
Sour Cherries	2	0.4%
Raspberries	38	7.2%
Strawberries	112	21.3%
Grapes	x	X
Total fruit crops	526	

Note: x = not reported due to confidentiality

Source: Statistics Canada, 2001 Agriculture Community Profiles

AGRICULTURE BY REGION

Number of Farms and Acreage

About 35% of farms in Simcoe County are located in the Northwest. Another 35% are located in South Simcoe and around 30% in the Northeast Simcoe.

Springwater and Clearview, in the Northwest of Simcoe, account for the highest number of farms at the municipal level in the County, comprising around 12% and 15% of the total farms, respectively. Additional data is provided in **Table 5.7**.

Concentration of Farming Activity

Farming, when considered at a regional level, appears to be more extensive and prosperous in South Simcoe than in the Northeast or Northwest. South Simcoe accounts for about half of the farm economic activity in Simcoe County - 53% of the gross farm receipts and 46% of the farm capital (see **Table 5.8**). In comparison, the Northeast accounts for about 13% of Simcoe County farms receipts, while the Northwest accounts for around 34%. In terms of total farm capital, the Northeast accounts for around 21% while the Northwest accounts for about 33%.

Reviewing farm statistics at the municipal level also reveals:

- The highest level of agricultural activity and farm revenues are in Springwater and Clearview in Northeast Simcoe, collectively accounting for 28% of the total hectares of farmland in Simcoe County and 29% of total gross farm receipts.
- The most prosperous areas in Simcoe County for farming are in South Simcoe. Using a measure of average gross farm sales per hectare, the overall county average is \$1,343 gross farm sales per hectare. This may be compared to \$1,931 in South Simcoe, and an average of \$608 in the Northeast and \$1,317 in the Northwest (Springwater and Clearview were higher at \$1,457 and \$1,429 respectively).

LAND CLASSIFICATION

Soil types and agricultural land classification are shown on **Figures 5.1 and 5.2** respectively. Most of the land in the County is high quality Classes 1-3 land. Specialty crops (celery, onions, carrots and others) are typically located in the organic soil areas of the Study Area.

Based on the PPS, prime agricultural areas shall be protected for long-term use for agriculture. Specialty crop areas shall be given the highest priority for protection, followed by Classes 1, 2, and 3 soils. However, an expansion of a settlement area into prime agricultural areas will be permitted if the land is not specialty crop, and there are no reasonable alternatives which avoid prime agricultural areas or in lower priority agricultural lands in prime agricultural areas. Given that most of Simcoe County is Classes 1-3 soils, a more fine-grained approach to the analysis of agriculture will be needed to ensure that the growth does not diminish this important economic sector.

Table 5.7: Farms and Land Resources by Community

	NORTHEAST					NORTHWEST				SOUTH SIMCOE						
	Simcoe County	Ramara	Severn	Oro-Medonte	Northeast Simcoe (total)	Springwater	Clearview	Tiny	Tay	Northwest Simcoe (total)	Innisfil	Adjala-Tosoronto	New Tecumseth	Bradford West Gwillimbury	Essa	South Simcoe (total)
Farm and Farm Operator Statistics																
Total number of operators	3,440	235	265	500	1,000	405	500	185	110	1,200	245	270	220	265	240	1,240
Total number of farms	2,463	173	187	370	730	298	361	134	73	866	163	198	162	171	173	867
% Distribution of Farm Operators		6.8%	7.7%	14.5%	29.1%	11.8%	14.5%	5.4%	3.2%	34.9%	7.1%	7.8%	6.4%	7.7%	7.0%	36.0%
% Distribution of Farms		7.0%	7.6%	15.0%	29.6%	12.1%	14.7%	5.4%	3.0%	35.2%	6.6%	8.0%	6.6%	6.9%	7.0%	35.2%
Land Resources																
Total area of farms (hectares)	218,882	23,559	13,126	25,519	62,204	27,854	33,772	9,048	4,863	75,537	15,886	19,187	16,414	13,178	16,478	81,143
% Distribution		10.8%	6.0%	11.7%	28.4%	12.7%	15.4%	4.1%	2.2%	34.5%	7.3%	8.8%	7.5%	6.0%	7.5%	37.1%
source: Statistics Canada, Agriculture Community Profiles, 2001																

Table 5.8: Simcoe County Farms Financial Data

	NORTHEAST					NORTHWEST				SOUTH SIMCOE						
	Simcoe County	Ramara	Severn	Oro-Medonte	Northeast Simcoe (total)	Springwater	Clearview	Tiny	Tay	Northwest Simcoe (total)	Innisfil	Adjala-Tosorontio	New Tecumseth	Bradford West Gwillimbury	Essa	South Simcoe (total)
Farm Financial Data																
Total gross farm receipts (excluding forest products sold)	\$293,933,003	\$10,812,908	\$8,725,116	\$18,265,069	\$37,803,093	\$40,591,467	\$48,271,420	\$7,143,297	\$3,422,158	\$99,428,342	\$28,112,915	\$31,143,049	\$24,166,348	\$33,897,530	\$39,381,726	\$156,701,568
Gross farm receipts per hectare measure	\$1,343	\$459	\$665	\$716	\$608	\$1,457	\$1,429	\$789	\$704	\$1,316	\$1,770	\$1,623	\$1,472	\$2,572	\$2,390	\$1,931
Total farm capital (market value)	\$2,081,575,843	\$123,538,879	\$90,350,016	\$220,410,212	\$434,299,107	\$260,345,604	\$319,227,360	\$72,134,600	\$39,838,914	\$691,546,478	\$170,069,264	\$196,381,941	\$197,541,104	\$192,091,628	\$199,646,321	\$955,730,258
source: Statistics Canada, Agriculture Community Profiles, 2001																

Municipalities across Ontario have tackled regional-scale agricultural analysis using various methods including Land Evaluation and Area Review (LEAR) studies (e.g. Hamilton)¹. In general, the objective of these studies is to address both the market/economy (including current investment, return on investment and land use conflict) as well as resource-based aspects of the agricultural industry.

Stakeholder Comments

A number of stakeholders were contacted to identify issues with respect to agriculture. The following summarizes the issues that were identified through review of reports and discussions. **Appendix B** contains a full listing of key contacts.

Issues of concern to the Agricultural Industry:

- Potential conflicts for land with other sectors of growth, particularly residential development and manufacturing.
- Policies for protection of prime agricultural lands in the County Official Plan may not be enough to control the loss of agricultural land to accommodate industrial and residential growth.
- With increasing demands for land the value and cost of buying or leasing land will increase, thereby increasing the cost of farm operations.
- Water demand will increase as a result of manufacturing and residential growth, meaning that there could be less water available for irrigation.
- Urban-rural conflict can arise from issues such as odors from farms (e.g. strong smell from manure).
- Contamination of water sources is also a concern.
- Increased pressure on farms to use ecologically sound nutrient and pest management approaches.
- Using more environmentally appropriate methods will increase the costs of production.

Issues raised by farm organizations:

- Transportation to and from Simcoe County is a concern as the existing road network cannot handle increasing traffic.
- Conflicts with objectives of environmental agencies and farming objectives of clearing land to increase production.

¹ Appendix A provides a short description of the LEAR methodology.

- There is a lack of extension staff, making it difficult for farmers to solve production policy versus environmental concerns.

6.0 MINERALS AND PETROLEUM

Data related to minerals and petroleum in the county was not available. The County does not have mapping of these resources and cannot confirm if there are any resources within the County.

Although there are some abandoned petroleum wells, the Mineral and Petroleum industry is not highly active in the County. Only 0.2% of the labour force works in the minerals and oil and gas extraction sector.

According to the PPS, minerals and petroleum resources shall be protected for long-term use. Operations shall be protected from development and activities that would preclude or hinder their expansion or continued use or which would be incompatible for reasons of public health, safety or environmental impact. Therefore, an assessment at a later stage of the IGAP process will need to be made to determine if development will hinder access to the resources or establishment of new resources operations.

7.0 MINERAL AGGREGATE RESOURCES

There are areas with aggregate potential throughout the study area. Refer to *Figure 7.1* for the location of aggregate resources. *Figure 7.1* includes areas of Primary and Secondary sand and gravel. These areas are defined as such based on their levels of resource significance. Primary sand and gravel areas are areas where a major resource is known to exist and should be considered as part of the aggregate supply for the area. (Gao, et al. 2005). Secondary sand and gravel areas are not the best resources in the study area but they may contain substantial amounts of resources and are considered as part of the aggregated supply for the area (Gao et al. 2005).

Sand and gravel are extracted in many parts of the County, with abundant resources in Severn, Oro-Medonte and Ramara. Sites with high potential for bedrock aggregate extraction are concentrated in North Simcoe, in the Severn and Ramara Townships. Licensed pits (for sand, gravel) are scattered throughout the County, while licensed quarries are found only in Severn and Ramara Townships, near the main bedrock area.

Aggregate resources are an important resource in Simcoe County, as these resources support growth in Simcoe County from a residential and infrastructure perspective. In addition, mineral aggregate areas (sands, gravel) in Simcoe have considerable economic value because the aggregate resources in the GTA have been depleted to within 50 km. of the GTA (Harry Cummings and Associates 1999). The close proximity of Simcoe to the GTA means that there is a relatively low cost of transporting the extracted aggregates to construction sites in Southern Ontario.

8.0 CULTURAL HERITAGE AND ARCHAEOLOGY

Cultural heritage is rich in Simcoe County and is a significant contribution to the tourism industry. Cultural heritage and archeology resources in the IGAP study area have not been compiled for this report because they were not available. However, there are policies and legislation that apply to cultural heritage and archaeology that need to be considered in terms of urban development and growth.

At the provincial level, the establishment of policies to protect built heritage resources has traditionally been the realm of the *Ontario Heritage Act*. However in recent years there has been a strengthening of other provincial legislation pertaining to heritage conservation. In particular the recognition of cultural heritage landscapes as significant resources is a recent change, with the *Provincial Policy Statement (PPS)* now requiring that “significant built heritage resources and significant cultural heritage landscapes shall be conserved”.

Specific policies from the PPS regarding cultural heritage include:

- Significant built heritage resources and significant cultural heritage landscapes shall be conserved.
- Development and site alteration shall only be permitted on lands containing archaeological resources or areas of archaeological potential if the significant resources have been conserved by removal or documentation or by preservation of the site. If the resources are to be preserved on site, only development and site alteration that maintains the integrity of the site may be permitted.
- Development or site alteration may be permitted on adjacent lands to protected heritage property where it has been evaluated and demonstrated that the heritage attributes will be conserved. In addition, mitigative measures and/or alternative development approaches may be required.

The County, single-tier and lower-tier municipalities also have policies regarding cultural heritage. A policy in the County Official Plan states that built heritage resources, archaeological resources, and cultural heritage landscapes will be conserved. The County and the local municipalities are to work together to maintain an inventory of heritage resources (as designated under the *Ontario Heritage Act*), sites with historical, archaeological, cultural, scenic or architectural merit, cemeteries and other heritage resources. The County determines the need for archaeological assessment for applications for official plans and amendments, secondary plans, and plans of subdivisions whereas local municipalities determine the need for site plan approval, consents and zoning by-laws.

9.0 NATURAL HAZARDS

With extensive shoreline areas, low-lying and flood prone areas, there are many natural hazards throughout the County. These hazards are shown on **Figure 3.3**, as part of the local official plan mapping.

Although the data for the generic regulations has not yet been completed, other secondary source information from the conservation authorities and municipalities on natural hazards in the study area was available. The amount of information varied for different areas in the County. For example, digital flood plain mapping for New Tecumseth is much more extensive than elsewhere in the County.

Flood prone areas in the Nottawasaga Valley watershed include:

- Collingwood (Silver Creek, Black Ash Creek, Pretty River Creek)
- Clearview Township (Battleaux Creek, Noisey River in Dunedin)
- Wasaga Beach (Nottawasaga River)
- Stayner – Lamont Creek
- Creemore (Mad River)
- Angus (Minesing Swamp, Nottawasaga River)
- Oro-Medonte (Willow Creek)
- Glen Cross (Nottawasaga River)
- Adjala-Tosorontio (Nottawasaga River)
- Beeton (Beeton Creek)
- New Tecumseth (Innisfil Creek)

There are also significant erosion hazards within the Nottawasaga Valley watershed. This erosion is the result of both human and natural activities. The Nottawasaga Valley Watershed Plan lists a number of issues that are contributing to the problem:

- until recently, regulations were not consistently enforced across the watershed as the NVCA only regulated the importation and removal of fill in approximately half of the watershed municipalities;
- the present overall extent of stream bank erosion in the watershed is unknown and it is difficult to determine how much of an impact remedial measures are having;
- due to poor communication between resource management agencies and residents, some residents are unaware of the causes of erosion and preventative measures that can be employed;
- new ideas regarding erosion control and drainage projects need to reach more contractors, farmers, and residents; and
- a comprehensive land stewardship program is needed to provide information and services to landowners and desire assistance.

In the Lake Simcoe watershed, most flooding is related to spring run-off. In 1983 a study entitled the South Lake Simcoe Watershed Flood Susceptible Site Inventory and Flood Damage Estimates was conducted. The study focused on the southern portion of the watershed and identified 80 flood prone sites. However, it should be noted that most of these sites are not in the IGAP study area.

In the parts of the County outside the jurisdictions of the two conservation authorities, natural hazards include flooding in Severn and Coldwater, as well as shoreline hazards along Georgian Bay shores.

10.0 CONSOLIDATED RESOURCE OPPORTUNITIES

As described in the preceding sections, the resources within the IGAP study area are quite diverse and include a strong agricultural industry, wide-spread aggregate resources, abundant natural features and a relatively robust natural heritage system. Resources overlap with one another in places and are experiencing stress from urban development. To demonstrate where there are overlapping and concentrated resources where sensitivities exist for potential urban growth, a consolidated resource opportunities map has been prepared as a tool for identifying and evaluating growth options. (*Figure 10.1*)

This map consolidates the County Greenlands System, aggregate resources, agricultural and natural heritage features/systems data. Note that cultural heritage as well as minerals and petroleum data were not included as this mapped data was not available.

The objective for the consolidated mapping is to highlight the key features/systems protected by Provincial Policy and the County Greenlands system.

Aggregate resources data included in the consolidated map consists of areas of primary and secondary sand and gravel as well as bedrock and pit and quarry licenses. It is important to protect aggregate resources in the IGAP study area as they are an important resource for Simcoe, Barrie and Orillia, as well as surrounding areas, including the GTA. Mineral aggregate resources are also protected by the PPS.

Agricultural resources included in the consolidated resource opportunities map include agricultural lands that are protected under the PPS. This includes prime agricultural land (Class 1, 2 and 3) as well as organic soils. According to the PPS, prime agricultural areas (including specialty crop areas and Classes 1, 2 and 3 soils) are to be protected for long-term use, unless there are no reasonable alternatives. In addition, according to the proposed Growth Plan for the Greater Golden Horseshoe, through sub-area assessments prime agricultural lands will be identified and where appropriate policies for their protection will be developed by MPIR and OMAFRA in consultation with upper and single tier municipalities. In addition, the plan encourages municipalities to establish and work with agricultural advisory committees and consult them on decisions related to agricultural planning.

Important agricultural areas in the study area have been highlighted on *Figure 10.2*, including the location of major apple growing areas, major potato growing areas, the Holland Marsh and major sod growing areas.

Potential agricultural issues related to growth in the study area include:

- potential conflicts between agricultural practices and residential and employment uses;

- agriculture related water demand conflicts and other land uses water demands;
- agriculture related transportation to and from the Simcoe area is a concern because of increasing traffic conflicts with agricultural machinery;
- potential conflicts between environmental protection and agriculture; and
- increasing cost of land making is difficult to expand/retain farm operations.

Natural heritage data included in the consolidated resource opportunities map is based on a proposed natural heritage system with a three level land use protection system (**Figure 10.3**). This system is very similar to the existing Greenlands systems but addresses more recent policies and suggested targets, such as the definition of significant woodlands from the PPS/Natural Heritage Reference Manual.

The protection levels for natural features in this updated system include Development Permitted (subject to standard requirements), Development Restricted (subject to further study), and No Development. These protection levels are based on PPS and Official Plan policies. Policies from Provincial plans (Niagara Escarpment Plan, Oak Ridges Moraine Conservation Plan and the Greenbelt Plan) are administered through the Official Plans.

The natural features included in each category are described below.

No Development

- Provincially Significant Wetlands (not including a buffer)
- Significant habitat of threatened and endangered species
- Greenbelt Plan natural heritage system
- Oak Ridges Moraine Conservation Plan core areas
- Niagara Escarpment Plan Natural Area
- Flood Hazards

Development Restricted Subject to Further Study

- Significant woodlands consisting of all woodlots 40 hectares in size or larger, based on definitions in the PPS and Natural Heritage Reference Manual.
- Environmentally Sensitive Areas
- Provincial and Regional ANSIs (Earth and Life Science)
- The 120m buffer around Provincially Significant Wetlands
- Local wetland areas and all other wetlands
- Natural Watercourses
- Greenbelt Plan area outside of the plan's natural heritage system
- Oak Ridges Moraine Conservation Plan areas outside of core areas
- Niagara Escarpment Plan areas outside of NEP Natural Area

Development Permitted (Subject to Standard Requirements)

- All areas not restricted by other two categories, including non-significant woodlands consisting of all woodlots less than 40 hectares in size.

The Greenlands System as designated by the County OP is covered by features in the “No Development” and “Development Restricted Subject to Further Study” categories. In addition, any areas from the Greenlands System that are not captured by these features have been included in the “Development Restricted Subject to Further Study” category. These areas are primarily the linkage areas in the Greenlands System.

According to the proposed Growth Plan for the Greater Golden Horseshoe, through sub-area assessment, MPIR and MNR, in consultation with upper and single tier municipalities, are to identify the natural system of the Greater Golden Horseshoe, including policies for protection where appropriate.

The Consolidated Resources Opportunities map demonstrates that policies for growth in the IGAP study area need to address the diverse and widespread resource base in the IGAP study area. Issues related to balancing land use demands for resources with growth will be described in the SWOT report for this IGAP study.

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APPENDIX A
Data Sources

Appendix A Data Sources

Ministry of Municipal Affairs and Housing:

- IGAP Study boundary
- Area Municipality boundaries
- Oak Ridges Moraine Conservation Plan mapping
- Greenbelt Plan mapping

Ministry of Natural Resources:

- Provincial highways
- County Roads
- Ponds and Lakes
- Wooded Areas
- Evaluated Wetlands
- Rivers
- Rare Species
- Deer Yards
- Provincial ANSI Earth Science
- Regional ANSI Earth Science
- Provincial ANSI Life Science
- Regional ANSI Life Science
- Provincially Significant Wetlands
- Locally Significant Wetlands
- Lots
- Local Roads
- Rail Airport
- Licensed Pits & Quarries

Ontario Ministry of Agriculture, Food and Rural Affairs:

- Agricultural Land Capability
- Soil Classification

Severn Sound Environmental Group:

- North Simcoe Groundwater Study data

Lake Simcoe Region Conservation

Authority:

- Hydrological ESAs
- South Simcoe Groundwater Study Data
- Watershed Boundary

Nottawasaga River Conservation Authority:

- Physical ESAs
- Biological ESAs
- Watershed Boundary
- Flood Hazards

Simcoe County:

- Hydro Corridor
- Settlement
- Potential Greenland Linkages
- Special Development
- Greenlands
- Bedrock Aggregate Resources
- Primary Sand and Gravel
- Secondary Sand and Gravel

Local Municipalities (through Simcoe County):

- Planned Land Use

Niagara Escarpment Commission:

- Niagara Escarpment Plan Area

Appendix B
Agriculture Stakeholder Contacts in Simcoe County

Appendix B Agriculture Stakeholder Contacts in Simcoe County

OMAFRA:

John Turvey (519) 826-3555 OMAFRA Land Use Policy Branch Guelph.*
Ray Valaitis Rural Planner (613) 475-4764, OMAFRA Regional coordinator for Simcoe County.*
Agricultural Information Centre (www.gov.on.ca/MAFRA)

Ontario Stockyards Inc.
Mr. Wayne Small,* Owner
RR# 1, Cookstown, ON L0L 1L0
(705) 458-4000
www.Ontariostockyards.on.ca

Ontario Institute of Agrologists

Mr. Andy Vanniekirk*,
Huron Branch,
(705) 446-5080

Provincial Federation of Agriculture

Peter Jefferys, Head Land Use Planner
Chantelle Leslie*, Area Rep for Simcoe, Peel, York
(705) 722-5511

Muck Research Station

Mary Ruth McDonald/Shawn Janse * (Manager)
1125 Woodchoppers Lane
RR#1, Kettleby, ON
L0G 1J0
(905)-775-3783

Zander Sod Co. Ltd

Mr. C.F. Zander*, Vice-President
17525 Jane Street
RR#1, Kettleby, ON L0G 1J0

Simcoe County Federation of Agriculture

David Ridell, President, (705) – 435-2859
Keith Currie, Past President
Connie Brown (Secretary), (705) 726-9300, Ext. 1224
1110 Hwy #26, Midhurst, ON
www.county.simcoe.on.ca

Farm Credit Canada

Barrie, ON
2-301 Bryne Drive
L4M 4S8
(705) 728-2235

Simcoe District Co-operative Services

(need address)

Ontario Creamerymen's Association

Mr. Lloyd Kennedy, President
26 Dominion Street
Alliston, Ont.
L9R 1C5
(705) 435-6751

Ontario Independent Poultry Processors

Mr. Hank Van Voorst
Cericola Farms
RR# 1 Bradford, ON
L3Z 2A4
(905) 939-2962

Simcoe County Farm Fresh

www.simcoecountyfarmfresh.ca