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ECONOMIC IMPACT STUDY OF THE AGRICULTURE SECTOR IN THE BLUE SKY REGION

NOVEMBER 2001.

HCA

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Economic Impact Study of the Agriculture Sector in the Blue Sky Region

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Prepared by:

Harry Cummings and Associates Inc.
96 Kathleen Street, Guelph, ON N1H 3Y4
phone: (519) 823-1647 fax (519) 821-0202
url: www.hcaconsulting.ca email: hca@web.ca

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Blue Sky Region
Economic Impact of the Agricultural Sector Study

Executive Summary

The Blue Sky Region, for the purposes of this study encompasses the area to the north and east of Georgian Bay with Lake Nipissing at its centre. In the south it extends to Parry Sound, in the west to the City of Greater Sudbury. As a region it is best known for its natural resources in forestry and mining. However, the role of agriculture in the local economy is growing in importance and this study describes the past experience and suggests some future directions. It grows out of a need to clearly document the role of agriculture in the local economy in order to protect agriculture and plan for the future.

The report includes a description of the physical and human resources in the region, the recent nature of agricultural production and the direct, indirect and induced economic impacts of agriculture on the local economy. It concludes by offering some suggestions for future directions. The report was directed by a committee representing farmers, economic developers, local federations of agriculture and senior levels of government.

In the twenty-five year period between 1971 and 1996, population in the Blue Sky Region increased from 307,190 to 314,244 (2.3% over 25 years or .09% per annum). Parry Sound District is the only Census Division in the Blue Sky Region that experienced continuous population growth between 1981 and 1996. Among the administrative regions that made up the Blue Sky Region at the time of the 1996 census, Sudbury District had the smallest population while the City of Greater Sudbury had the largest (164,049).

The Canadian Shield underlies most of the region and represents a significant constraint to agriculture. The presence of Georgian Bay in the west, Lake Nipissing in the centre and the Ottawa River in the east influence the climate and the availability of water in the region. Many of the best soils in the area are related to geologically recent lake or river deposits. The region lacks complete and accurate soil mapping so the underlying geology is the best available indication of soils. In response to the physical conditions, research has been carried out in Northern Ontario and elsewhere in Canada on cold resistant crops and ways to enhance Northern soils.

Compared to other agricultural regions of the province where the land base is less affected by the Canadian Shield and where arable soils are more abundant, agriculture in the Blue Sky Region is largely restricted to 'pockets' of good agricultural soil. The Study Area as a whole reported 247,000 acres of farmland in 1996 which represents just under 2% of the provincial total. However, the area of farmland in the Study Area represents 25% of the total farmland area in Northern Ontario of which a considerable portion (75,000 acres or 30% of the farmland in the Study Area) is in crop production. While the proportion of farmland in crops in the Study Area is somewhat lower than other regions of

the province (Eastern Ontario 49%, Western Ontario 67%) it remains a remarkable achievement considering the soil and climate challenges that exist in the Region.

In 1996, the Agriculture Census reported 1,031 farms in the Blue Sky Region which is up slightly from the 980 farms reported in 1991. Approximately 1.5% of Ontario's farms are located in the Blue Sky Region. In 1996, Parry Sound District had the greatest number of farms followed by Nipissing District (425 and 299 respectively). While farm numbers for Ontario, Northern Ontario and the Blue Sky Region have declined by about 25% since 1971, the three most recent census periods (1986, 1991, 1996) have shown a more stable trend in farm numbers in the Blue Sky Region.

Just over half of the farms in the Blue Sky Region were reported as being between 180 and 759 acres in size in 1996. There was a noticeable increase in mid sized farms (between 0 and 179 acres) making up 48.3% of farms and a decrease in larger farms (over 760 acres). This trend contradicts the overall trend in Ontario that indicates that farms are becoming larger, due to the amalgamation of smaller and mid-size farms into larger ones.

Livestock farms are the dominant farm type in the Blue Sky Region accounting for 44% of all farm types in 1996. Beef farms were the dominant livestock farm type (29%) followed by Dairy (12.5%). The Miscellaneous Specialty sector accounted for 25% of all farm types in 1996 while Field Crop farms represented 22% of all farms. Miscellaneous Specialty and Field Crop farms have experienced a steady increase in farm numbers over the past 15 years while Beef and Dairy farms have declined in number.

Other tame hay and fodder crops made up the greatest area (52,186 acres, or 21.1%) of all farmland in the Blue Sky Region making up about 5.0% of Ontario's total. Nipissing District had the greatest proportion of Blue Sky Region's acreage of other tame hay and fodder crops in 1996. Acreages of other field crop categories in the Blue Sky Region, which include Alfalfa and Alfalfa Mixtures, Other Crops, and Vegetables are small, comprising less than 9,000 acres.

With respect to farm operators, the majority are male. However, females play a greater role as farm operators in the Blue Sky Region than in either Northern Ontario or Ontario. The greatest proportion of farmer operators are between 35 and 54 years of age. There are, however, substantially more farm operators that are over 55 years of age than under 35 years of age, indicating that the population of farmers is aging in the Blue Sky Region, and across Ontario, and recruitment of younger farm operators to succeed them is declining. Approximately 33.% of the farm operators in the Blue Sky Region had off-farm employment. Most conducted a single non-farm business providing some sort of service, sales or construction.

Farm gate sales have increased in each of the municipalities in the Blue Sky Region, Northern Ontario and Ontario in each of the most recent census periods. Farm gate sales in the Blue Sky Region increased by 34.4% between 1985 and 1990, and a further 13.9% between 1990 and 1995. In

comparison, farm gate sales in Northern Ontario increased by 23.0% between 1985 and 1990 and by 9.5% between 1990 and 1995. Farm gate sales in Ontario as a whole increased by 21.0% between 1985 and 1990 and by 16.6% between 1990 and 1995.

In 1995, farm gate sales in the Region amounted to just over $37 million. While farm gate sales in the Blue Sky Region are not as substantial as regions of Southern Ontario, the figure is impressive considering the adverse growing conditions and limited availability of arable farmland.

Sales per farm in the Blue Sky Region are considerably lower than the provincial average but operating expenses per farm are also much lower. Farm operators in the Blue Sky Region are making substantial capital investments in the industry. While the province as a whole experienced less than one percent growth in farm capital between 1991 and 1996, the value of farm capital in the Blue Sky Region increased by 19% or close to $50 million.

The economic impact of agriculture in the Blue Sky Region was measured through an accounting of the total sales and employment of Agriculture and Agriculture-related (Agri-related) businesses in the study area. This work involved a review of the primary data from Statistics Canada's 1996 Population Census of Canada and 1996 Agriculture Census, and Tax Filer Data from 1995 and 1999. The data was used to study the direct economic impacts of agriculture on the economy of the Blue Sky Region. A survey-based 'input-output-like' approach was used to measure the indirect impacts. The survey, completed in the Spring of 2001, was aimed at businesses that sell products to, or buy products from, the farmer. The induced economic and employment impacts of the Agriculture sector were also studied using secondary data derived from the Statistics Canada census data.

The survey of agri-related businesses, a substantial body of new information, used a list of 253 Agri-related Businesses in the Blue Sky Region, with a sample size of 153 required for a 95% confidence level. Surveyors exhausted the Agri-business list. In total, 152 businesses were surveyed; 150 of them provided data regarding employment, and 148 provided sales data.

In total, there are 1,330 direct, 404 indirect and 3,329 induced jobs created as a result of the agriculture sector in the Blue Sky Region. Thus, farm operations, businesses they buy from and sell to, and services that support farmers and farm businesses, are estimated to support approximately 5,063 jobs.

When this total employment figure is divided by the total number of direct agriculture jobs, a multiplier of 3.8 is the result. This calculation allows us to estimate that for every job in the agriculture sector, an additional 2.8 jobs related to agriculture are supported

In terms of dollars, agriculture makes a substantial contribution to the local economy. There are $37.1 million in direct sales and $42.7 million in indirect sales associated with agriculture in the Blue Sky Region. In total, approximately $79.8 million in agri-related sales are generated in the Blue sky

Region. In order to estimate the sales expenditure multiplier in the Blue Sky Region, the total amount of agri-related sales for the area was divided by the total amount of direct sales. This produces a sales expenditure multiplier of 2.15 In short, we can use this calculation to estimate that for every dollar generated by direct agricultural sales (farm gate sales), an additional $1.15 in sales related to agriculture is also produced. Please note, these are gross agriculture-related sales and no attempt has been made to identify the "net value-added" component.

A number of other agri-related business surveys have been conducted in various regions of Ontario using the same methodology applied here. Research has been completed for: Huron County (1998), Simcoe County (1999), Perth County (2000), Lambton County (2000) the combined counties of Prescott, Russell, Stormont, Dundas and Glengarry (1999), the combined counties of Frontenac, Lennox & Addington, Leeds and Grenville (2000), the combined counties of Elgin, Middlesex and Oxford (2000), the combined counties of Lanark and Renfrew (2000) and the new City of Ottawa (2000).

While sales and job figures are not directly comparable because of differences in size and characteristics of the study areas, the multipliers associated with these figures provide some insights into the importance of the linkages between agri-related business and farm enterprises. The sales multiplier estimated for the Blue Sky Region (2.2) is similar to that of Lanark and Renfrew (2.4), Perth (2.5), Lambton (2.6), and the combined Counties of Elgin, Middlesex and Oxford (2.3).

Because of the location of the region in Northern Ontario, the study paid particular attention to services and products used from outside the region. These services included transportation, finance, business services, agriculture and related, manufacturing, wholesale and retail.

Tourism is an important element of the local economy and agri-tourism is increasingly contributing to the value of this sector. Agri-related activities such as farm tours, maple syrup festivals, fall fairs and farmers' markets all produce economic benefits that ripple through the rest of the economy.

The Blue Sky Region features transportation infrastructure that provides for rapid and economic transportation of people, products and raw goods. It also features a growing telecommunications industry which is enhancing the ability of the region to take advantage of advanced information highway services. All of these services are being utilized and supported by the local agricultural industry.

While the efforts of farm operators, research groups and the agri-business community are helping to enhance agricultural productivity in the Study Area, there is also an important role for planners and policy makers to play in safeguarding the long term viability of agriculture in Northern Ontario. In formulating and reviewing development policies, decision makers need to be aware of the potential impact on the local agricultural sector. The loss of any agricultural land resources in an

environment that is faced with limited production capabilities will likely have a detrimental effect on the viability of the local agricultural industry.

Future Directions

Agriculture has become a very diverse industry in the Blue Sky Region. Efforts to improve growing conditions through tile drainage and agriculture liming have brought more land into production and increased overall productivity. Interest in new ideas including new crops (buckwheat, flax, canola, garlic), new farm animals (bison, goats, emu) and agri-tourism have expanded a number of opportunities for the region.

It is recommended that Northern Ontario and Canada research be continued through the support of the agricultural research stations and programs of the Federal and Provincial governments and the private sector. There is evidence that research efforts of the past are yielding results in the variety of new crops being planted in the area and in increases in selected aspects of agricultural production.

With the movement into a more diverse agriculture base, opportunities may be emerging for new training and support services in the region. A study of current training and support programs should be undertaken in light of recent developments in the local agriculture and agri-related business sector. Many farm operators are taking an interest in value added production and niche marketing. Future skills development may also include computer science, e-commerce, agricultural policies, environmental issues, and consumer trends.

It is recommended that consideration be given to supporting selected agricultural service centres and their efforts to diversify and respond to the needs of a changing agricultural sector. This could be done by providing support to agricultural businesses in the area and/or providing for investment in public infrastructure that may serve to attract other investment in support of agriculture.

The Internet is increasingly being used by farmers in the Blue Sky Region to track market developments and to stay informed of new developments in farming methods both locally and globally. Ensuring that the agriculture community has access to this resource is an important factor in promoting new ideas and enhancing the competitiveness of the industry.

It is recommended that governments and the private sector work together to ensure that full support is given to internet use by agriculture in the Blue Sky Region

As with other regions of the province, the Blue Sky Region is struggling to attract and maintain younger farm operators. The sustainability of the industry is linked to finding ways or incentives to attract and keep youth involved in agriculture.

Acknowledgements

The Agriculture Sector of the Blue Sky Region wishes to thank its many friends and sponsors who contributed to this report. We are very pleased that Harry Cummings and Associates Inc. was our consulting group. Their experience and expertise in compiling the statistics and rendering them in a readable fashion makes this report that more valuable to us. The inclusion of the wider socio-economic patterns of the region helps give us a truer appreciation of how and where our specific sector fits. Since HCA has authored similar studies in other areas of Ontario, using the same methodology, it makes this an "oranges to oranges" comparison to the activities of some of our southern counterparts.

The area covered in this report is greater than the usual Blue Sky Region which normally extends from Novar to Temagami, and Mattawa to Sudbury East. However, the farmers of the region interact with their counterparts a little farther south and west, and as the other Cumming's studies were of designated OFA districts, it was deemed reasonable to extend the borders for this study to include all of the land falling under the East Nipissing Parry South and West Nipissing, East Sudbury Federation's jurisdictions. Since Muskoka was added after 1996, it was not included in this study.

Except for the ag-business survey conducted this spring and summer, much of the information contained in this document was drawn from the 1996 Agriculture Census. We have a benchmark to which we can compare the enormous changes our agricultural community has been undergoing recently. Since 1996, over 3,500 acres of cropland has been tiled and put into intensive production. Canola, corn, wheat, white beans and soybeans are being grown now along with the traditional cereals and forage crops.

Speciality crops such as hemp, flax and sunflowers are being harvested with success. Speciality livestock, including bison, deer, pure breeds of horses and rare breeds of cattle, have been introduced. A West Nipissing dairy goat cooperative has only just started shipping milk and is actively seeking new producer partners. Dairy farms, while fewer in number, are higher in individual farm production through expansion. Several of the farms recently sold in Chisholm Township were purchased by Amish and Mennonite families who plan to extend their community, bringing new life and youth to farming in this portion of Northern Ontario.

The Cooperative NipSud Ltee constructed a grain elevator with storage and drying facilities in Verner. It opened for business in 2000, met its fourth year projections in its first year and has tripled that so far in its second year of operation. Near Sudbury, the potato farms continue to supply local and outside markets and sod producers are expanding. New pick-your-owns are opening throughout the region. Our rich and varied landscape offers an equally rich and varied selection of agricultural opportunities. The 2001 Agricultural Census figures should prove very interesting.

The Blue Sky Agriculture Sector wishes to thank the East Nipissing Parry Sound and Muskoka

Federation of Agriculture, the West Nipissing East Sudbury Federation of Agriculture, Economic Partners Sudbury East/West Nipissing, Nipissing East Community Opportunities, the Parry Sound and Area Community and Business Development Centre, the North Bay Economic Development Commission, the Ministry of Northern Development and Mines and especially FedNor for their contributions to this study.

Sincerely,

Blue Sky Agriculture Economic Impact Study Steering Committee

France Giguere - Co-chair: Blue Sky Economic Partnership Agriculture Sector
Sandra Smyth - Co-chair: Blue Sky Economic Partnership Agriculture Sector
Julie Poirier - Member Services OFA Northeastern Region
Neil Tarlton - Member Services OFA Northeastern Region
Rheal Brouillitte - West Nipissing East Sudbury OFA
Klaus Wand - East Nipissing Muskoka Parry Sound OFA
Rosemary George - East Nipissing Muskoka Parry Sound OFA
Laurie Bachelder - Nipissing East Community Opportunities
Tjaltje Heino - North Bay Economic Development Commission
Mike O'Connor - Economic Partners, West Nipissing East Sudbury
Randy McLaren - Councillor, Bonfield Township
Willie Leveillee - Mayor, Markstay, Hager and Warren
Andre Lemay - Agricultural and Rural Representative, OMAFRA, Verner
Denise Deschamps - FedNor
Mary Ellen Norry Car - Ministry of Northern Development and Mines

Table of Contents

Tables and Figures

Tables

Figures

1.0 Introduction

This report was prepared in response to a call for proposals issued in February of 2001 by the Agricultural Sector committee of the Blue Sky Economic partnership.

The objective of the study as stated in the Terms of Reference was:

> "To provide farmers, local government and the general public with an economic picture of the area and agriculture's relative importance as an industry. It will inform stakeholders and assist possible entrepreneurs in identifying opportunities to create new businesses and enhance the life of farmers and other agri-support businesses in rural Ontario. The Study will make an analysis of how many businesses purchase and sell products to farmers and how many traditional and spin off jobs are created by the presence of farmers in the local economy."

The first section of the report provides an overview of the work, the background to the study, and an introduction to the work done in the study area. Section 2 of the report provides information on the spatial and natural resource aspects of agriculture in the Blue Sky Region (see Figure 2.1). It provides maps and discussion on the geology, topography, climate and soils in the region.

Section 3 of the report profiles changes in population and employment in the new Blue Sky Region. This includes general background information on the population such as population changes experienced in the region and the distribution of family income as compared to Northern Ontario, Ontario and Canada. A more in-depth discussion is given to the employment situation in the area, including changes in employment numbers over time. This section provides information on the number of jobs in each sector of the economy, including agriculture, manufacturing, construction, government and service industries.

Section 4 provides information on agriculture in general in the Blue Sky Region. This section uses data, largely from the agricultural census, to describe farmland, land use, number of farms, farm size, farm type, farm operators and other general characteristics of agriculture. In Section 5, the direct impact of agriculture on the Blue Sky economy is described using farm gates sales, expenditure and net revenue from the agricultural census. Farm gate sales are a strong indication of the impact agriculture has on the economy. Sales combined with agricultural jobs are the two indicators strongly emphasized within this report. Related economic figures provided will include farm operating expenses, farm capital figures and net receipts (in total, as well as per farm and per acre). Farm gate sales and agricultural jobs represent the first step in understanding the impact of agriculture on the economy of the Blue Sky Region.

In Section 6, the two other core elements of economic impact analysis are used in analyzing agriculture in the economy of the region. These are the indirect impact of agriculture on jobs and sales in the region and the induced impact of agriculture. The major source of information for this analysis was a survey of a sample of 148 businesses in the region that work

with and for farmers in the region. Businesses outside the region were also contacted to describe sales and expenditure "leakages". We also used census employment data to estimate the other "induced" spin-off jobs, largely in the service sector, supported by agriculture. Section 7 provides a summary and overview of the results of the study. Section 8 provides us with a view of links outside of the Blue Sky Region while Section 9 documents the conclusions.

1.1 Background to the Study Methodology

The study focuses on dollars and jobs created by agriculture. The methodology relies mainly on 'input-output' analysis as a tool for assessing the impact of agriculture. This approach depicts the economy as a series of sectors that buy and sell goods to each other until they reach the point of consumption. The purchases of products by sectors from other sectors are the inputs, and the sales to other sectors by a sector are the outputs.

The research presented in the report relies on data from the Population Census, Agricultural Census, surveys of Agricultural-related businesses located in the study area and information from local citizens knowledgeable of the area. Selected data from tax filer reports provided by Statistics Canada is also analyzed. The report includes a discussion of the role of agriculture in the study area economy, as well as a discussion of related socio-economic conditions.

1.2 Background to the Research Report

From a demographic perspective, the composition of the rural population has become predominantly non-farm based. By 1981, the farm-based population in rural Ontario accounted for only 18 percent of the total rural population compared to 55 percent in 1931 (Dasgupta, 1988, pp.26-30). The rural economy has also undergone considerable structural change as a consequence of global economic restructuring. Restructuring of the economy came about as other regions of the world developed competitive manufacturing sectors that challenged many of the manufacturing industries that were the heart of Canada's industrial economy (steel, automobiles, farm machinery, consumer electronics, etc.). In an effort to become more competitive, Canadian firms responded by reducing the size of their domestic workforce, adopting more automation and shifting production operations offshore.

At the same time the manufacturing sector was adjusting to global restructuring, agriculture experienced problems of reorganization and restructuring in response to overproduction, a declining market for unprocessed agricultural goods, and new competition in the world market (Goe and Kenney, 1991, p140-141).

Although rural economies continue to have a strong resource base, the percentage of jobs directly employed in agriculture production has been declining in Canada since the turn of the century (Keddie, 1999, pp.11-18). The job movement out of agriculture and other resource sectors has been accompanied by growth in service sector employment. In rural Ontario, the service sector now exceeds the goods producing sector as the principal employer (Bollman and Biggs, 1992, pp.21-28; Keddie, 1999, pp.30-31).

These changes have led some analysts to question the importance of agriculture as an engine of economic growth (Whyte, 1978, p.43). Indeed, analysts and policymakers are increasingly looking to other economic activities such as tourism to spur economic growth in rural areas.

It is important to note that, even though there were declines in the number of direct jobs in agriculture (i.e., on-farm jobs), the value of farm gate sales has continued to rise. Between 1986 and 1996, farm gate sales in Ontario rose from $5,511 million to $7,778 million (a growth rate of 3.5% per year) while employment on farms declined. Not only did the value of production increase, the volume of production also increased. This implies an increase in the productivity of farm workers and more capital intensive farm operations. With fewer people working on farms, the linkages to industries and sectors supporting agriculture become all the more important.

1.3 Introduction to the Blue Sky Region[1] and Other Agricultural Economic Impact Studies.

In recent years, a number of research initiatives have been undertaken in different regions of Ontario to assess the total impact of agriculture on the local economy. The research findings indicate that agriculture has extensive industry linkages and is responsible for generating a significant number of jobs in the local economy beyond the primary production stage.

The research strategy originated in Huron County in work done by Harry Cummings and colleagues for the Huron County Federation of Agriculture and the Huron County Planning Department. Since that initial work studies have been completed by Cummings and colleagues in Perth, Lambton, Simcoe, Elgin, Middlesex, Oxford, Prescott, Russell, Stormont, Dundas and Glengarry, Frontenac, Lennox and Addington, Leeds and Grenville, New City of Ottawa, Lanark and Renfrew. These Federations of Agriculture, combined with colleagues, in planning offices, economic development offices, school boards, the Ministry of Agriculture, Food and Rural Affairs; Labour Force Development Boards and other organizations, recognized that conventional economic indicators associated with agriculture were inadequate in showing the total impact agriculture has on the economy as a whole.

In each case a working group was formed to address the issue. A Request for Proposal was distributed by the Blue Sky Agriculture Working Group. Dr. Harry Cummings, a consultant and professor at the University of Guelph School of Rural Planning and Development, won the bid to carry out the work using a similar methodology to the other studies. This report is the result of this work done by Dr. Cummings and his associates through his consulting firm, Harry Cummings and Associates (HCA).

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[1]The study area has been enlarged from the original Blue Sky Economic Region to incorporate adjacent areas that are economically linked or have economic impacts on the region. The areas in this report identified as the Blue Sky Region include four Census Divisions: Nipissing District, City of Greater Sudbury, Sudbury District and Parry Sound District.

2.0 Land Base Resources

2.1 Introduction

This chapter of the report provides an overview of the land base resources in the Blue Sky Region including a profile of agricultural characteristics such as agricultural soils, climate zones and crop heat units . This chapter also provides a brief review of other natural resources including water, forestry and mineral resources. Finally, aspects of the built environment including settlements, transportation and communication are discussed.

2.2 The Study Area

The Study Area overlays several districts in Northeastern Ontario including Parry Sound, Nipissing, Sudbury and the City of Greater Sudbury. The western boundary of the Study Area extends along the shoreline of Georgian Bay from the Southern boundary of Parry Sound District to Grundy Lake Provincial Park where it extends inland along Highway 69 to encompass the City of Greater Sudbury. The northern boundary extends east along Highway 17 from the City of Greater Sudbury to the town of Mattawa. The southern limit of the Study Area is marked by the southern boundary of Parry Sound District. The eastern boundary of the Study Area extends north along the eastern limit of Parry Sound District until it reaches the northern limit of Algonquin Provincial Park where it extends east to meet the town of Mattawa (Figure 2.1).

2.3 The Geographic Profile of the Blue Sky Region

The physiography of Ontario has undergone change as a result of several geological processes over millions of years. Glaciation has been the most recent geological process to shape the surface features of Ontario. The Glaciation process carved the bedrock surface, redistributed surface material and shaped many of the lakes into their present forms. This process has also been a major factor in controlling the density, distribution and variety of vegetation in Ontario (Thurston, 1999: p.6).

Geological and physiographic distinctions can be made between two major physiographic regions of Ontario, the Canadian Shield and the surrounding flatter lowlands known as the Borderlands (Figure 2.2). The Canadian Shield is a topographically higher region of more resistant rock compared to the Borderlands. Drainage patterns in Ontario are influenced by the Shield with water flowing onto the Borderlands and draining either to the north and east into Hudson and James bays, or south and east into the St. Lawrence River and the Great Lakes.

The Canadian Shield underlays the entire area of the Study Area. With the exception of the area around Sudbury, the Study Area is situated in the southern most part of the Shield known as the Laurentian Highlands. The Highlands extend eastward from Georgian Bay to the Ottawa River and southeastward to the St. Lawrence River. The Highlands is a slightly elevated region underlain by

Precambrian bedrock (Thurston, 1991, p.6).

Figure 2.1
The Study Area:
Northern Ontario and
the Blue Sky Region

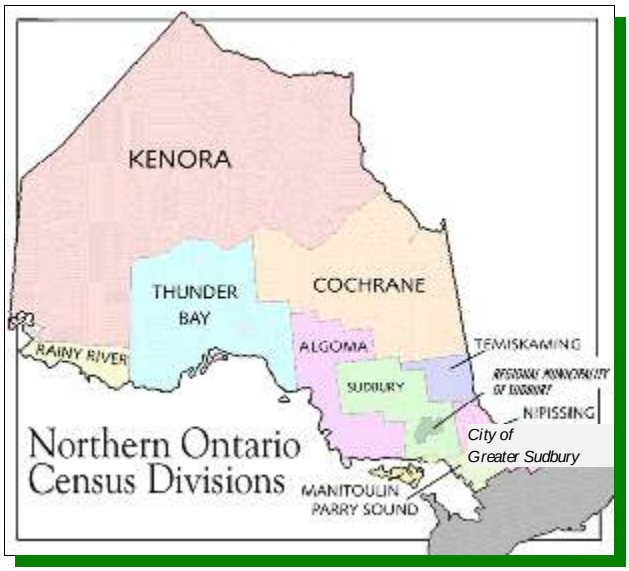
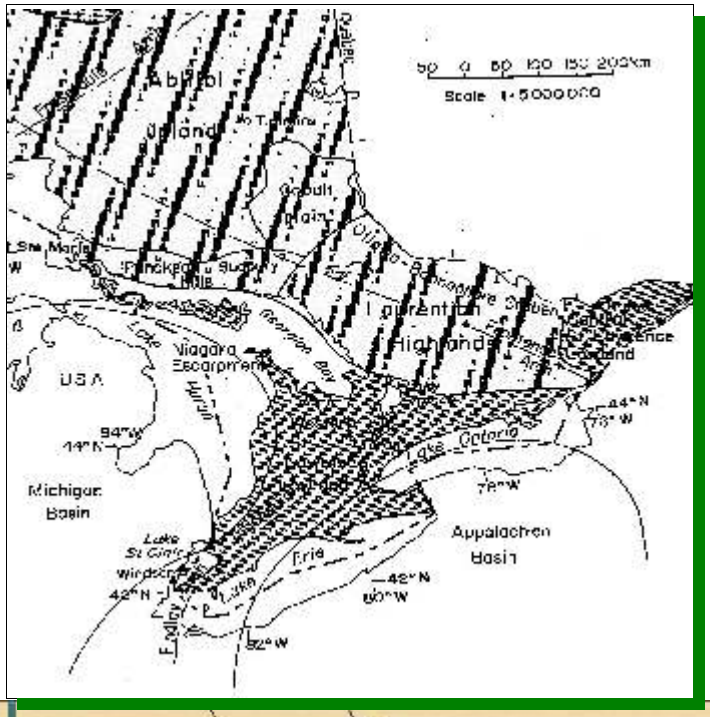


Figure 2.2
Precambrian Canadian Shield



Ontario Ministry of Northern Development and Mines. 1991.

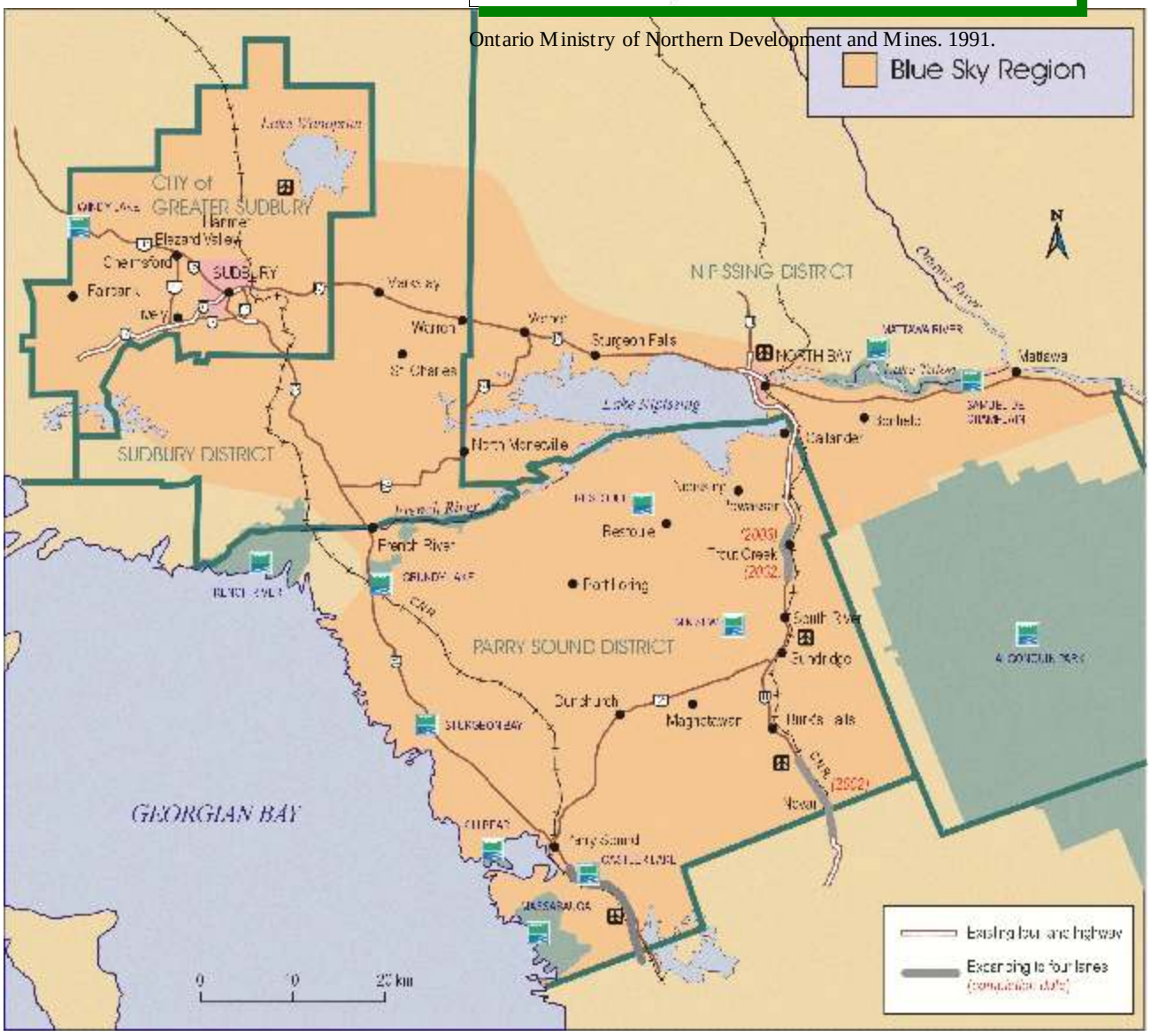
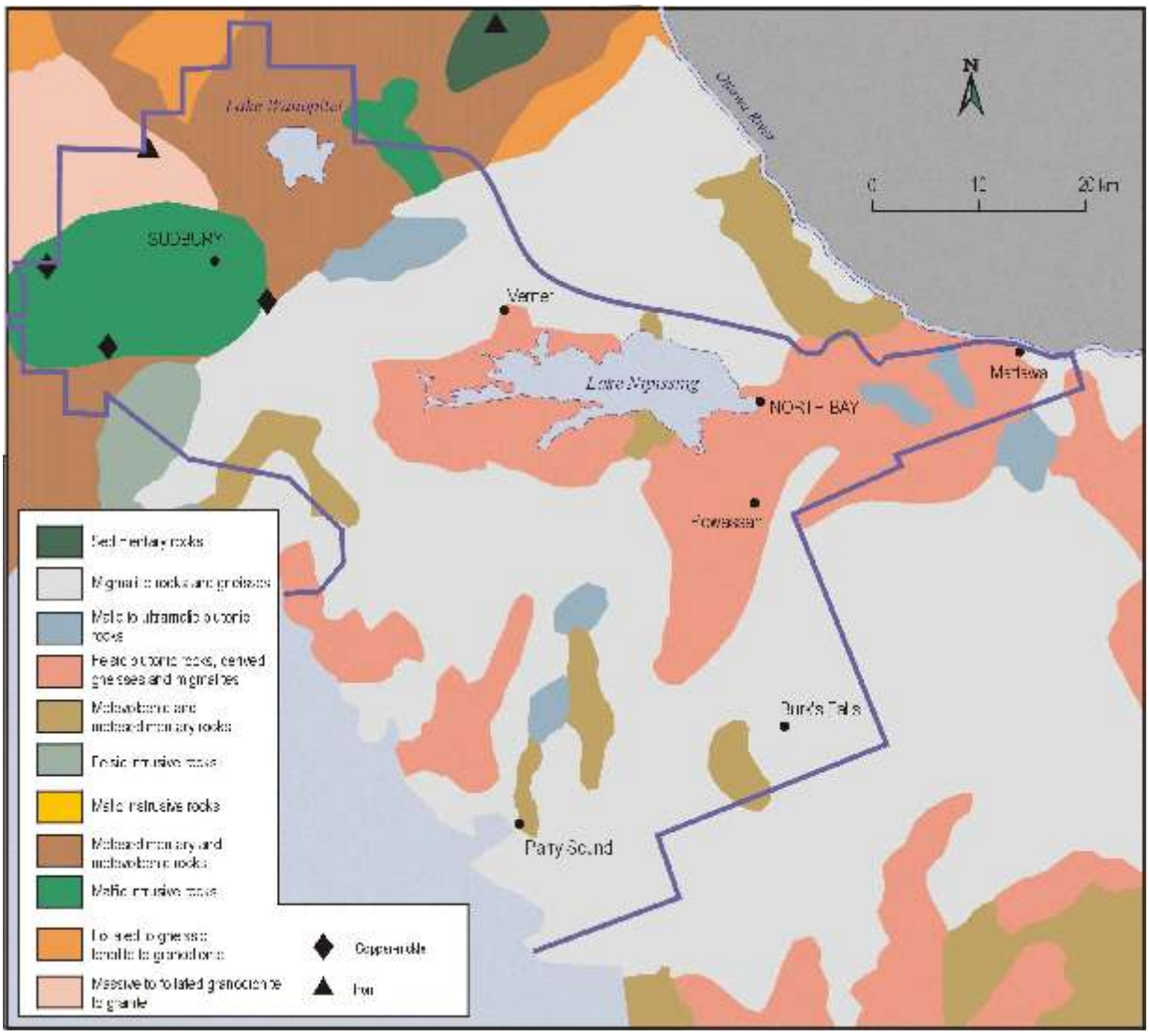


Figure 2.3
Geology and Principal Minerals
of the Study Area



Ontario Ministry of Northern Development & Mines. 1995.

The northwest part of the Study Area which includes the City of Greater Sudbury is situated in a physiographic region known as the Penokean Hills. The Penokean Hills feature folded Proterozoic rocks that extend from the north shore of Lake Huron eastward as far as the Sudbury area (Thurston, 1991, p.6). The Paleoproterozoic Sudbury Structure is a unique geological feature that is known worldwide for its significant nickel-copper ore deposits (Dressler et al., 1991, p.595). Also known as the Sudbury Basin, the oval shaped geological feature is 60 km long and 26 km across as its widest point. The Sudbury Basin also contains cobalt and other precious metals.

2.4 Agricultural Soils

The soils in Ontario are comparatively very young, the result of glacially eroded and transported debris. Soil forming-processes only began once the landscape had become uncovered by the Laurentide Ice Sheet or after the draining of the many proglacial lakes that covered large parts of Ontario. The oldest soil in Ontario is less than 18,000 years old, while most of the province's soils are considerably younger (Barnett, 1991, p.1065).

Many of the properties of the soils in Ontario are inherited from the rocks and sediments or organic accumulation that they developed on. In the northern parts of Ontario, podzolic soils are abundant in well and imperfectly drained areas. The podzolic soils of the Shield are generally thin, acidic and unproductive. These soils are capable of maintaining tree cover but tend to lose their nutrients quickly under cultivation.

Despite the limitations on agricultural capacity, there are pockets of good agricultural soil in northern parts of Ontario which are essentially restricted to the areas of glaciolacustrine deposits in the former glacial lake basins (Barnett, 1991, p1068-69). Much of the agricultural land base in West Nipissing for example is situated on an old lake bottom and features soils that are azilda clay loam.

Specific details on the agricultural regions in the Study Area follow:

City of Greater Sudbury and Sudbury District

In the City of Greater Sudbury and Sudbury District agriculture is concentrated in several major pockets including St. Charles, Warren, Markstay, Noelville, Alban and Monetville and in valley communities such as Valley East, Chelmsford, Blezard Valley, and Hanmer. Agricultural production in this part of the Study Area is influenced by acidic soils which require agricultural limestone and drainage to be productive. Cereal and oilseed crops as well as forage crops are grown in these parts of the Study Area (OMAFRA, February 2001a). In 1996 this region reported just over 20,000 acres in crops with an additional 3,600 acres in improved pasture. Additional details on agricultural land use for the region is presented in Section 4.2 of the report.

Parry Sound District

Agriculture in Parry Sound is most active at the north end of the district, along the Highway 11 corridor and other highway corridors in the area. Farmland in the area is undulating and soils are very acid requiring agricultural lime. The parent soil material is till from glacial deposits. Some areas of the district feature patches of clay and silt loam. Major field crops grown in the area include mixed grains and forages. The more fertile, less acidic soils also produce barley, canola and soybeans (OMAFRA, February 2001b). In 1996 this region reported just over 22,000 acres in crops with an additional 6,200 acres in improved pasture. Additional details on agricultural land use for the district is presented in Section 4.2 of the report.

Nipissing District

Agriculture in Nipissing is largely concentrated in two areas. Agriculture is centred in a 15 km radius around the towns of Verner and Powassan. The soils in this district are acidic and are intermingled with bedrock outcrops. The soils require tile drainage to be productive. Major field crops grown in the area include barley and forages. In recent years canola, soybeans and high moisture corn have been successfully grown in the area (OMAFRA, February 2001c). In 1996 this region reported close to 33,000 acres in crops with an additional 6,000 acres in improved pasture. Additional details on agricultural land use for the district is presented in Section 4.2 of the report.

Summary

The Study Area as a whole reported 247,000 acres of farmland in 1996 which represents approximately 25% of the total farmland in Northern Ontario and just under 2% of the provincial total. Thirty percent of the farmland (75,000 acres) in the Study Area was in crop production in 1996 which represents 21% of the total crop land in Northern Ontario.

Compared to other regions of the province, agriculture in the Blue Sky Region is restricted by a much more limited resource base both in terms of soil conditions and the availability of arable acres of farmland. In Eastern Ontario 49% of farmland is used for crop production while in Western Ontario 67% of farmland is used for crop production. At the provincial level, 63% of all farmland is used for crop production (Statistics Canada Agricultural Census, 1996).

Research, Development and Investment

The agricultural industry in Northern Ontario is served by a number of research facilities through the New Liskeard Agricultural Research Station (NLARS). Research programs focusing on adapted crop species such as spring wheat, barley, oats and canola, and perennial forages such as alfalfa, clovers and grasses are carried out at NLARS central station. NLARS also operates the Verner Test Site which is located on land rented by the West Nipissing Soil and Crop Improvement Association.

The Verner Test Site has facilitated various projects since 1988 (OMAFRA, February 2001d).

In conjunction with efforts to produce hardier varieties of cultivars, farm operators in the Study Area have been proactive in taking steps to improve their land base resources. The Study Area has made use of government funding provided through the Northern Ontario Heritage Fund Corporation (NOHFC). Funding through NOHFC supports the growth of the Northern Ontario cash crop industry by reducing soil acidity and increasing the amount of land available for production. These projects provide opportunities for crop diversification and creating spin-off effects for existing businesses in the agriculture sector (OMAFRA, February 1999). In addition to supporting land improvement projects, NOHFC also supports the development of other agricultural infrastructure such as production and processing facilities.

Between 1997 and 2000, eleven agriculture projects in the study area were approved for funding from NOHFC. The total NOHFC contribution (forgivable performance loan) amounted to just under two million dollars and was allocated among several activities including land improvement, production facility expansion, and processing and marketing facility development. NOHFC's contribution by project is shown below:

1. *Land Improvement*

Funding under this category covered 50% of eligible expenses to a maximum of $50,000 per partner. Three land improvement projects were funded in the Study Area through NOHFC between 1997 and 2000:

- West Nipissing East Sudbury Land Improvement ($385,775)
- West Nipissing East Sudbury Phase 2 Land Improvement ($334,760)
- Parry Sound Land Improvement ($59,276)

In total, over 2300 acres of land was tiled and over 2000 acres was limed under the 1997 - 2000 NOHFC program.

2. *Production Facility Expansion*

Funding under this category covered 50% of eligible expenses to a maximum of $50,000 per partner. Seven production facility expansion projects were funded in the Study Area through NOHFC between 1997 and 2000:

- West Nipissing East Sudbury Dairy Production Facility Expansion ($105,300)
- West Nipissing East Sudbury Phase 2 Dairy Production Facility Expansion ($113,400)
- West Nipissing East Sudbury Red Meat (beef, sheep, deer/elk) Production Facility Expansion ($142,200)

- West Nipissing Crop Storage ($97,200)
- East Nipissing Parry Sound Dairy Production Facility Expansion ($140,000)
- East Nipissing Parry Sound Phase 2 Dairy Production Facility Expansion ($97,500)
- East Nipissing Parry Sound Maple Syrup Production Facility Expansion ($200,000)

3. *Community Processing and Marketing Facilities*

Funding under this category covered 50% of eligible expenses to a maximum of $500,000. One processing and marketing facility development project was funded in the Study Area through NOHFC between 1997 and 2000.

- Co-operative Regionale de Nipissing Sudbury Ltee. Dryer/Elevator ($240,000)

When the project was developed, it was expected that the dryer/elevator would reach the following production targets:

Year 1 = 1,000 metric tonnes
Year 2 = 1,500 metric tonnes
Year 3 = 2,000 metric tonnes
Year 4 = 2,500 metric tonnes

However, production at the facility has been well in excess of the planned targets. In its first year of operation, production at the facility amounted to 3,908 metric tonnes.

In February 2001, NOHFC announced the 2001 agriculture flagship program, "Capital Assistance for the Agriculture Sector - Supporting Environmentally Sustainable Growth in Northern Ontario". Funding under this category covers 40% of eligible expenses to a maximum of $50,000 per partner. The program has approved funding for five projects amounting to a total of one million dollars. Approved projects include:

- East Sudbury West Nipissing Land Improvement - tiling of 1,115 additional acres ($274,698)
- East Sudbury West Nipissing Dairy Production Facility Expansion ($329,500)
- East Sudbury, Nipissing, Parry Sound Dairy Goat Production Facility ($115,997)
- East Sudbury, Nipissing, Parry Sound Meat Production Facility Expansion ($103,564)
- East Sudbury West Nipissing Crop Storage and Production Facility Expansion ($176,594)

Total project costs (eligible and ineligible expenses) for the five projects are estimated at $4.7 million. As well, two other projects involving research and a community processing facility are under development (Mary Ellen Norry Car, Northern Development Advisor - Agriculture/Rural Development, Ministry of Northern Development and Mines. Personal communication, September 28, 2001).

While the efforts of farm operators, research groups and the agri-business community are helping to enhance agricultural productivity in the Study Area, there is also an important role for planners and policy makers to play in safeguarding the long term viability of agriculture in Northern Ontario. In formulating and reviewing development policies, decision makers need to be aware of the potential impact on the local agricultural sector. The loss of any agricultural land resources in an environment that is faced with limited production capabilities will likely have a detrimental effect on the viability of the local agricultural industry.

2.5 Climate and Crop Heat Units

Climate conditions also play a significant role in determining the type of agricultural activity in the Study Area.

City of Greater Sudbury and Sudbury District

The climate in this area is one of the warmest in Northern Ontario. The mean annual length of the growing season is 183 days with a frost-free period of 112 days. On average, the last spring frost is May 15 and the earliest fall frost is September 25. The cooler temperatures and shorter frost-free period (relative to Southern Ontario) place limitations on the varieties of crops that can be grown in the region but new varieties of soybeans, canola, and other traditionally warm weather crops are being grown successfully in the area (OMAFRA, February 2001a).

The annual mean precipitation for the region is 838 mm of which 200 mm falls as snow. Average precipitation for the Sudbury and Monetville weather stations between May 1 and September 30 are 417 mm and 418 mm respectively (Figure 2.4, 2.5 and 2.8).

Parry Sound District

The mean annual length of the growing season is 180 days with a frost-free period of 110 days. On average, the last spring frost is May 15 and the earliest fall frost is September 15 (OMAFRA, February 2001b). The annual mean precipitation for the district is 965mm.

Average precipitation for the Burk's Falls weather station between May 1 and September 30 is 472 mm. Total average precipitation for Burk's Falls is 1110 mm of which 332 mm falls as snow (Figure 2.6 and 2.8).

Nipissing District

The mean annual length of the growing season is 180 days with a frost-free period of 120 days. On average, the last spring frost is May 15 and the first fall frost is September 15. Although the growing season is relatively short, the district has experienced some success in growing new varieties of corn,

soybeans, canola and wheat (OMAFRA, February 2001c).

Average precipitation for the district between May 1 and September 30 is 410 mm. The average annual mean precipitation for the district is 910 mm. Average precipitation for the North Bay weather station between May 1 and September 30 is 479 mm. Total average precipitation for North Bay is 974 mm of which 268 mm falls as snow (Figure 2.7 and 2.8).

Crop Heat Units

The Crop Heat Unit system (CHU) was developed in the 1960's and is used to recommend corn hybrids and soybean varieties which are best suited for production in specific CHU zones in various regions of Canada. There is a wide selection of hybrids and varieties for most crops. Most of the warm-season crops have a wide range of maturities. The CHU ratings are based on the total accumulated CHUs for the frost-free growing season in each area of the province.

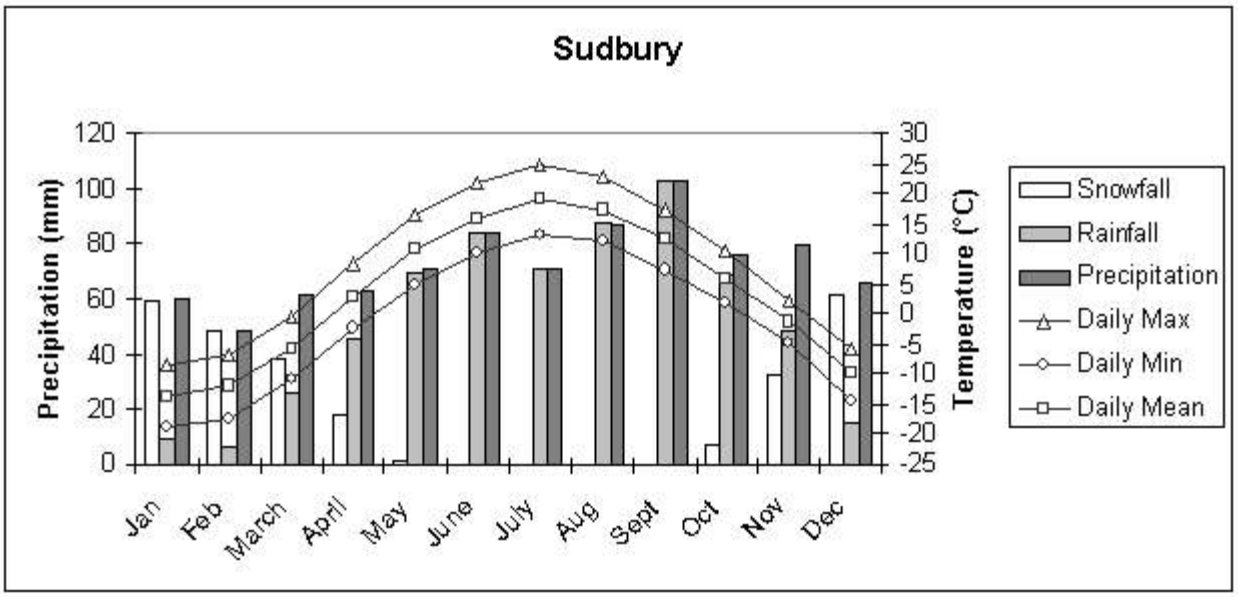
Daily CHU are calculated from daily minimum and maximum air temperatures drawn from separate calculations taken during the day and night. The daytime relationship uses 10 degrees Celsius (50F) as the base temperature and 30 degrees Celsius (86F) as the optimum, because warm-season crops do not develop when daytime temperatures fall below 10 degrees Celsius and they develop fastest at about 30 degrees. The nighttime relationship uses 4.4 degrees Celsius (40F) as the base temperature and does not specify an optimum temperature because nighttime temperatures very seldom exceed 25 degrees Celsius in Ontario. Daily CHU are calculated by using the average of the two daily values.

Latitude, elevation and distance to the Great Lakes all affect daily temperatures and have a marked influence on the accumulated CHU across Ontario. The change between CHU isolines is gradual. However, the slope and soil type at a site also influence temperature. For example, south-facing slopes receive more heat than north-facing slopes, and sandy soils warm up faster than loam or clay soils. Microclimates also influence specific land situations. This makes it impossible to estimate the CHU rating closer than 50 heat units for any location.

As illustrated in Figure 2.8, much of the Study Area falls within the 2100 CHU zone. A small portion of the Study Area which extends westward from Mattawa to North Bay is in the 2300 CHU zone (Agriculture and Agri-Food Canada, March 2001).

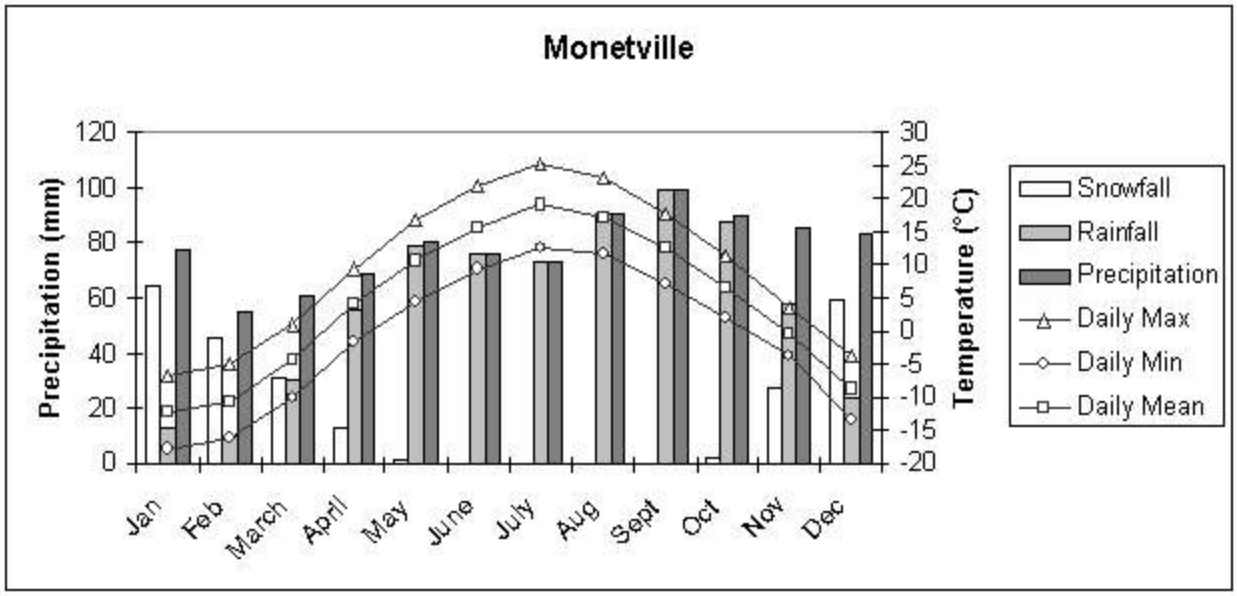
CHU's for the region can fluctuate from year to year depending on weather patterns and some areas within the region can experience higher CHU zones. The Verner test station for example has had some years with 2800 CHU and North Bay reported 2500 CHU in 2001 (Andre Lemay, Agriculture and Rural Representative, OMAFRA, October, 2001).

Figure 2.4 Climate Normals for Sudbury



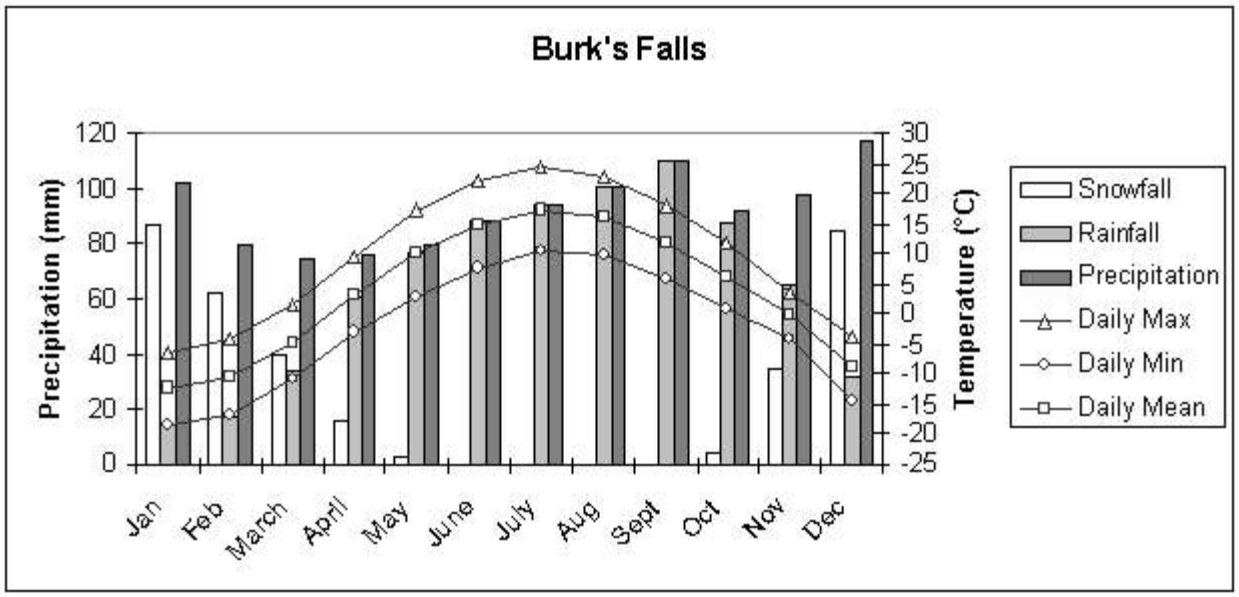
Source: Environment Canada - Canadian Climate Normals.

Figure 2.5 Climate Normals for Monetville



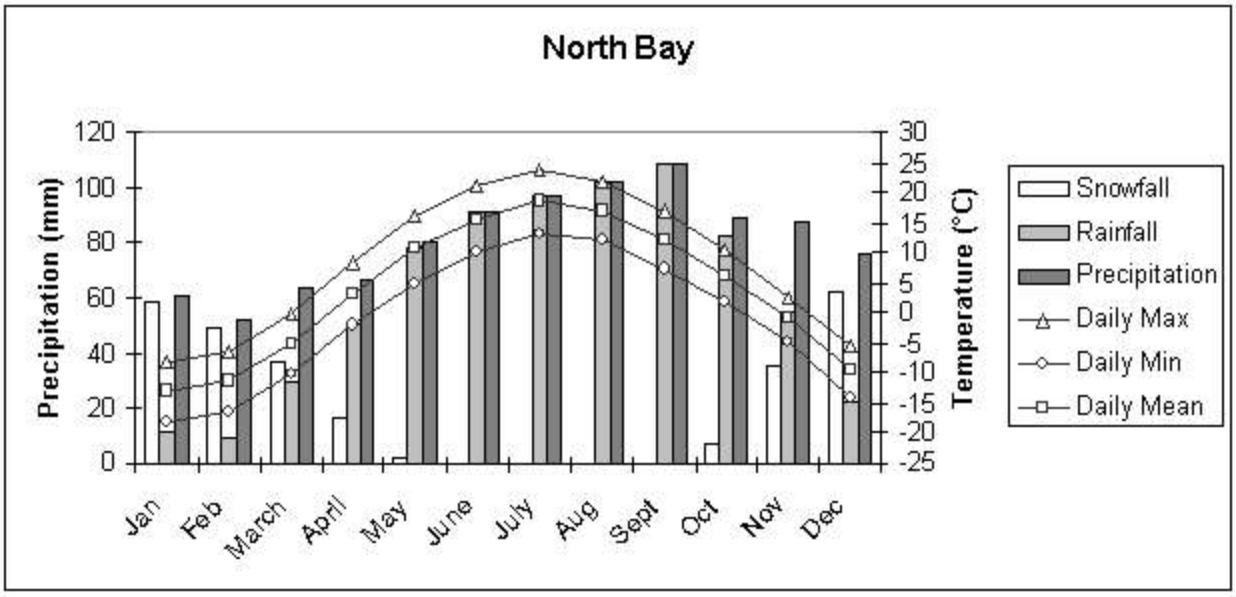
Source: Environment Canada - Canadian Climate Normals.

Figure 2.6 Climate Normals for Burk's Falls



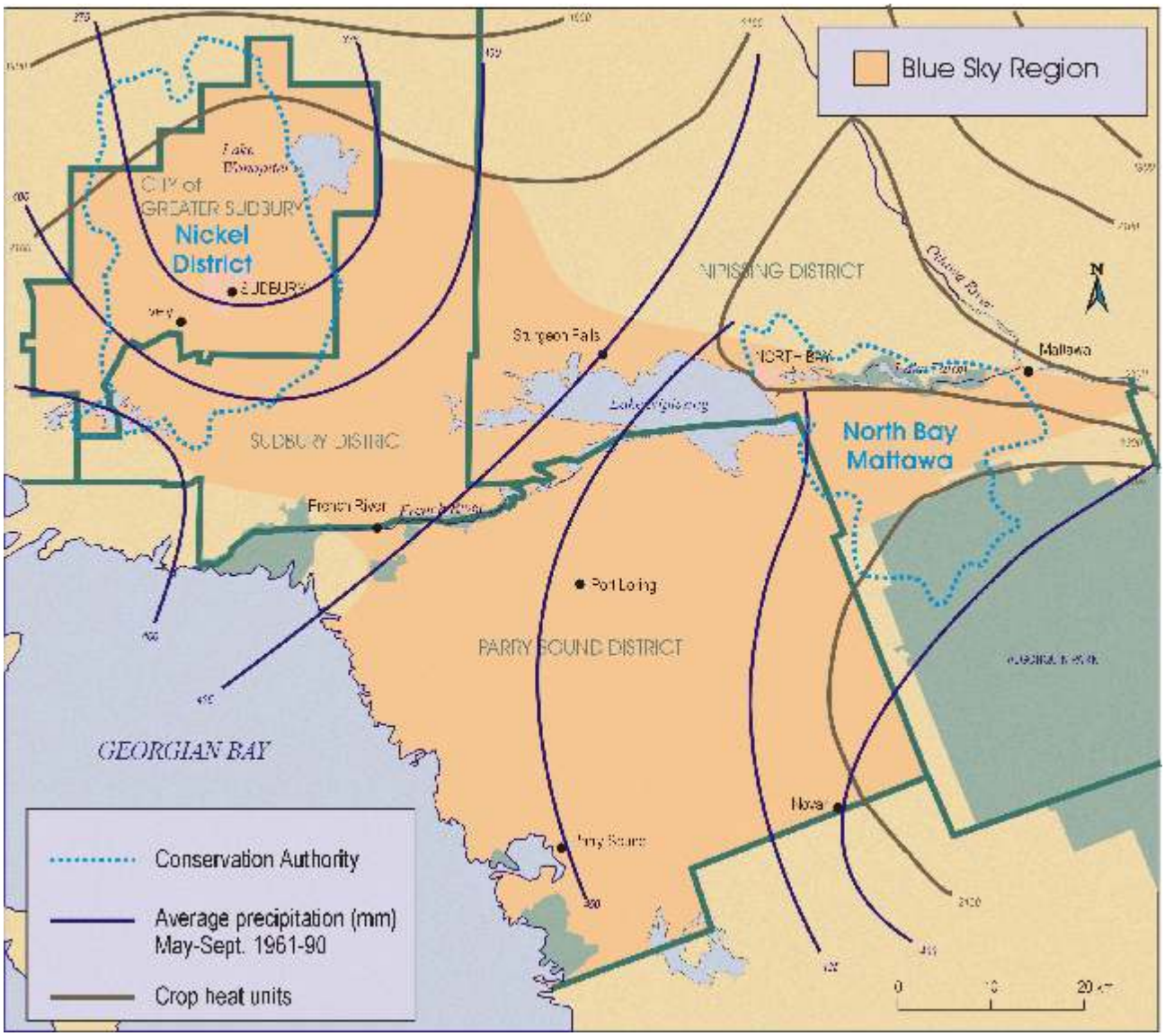
Source: Environment Canada - Canadian Climate Normals.

Figure 2.7 Climate Normals for North Bay



Source: Environment Canada - Canadian Climate Normals.

Figure 2.8 Crop Heat Units and Average Precipitation



2.6 Other Natural Resources

2.6.1 Water

The Study Area is part of the Great Lakes Drainage Basin. Parry Sound, the City of Greater Sudbury and the southern portion of Sudbury District all drain into the Lake Huron Drainage Basin. The area east of Lake Nipissing drains into the Ottawa River and on into the St. Lawrence River. At least six watersheds effect the Study Area (Figure 2.8).

The Study Area contains numerous lakes and rivers including Lake Wahwashkesh, Lake Bernard, Lake Restoule and the Magnetawan River. The dominate body of water situated entirely within the Study Area is Lake Nipissing. Lake Nipissing is located 50 km northeast of Georgian Bay and covers an area of 831 square km making it the fifth largest lake in Ontario excluding the Great Lakes. Lake Nipissing runs in an east-west direction to a length of 80 km and because it parallels the prevailing winds, navigation is often treacherous. The lake is comparatively shallow (about 10 m in most places) and is consequently well aerated which is conducive to healthy plant and fish life.

Many rivers and streams drain into Lake Nipissing, the largest being the Sturgeon River which feeds into the lake from north of the Study Area. The two most important outlets are the Mattawa River and the French River.

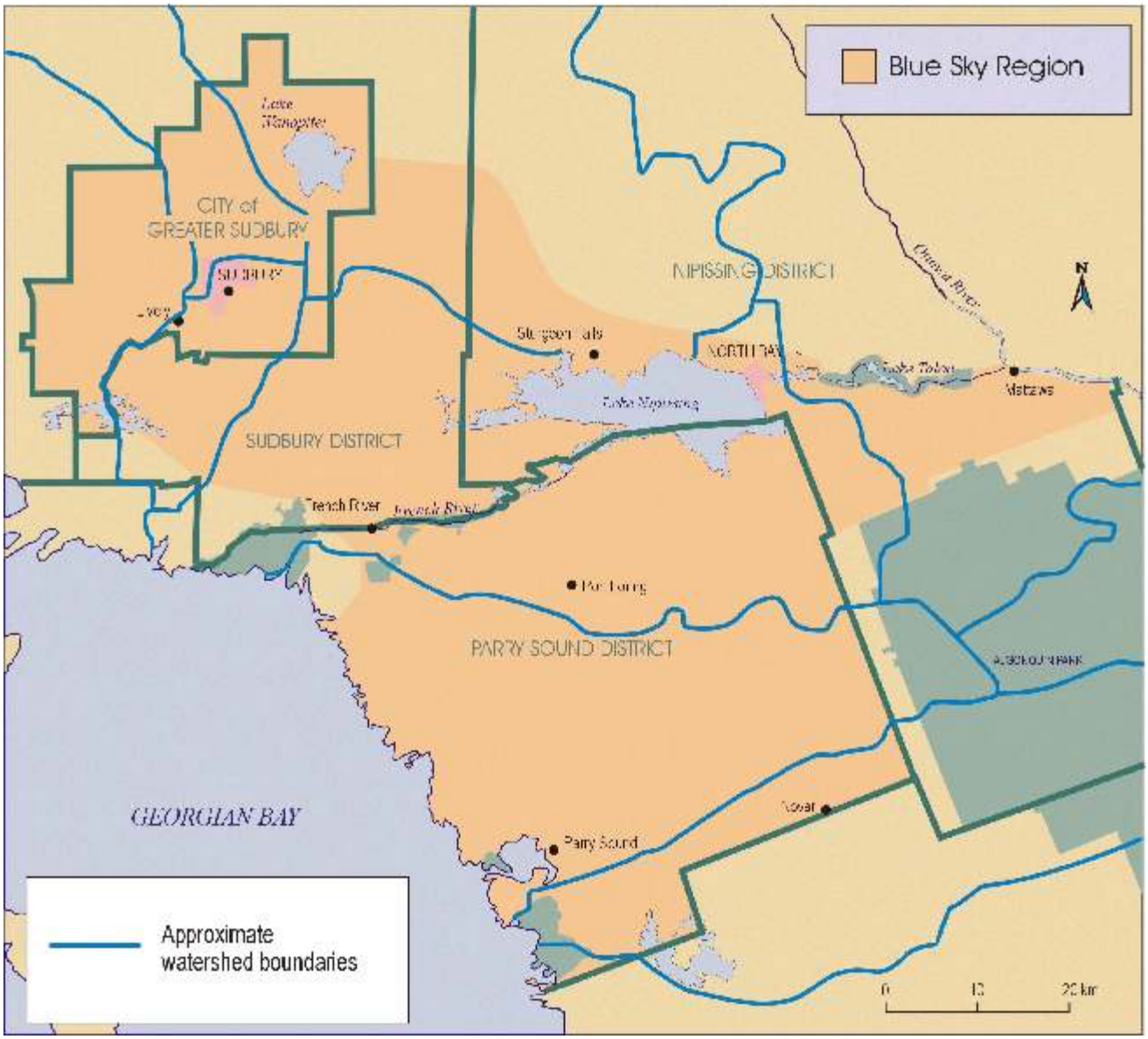
The French River is an ancient Canadian Shield river which continues to play an important role in the drainage of Georgian Bay watershed. The 110 km corridor of the French River drains the region of the Shield between Lake Nipissing in the east (195 m above sea level) and Georgian Bay in the west (177 m above sea level). The French River flows through heavily forested areas as well as open stretches of Canadian Shield. The river received official provincial park status in 1989. The provincial park varies from 6 to 28 km in width and encompasses just over 100,000 acres. The park supports more than 450 plant species, eight of which are rare, representing both the Boreal and Great Lakes - St. Lawrence forest regions.

The Mattawa River passes through the Algonquin Highlands between Lake Nipissing and the Ottawa River. The river served as a drainage channel for the inland meltwater lakes of 10,000 years ago and was much larger than it is today. The river rises in Trout Lake, 198.5 m above sea level, and drops 50 m over the 43 km distance to the Ottawa River. Part of the river follows an ancient fault line into the Ottawa River which still causes minor earthquakes in the area. The Mattawa River watershed is 257,000 acres of forested Canadian Shield with vegetation typical of both the Boreal and Great Lakes - St. Lawrence forest regions. The Mattawa River is protected within two provincial parks, Samuel de Champlain Park and Mattawa Heritage River Park. This section of the river is buffered by 122 m of wooded shoreline on either side and comprises 12,700 acres of the Mattawa watershed.

The Lake Nipissing - Mattawa/French River waterway served as an important transportation

corridor between the Ottawa River and the Great Lakes for natives and early Europeans and played a vital role during the fur trade. It later became a major transportation route for settlers and lumbering between 1880 and 1915. This water system has since become a major tourist and recreation waterway. Both the French River and the Mattawa River have been designated as Canadian Heritage rivers and are protected under the Canadian Heritage River Systems program.

Figure 2.9 Watersheds in the Blue Sky Region



2.6.2 Forestry

The Study Area is situated in the Great Lakes - St. Lawrence Forest Region. Principal tree species found in this region include red pine, eastern white pine, eastern hemlock, yellow birch, maple and oak (Natural Resources Canada, 2000) (Figure 2.10). The economic benefits generated by the local forestry industry are substantial. A recent study by the Nipissing - East Parry Sound Forestry Cluster, now known as the Blue Sky Forestry Cluster, revealed that the local forestry industry employs close to 2,300 direct jobs while supporting an additional 2,200 indirect and induced jobs. In terms of dollars, the local forestry industry generates combined total sales of $613 million annually (Suthey, Holler and Associates, July 1999. p. 2-3).

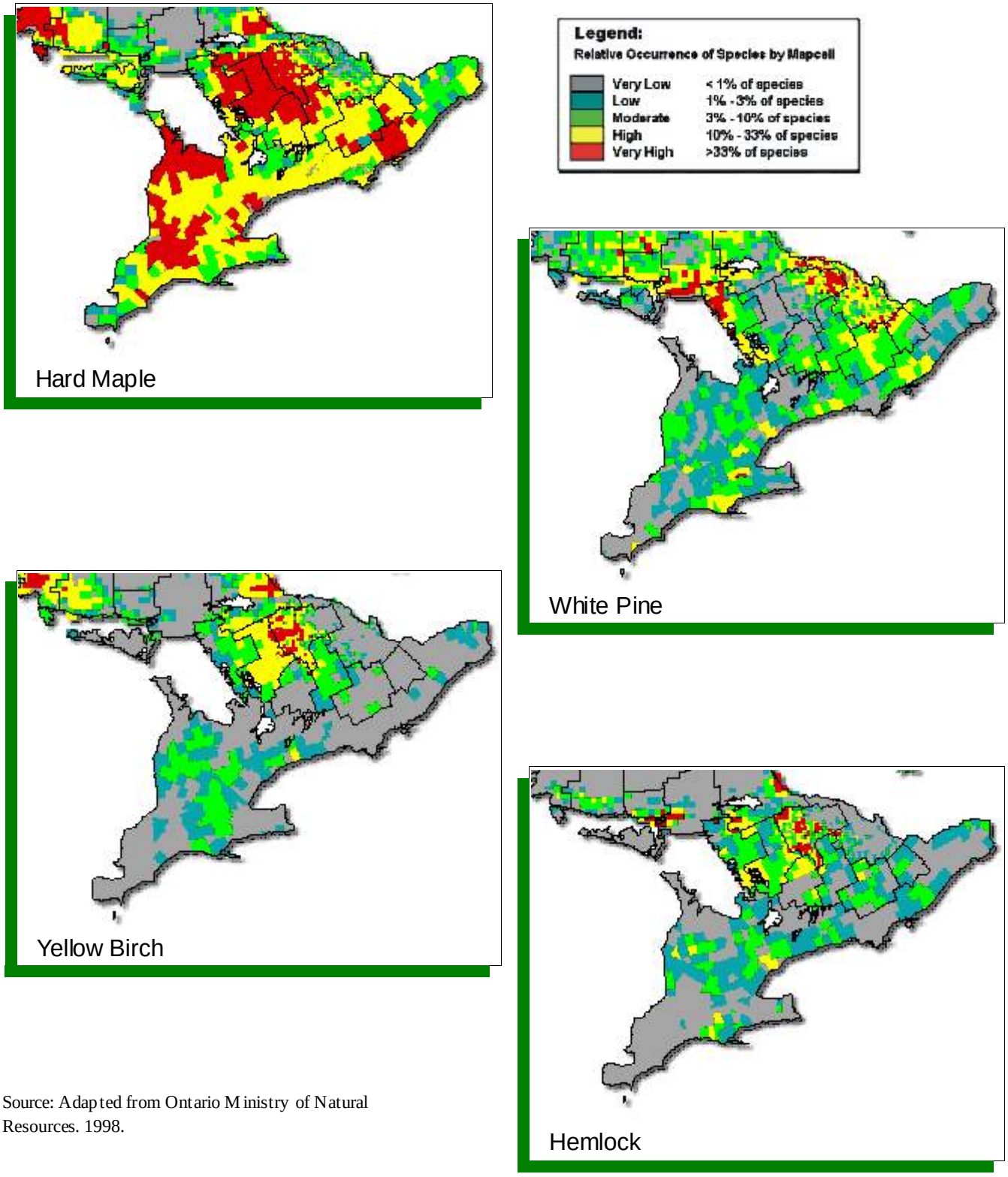
The major forest companies in the area are MacMillan Bloedel Ltd. in Sturgeon Falls, Columbia Forest Products in Rutherglen, and Tembec Forest Products in Mattawa. Overall, there are more than 25 wood and paper product manufacturers, logging companies, lumber yards, distributers and forest service companies based in the Nipissing - East Parry Sound area.

2.6.3 Mining

As noted earlier, mining and exploration play an important role in the local economy of the study area. Two corporations, Inco Ltd. and Falconbridge, lead the way in mining and processing, and research and development activities in Sudbury. Combined nickel production from Sudbury operations account for over 25% of worldwide nickel production and employ approximately 10,000 people.

The mining industry is also a prominent sector of the local economy centred around the City of North Bay. Recent estimates indicate that over 1,300 full time jobs in 65 companies are directly attributable to supplying the mining industry, placing $19 million each year into the local economy. A further estimate suggests that the direct jobs produce an additional 787 indirect and induced jobs for a total of nearly 2,100 positions (Suthey, Holler and Associates, 1999. p.4).

Figure 2.10 Distribution of Selected Forest Species for the Study Area and Southern Ontario, 1996.



Source: Adapted from Ontario Ministry of Natural Resources. 1998.

2.6.4 Tourism

The natural environment serves as a key element in the local tourism industry. The Blue Sky Region features numerous provincial parks and outdoor recreational facilities where visitors can customize activities to their taste.

Agri-tourism activities are increasingly contributing to the tourism sector. Riding stables and tours of miniature horse, rhea and honey farms represent some of the tourism activities that have emerged on the rural landscape (Blue Sky Region, 2000). The region also hosts the Almaguin Maple Syrup Festival which features a Maple Sugar House Museum and opportunities to tour the syrup collection and processing operations of local syrup producers. In 2000 this event attracted close to 12,000 people to the area (Almaguin 2000 Development Agency, 2000, p.5; Almaguin 2000 Region, Business Information Directory, p.81).

Farmers' markets represent another rural tourism activity that is growing in popularity across the province. Farmers markets feature fresh local produce, baked goods and in some cases arts and crafts. Recent research has shown that these markets can generate significant economic benefits for the local economy. Beyond the income that farmers' markets provide local growers, they also produce spillover benefits for local businesses as market customers stop to make additional purchases. Multipliers associated with other special events like agricultural fall fairs, suggest that for every dollar spent in the market, another two dollars ripple through the wider economy (Cummings et al., May 1999, p.72). A number of communities in the Study Area host farmers' markets including Powassan, South River, Port Loring, Dunchurch, McKellar, Magnetawan, Novar and Sudbury (Almaguin 2000 Region, Business Information Directory, p.11, 23, 27; Ontario Farmers Market Directory, 2001, p.76-77).

The Study Area also features numerous fall fairs, many of which have beginnings that stem from the 1880's or earlier. These events often showcase the local agricultural sector and feature livestock displays and judging, horse shows, and other events that have wide appeal. Some of the longer running fairs in the region include McKellar, Rosseau, Magnetawan, Burk's Falls, and South River (Almaguin 2000 Region, p.84-85).

Table 2.1 Agricultural Societies - Fairs in the Blue Sky Region.

Fairs	Year Established
McKellar	1875
Rosseau	1875
Magnetawan	1877
Burk's Falls	1881
South River	1882
Strong (Sunridge)	1884
Stitsted	1885
Emsdale	1889
Dunchurch	1889
Bonfield	1890
Powassan	1895
Warren	1907
Trout Creek	1920
Folay	1963

2.7 Settlement and Infrastructure

2.7.1 Settlement Patterns

Geology has played a significant role in influencing the pattern of settlement in Northern Ontario. Settlements were initially established along the rivers and lakes of Northern Ontario which served as transportation corridors for the fur trade and lumber production. The bedrock and glacial geology also influenced stream gradients and determined the location of water driven-mills around which early communities developed. Communities were also established in the isolated pockets where soil and climate conditions permitted agricultural activities.

With the coming of the transcontinental railway in the 1880s the use of the Mattawa and French rivers for transporting goods declined. However, the local geology continued to play a role in determining settlement patterns as the railway took a route that hugged the shores of Lake Nipissing in order to avoid the topographic constraints of the Canadian Shield. Communities such as North Bay

developed along the new corridor.

Settlement patterns in Northern Ontario were also influenced by the availability of metals such as copper, zinc, nickel, silver and gold; rock resources such as salt and lime; and building materials such as facing stone, sand and gravel (Thurston, 1991, p.4). While few major metallic mineral deposits of any type have been discovered in the Parry Sound area (Easton and Fyon, 1991, p.1219), the Sudbury region possesses significant metallic mineral deposits in the form of copper and nickel.

The largest population centres in the Study Area are the cities of Greater Sudbury[2] and North Bay. In 1996, the City of Sudbury had a population of 92,000 while the City of North Bay recorded a population of 54,000. These two urban centres account for 46.8% of the total population, and 65.3% of the urban population of the Blue Sky Region. Other major centres in the Study Area include the recently amalgamated Municipality of West Nipissing (13,000) and the towns of Parry Sound (6,000), Mattawa (2,300) and Powassan (1,000). On their own, Parry Sound District and Sudbury District are largely rural in their population profile with over 65% of their population base classified as rural. Additional details on population including population growth rates are provided in Section 3.1.2 (Figure 2.1).

2.7.2 Transportation and Telecommunication Infrastructure

The Study Area is well served by a transportation system that includes highways, rail, marine and air service. Although some parts of the Study Area are more isolated than others, agricultural areas are for the most part within close proximity to well maintained highways with year round access.

Highways

Major highways in the area include Highway 69, 11 and 17. The two major urban centres in the Study Area, Sudbury and North Bay, are both within a half days drive to Toronto, Canada's most populated city and largest market area.

Highway 69 extends south from Sudbury through Parry Sound where it eventually connects with Highway 400 at Victoria Harbour in Simcoe County and continues south until it meets Toronto. The approximate distance between Sudbury and Toronto is 390 km.

Highway 11 is the other principal highway that runs north/south through the Study Area. Extending north of North Bay, Highway 11 leads up to New Liskeard and beyond to Kirkland Lake and Iroquois Falls. Extending south of North Bay, Highway 11 curves around the eastern edge of

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[2] Effective January 1, 2001 the Towns of Capreol, Nickel Centre, Onaping Falls, Rayside-Balfour, Walden, the Cities of Sudbury and Valley East and the Regional Municipality of Sudbury became the new City of Greater Sudbury.

Lake Nipissing where it turns south and travels through Powassan, South River and Burk's Falls before crossing into Muskoka where it passes through Huntsville and Bracebridge. Highway 11 south eventually meets up with Highway 400 in Barrie. The approximate distance between North Bay and Toronto is 345 km.

In recent years the provincial government has invested considerable funds in upgrading northern highways. Highway 69 and 11 have both benefitted from this initiative with the ongoing construction or extension of four lane corridors to certain sections of the highway network including Highway 69 south of Sudbury and Parry Sound and a bypass around Parry Sound. Highway 11 south of North Bay is in the final stages of being completed as a solid four lane corridor to Highway 400 (Figure 2.1).

The major transportation route running east/west is Highway 17, which serves as part of the Trans Canada Highway. Highway 17 extends across the northern part of the Study Area and connects the city of Sudbury to North Bay (125 kms). Highway 17 also serves as the linkage to Sault Ste. Marie in the west (305 kms from the city of Sudbury) and Ottawa in the east (350 kms from North Bay).

Other important highways in the region include Highway 64 which extends southwest from Highway 17 at the town of Verner along the western end of Lake Nipissing to connect with the French River area at Highway 69; and Highway 124 which extends southwest from Highway 11 at the town of Sunridge to connect with Parry Sound at Highway 69. These highways provide access to land for farming and market gardening.

Rail

Both Sudbury and North Bay are located on major rail systems linking Northern Ontario with central Ontario and eastern Canada. Sudbury is a crossroad for rail service in Northern Ontario. The mainlines for Canadian Pacific and Canadian National from Toronto, Montreal and western Canada all converge in Sudbury. Rail freight service is provided by both of these railways. VIA Rail provides passenger service that departs three times weekly from Sudbury to points in eastern Canada (via Toronto), western Canada and Northern Ontario.

Canadian Pacific, Canadian National and Ontario Northland provide freight service to North Bay while the Ontario Northland Railway provides passenger service. North Bay is undertaking an "Integrative Transport Initiative" which will establish the city as a major, export oriented, international transportation staging centre and subsequently as an export product processing centre (Suthey, Holler and Associates, 2000). The plan is to develop six integrated components including the development of an intermodal terminal at an off airport location to move container products by rail that are currently traveling by boxcar or by road.

The North Bay plan also envisions the development of a cargo terminal at the airport that would

ultimately be able to handle inbound cargo from Europe destined for delivery in the United States, Mexico and South America (via Intermode). The facilities will be designed to distribute freight in the form of manufactured goods, agricultural products, and raw materials to any part of the world in the shortest possible time using a sophisticated integrated electronic communications system that monitors goods from point of order through to distribution to the customer.

Airports

The Study Area features a number of small local airports in places like Parry Sound, South River and Katrine and two major airport terminals located in Sudbury and North Bay (Figure 2.1).

The Sudbury Airport is one of Northern Ontario's busiest and is currently served by two carriers offering ten daily flights to Toronto. A number of flights also link Sudbury east and west to major centres such as Ottawa, Sault Ste. Marie and Thunder Bay. Most of Northern Ontario's smaller communities including North Bay and Timmins receive regular service from Sudbury.

Sudbury Airport was constructed in 1952 by the Department of National Defense and featured a 6,000 foot runway. The facilities were improved with the addition of a terminal building in 1955 through contributions from Inco Ltd., Falconbridge Nickel Mines, and the Department of Transport. During this time a second runway was constructed measuring 5,000 feet. A new terminal building was built in 1974 and is currently being upgraded. The 6,000 foot runway operates as a public apron while the 5,000 foot runway is private. The Sudbury airport operates 24 hours a day, seven days a week.

The Transport Canada Centre in Sudbury is the focal point for all Transport Canada Civil Aviation programs in Northeastern Ontario covering a geographic area of responsibility that extends from Parry Sound / Manitoulin Island to Hudson Bay and Lake Nipigon to the Quebec / Ontario border.

The City of Greater Sudbury's Community Services Department now operates the airport through a lease agreement with Transport Canada. As part of the upgrade to facilities the airport is attempting to improve the quality of air transportation and to market the airport as one of the "economic development engines of the community." (Greater City of Sudbury, 2001)

North Bay has the largest airport north of Toronto. The airport serves over 100,000 people in the City of North Bay, and the surrounding districts of Nipissing, Parry Sound and Temiskaming. Scheduled service is offered by three carriers with frequent flights between North Bay and Toronto, Ottawa as well as other centres in Northern Ontario.

The airport at North Bay was established by the Department of National Defense in 1933 as an emergency landing field. The first terminal building was erected in 1938 with passenger service commencing the following year. A new terminal building was constructed in 1963 by Transport Canada

and in 1966 the airport name was officially changed to Jack Garland Airport. In 1998 the City of North Bay took ownership of the airport from Transport Canada.

Jack Garland Airport operates 24 hours a day, seven days a week. The main runway at Jack Garland is 10,000 feet in length which enables the facility to accommodate wide body aircraft such as the Boeing 747.

Marine

Parry Sound harbour is a St. Lawrence Seaway port with a navigational season of 245 days and channel depths of 27 feet. The port has special facilities to handle bulk liquid cargoes and service by railway sidings. Depot Harbour, located 10 km from Parry Sound is also a St. Lawrence Seaway port with the same navigational season and channel depths as Parry Sound.

Telecommunications

Telecommunications infrastructure is quickly becoming an economic strength for the Blue Sky Region. Sudbury has approximately 2,400 km of fibre optic cable featuring access lines with digital switching and advanced signaling technology. This capacity matches or surpasses that available in New York, Atlanta, San Francisco and several other major cities in the United States. Sudbury played a leading role in developing and delivering broadband technology, installing Ontario's first high speed global communications network through the introduction of ATM technology.

The City of North Bay has also been active in deploying fibre optic cable in the last several years and is now able to provide broadband capabilities to local subscribers. North Bay is pursuing a strategy, the BayNet Initiative, which links established communications infrastructures to market North Bay and surrounding communities as a telecomputing hub to the world.

Several other initiatives are underway to enhance telecommunication capabilities in the Blue Sky Region. The Nipissing District Integrated Community Network (NipNet) is working to consolidate existing telecommunications budgets and avoid duplication of services in the area. A broad range of interests are represented in the membership including education, business, government, and community services. The network infrastructure will cover most of the Blue Sky Region extending west from Mattawa to include North Bay, Field and Verner, and south to include Powassan, South River and Sunridge. The network will introduce satellite delivered broadband Internet access to consumers in rural and underserved areas where alternative forms of broadband Internet service (i.e. cable modem) are not available.

The ongoing development of broadband capabilities in the Study Area will serve to connect remote and smaller communities into the fibre optic cables, satellites or microwave which allow for modern, low cost telecommunications and information technology applications. Wireless

communications systems may be used for supporting distance education and telehealth services as well improving information access between municipal governments, businesses and residents.

2.8 Summary

The Canadian Shield plays a significant role in shaping many of the economic activities in the Blue Sky Region including agriculture. Soils in the region are typically thin, acidic and require drainage and agricultural limestone to be productive. A further feature of productive soils in the region is that they are located in isolated pockets. Climate conditions and drainage patterns also present unique challenges to agricultural production.

Despite these limitations agriculture in the Blue Sky Region features a diverse range of field crops including cereal and oilseed crops as well as forage crops. The region reported approximately 75,000 acres in crop production in 1996 which represents 30% of the total farmland area. Research into developing hardier and more productive varieties of cultivars is ongoing through several research stations located in Northern Ontario including the test site at Verner. Farmers and agri-business leaders in the region are also taking efforts to bring more land into production and enhance the productivity of existing farmland while investing in the development of new production, processing and marketing facilities.

Tourism is an important element of the local economy and agri-tourism is increasingly contributing to the value of this sector. Agri-related activities such as farm tours, maple syrup festivals, fall fairs and farmers' markets all produce economic benefits that ripple through the rest of the economy.

The Blue Sky Region features transportation infrastructure that provides for rapid and economic transportation of people, products and raw goods. It also features a growing telecommunications industry which is enhancing the ability of the region to take advantage of advanced information highway services. All of these services are being utilized and supported by the local agricultural industry.

3.0 A Socio-Economic Profile of the Blue Sky Region

This section of the report provides a socio-economic profile of the Blue Sky Region. Data for the socio-economic have been drawn from Statistics Canada's Population Census, which is conducted at five-year intervals, with the most recent available census being conducted in 1996.[3] The census organizes data at a number of levels: Canada, Province/Territory, Census Divisions (e.g. Counties, Regional Municipalities and Districts) and Census Subdivisions (e.g. Townships, Towns and Villages). Due to confidentiality constraints, the data for some Census Subdivisions are consolidated. Data for the Blue Sky Region are further compared to data at the Regional (i.e. Northern Ontario[4]) and Provincial levels to provide further insight into the relative importance of the Blue Sky's contribution to these economies.

3.1 Population, Population Change, Population Projection

Between 1951 and 1996, population in the Blue Sky Region increased from 187,478 to 314,244 (Table 3.1). This represents a 67.9% increase over the 45-year period or a rate of growth of 1.15.% per annum. In comparison, Northern Ontario experienced a 46.6% (.85% per annum)increase in growth over the same time period. Provincially, population has increased 133.9% (1.9% per annum) over this time period, with the majority of growth taking place in the large urban areas of Southern Ontario. Growth rates in the three areas were greatest between 1951 and 1961 (39.7% or 3.56 % per annum in the Blue Sky Region, 33.4% or 2.9 % per annum in Northern Ontario, and 35.6% or 3.1 % per annum in Ontario). All three areas have experienced slower rates of inter-census period growth since 1961.

In the twenty-five year period between 1971 and 1996, population in the Blue Sky Region increased from 307,190 to 314,244 (2.3% over 25 years or .09% per annum). Table 3.1 indicates that Sudbury District[5] had the smallest population in the Blue Sky Region in 1996 (25,457) while the City of Greater Sudbury[6] had the largest (164,049). Parry Sound District is the only Census Division in the Blue Sky Region that experienced continuous population growth between 1981 and 1996.

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[3] The 2001 census will be released starting in Spring 2002. Employment data will be released in February 2003

[4] The Northern Ontario Region includes: Nipissing District, City of Greater Sudbury, Sudbury District, Manitoulin District, Timiskaming District, Cochrane District, Algoma District, Thunder Bay District, Rainy River District, and Kenora District. Parry Sound District is in the Central Ontario Region, but has been included as part of the Northern Ontario Region for this study as it is one of the four Census Divisions in the Blue Sky Region.

[5] Not all Census Sub-divisions from Sudbury District, as defined in the 1996 Population Census, are included in the Blue Sky Region. As such, tables and data in this profile define Sudbury District as including: Cosby, Mason and Martland; Casimir, Jennings and Appleby; Ratter and Dunnet; Hagar, Chapleau; Sudbury Unorganized North Part; and, Sudbury Unorganized South Part. The Spanish River is not part of the Blue Sky Region, and has therefore been excluded from the Sudbury District.

[6] Data for City of Greater Sudbury and Sudbury District are combined up to 1971 to reflect municipal boundaries at the time of the census.

In general, over the 45 year period covered by this analysis, Blue Sky Region has experienced slower growth than Ontario but faster than the rest of Northern Ontario. An exception was the 1951-61 period when Blue Sky exceeded Ontario.

A simple straight line population projection for the area was completed using a high, medium and low growth rate scenario. The three rates were chosen from actual rates of growth experienced in the region over the last 45 years, during various time periods. The high projection using 3.56% per annum suggests a population of 531,000 in 2011 growing to 753, 474 in 2021. The medium projection using 1.15% per annum suggests a population of 373040 in 2011 growing to 418,229 in 2021. The low projection using -0.21% per annum suggests a population of 304,948 in 2011 declining to 298,903 in 2021.

Table 3.1 Population in the Blue Sky Region, Northern Ontario and Ontario, 1951 - 1996.

Region	1951	1961	1971	1981	% change 51 - 81	1986	1991	1996	% change 81 - 96 [a]	% change 51 - 96
Nipissing District	50,517	70,568	78,867	80,268	58.89%	79,004	84,723	84,832	5.68%	67.93%
Parry Sound District	27,371	29,632	30,244	33,528	22.49%	33,828	38,423	39,906	19.02%	45.80%
City of Greater Sudbury	109,590	165,862	198,079	159,779	45.80%	152,476	161,210	164,049	2.67%	49.49%
Sudbury District	N/A	N/A	N/A	27,075	N/A	27,068	26,178	25,457	-5.98%	N/A
Blue Sky Region	187,478	266,062	307,190	300,643	60.36%	291,079	310,534	314,244	4.52%	67.62%
Northern Ontario	563,765	751,806	806,749	819,576	45.38%	798,140	822,450	826,276	0.82%	46.56%
Ontario	4,597,542	6,236,092	7,703,106	8,625,107	87.60%	9,101,694	10,084,885	10,753,573	24.68%	133.90%

[a] All regions Growth Rate is from 1971 to 1996 except Sudbury District. Sudbury District is from 1981 to 1986 due to unavailable data for 1971.

Source: Statistics Canada Population Census, 1951 - 1996.

3.1.1 Rural and Urban Populations[7]

As shown in Table 3.2, about 71.8% of the population in the Blue Sky Region is categorized as Urban. This is due to the relatively large populations of the City of Sudbury (in the City of Greater Sudbury) and North Bay (in Nipissing District). In 1996, the City of Sudbury had a population of 92,059, or 56.1% of the total population of the City of Greater Sudbury. The City of Sudbury accounted for 62.9% of the Urban population in the City of Greater Sudbury in 1996. In 1996, the City of North Bay recorded a population of 54,332, accounting for 64.0% of the total population, and 89.7% of the Urban population of Nipissing District. Together, these two communities account for 46.8% of the total population, and 65.3% of the Urban population of the Blue Sky Region. Rural populations make up the majority of populations in the Parry Sound District (75.3%) and Sudbury District (67.9%).

Table 3.2 Urban and Rural Populations in the Districts, Blue Sky Region and Ontario, 1996.

	Urban		Rural	
	population	% of population	population	% of population
Parry Sound District	9,855	24.7%	30,051	75.3%
Nipissing District	60,559	71.4%	24,273	28.6%
Sudbury District	7,659	32.1%	16,200	67.9%
Sudbury R.M	146,265	89.2%	17,784	10.8%
Blue Sky Region	224,338	71.8%	88,308	28.2%
Ontario	8,958,741	83.3%	1,794,832	16.7%

Source: Statistics Canada, 1996 Population Census.

3.1.2 Ethnic Origin

Table 3.3 shows the frequency of the fifteen most commonly reported ethnic origins in populations of the Blue Sky Region, Northern Ontario and Ontario, for 1996. As shown in the table, the greatest number of residents of the Blue Sky Region and Northern Ontario report ethnic backgrounds reflecting either 'French' or uniquely 'Canadian' roots.

[7] As defined by Statistics Canada, Urban Areas have minimum population concentrations of 1,000 and a population density of at least 400 per square kilometre. All territory outside urban areas is considered rural. Rural Areas are defined as sparsely populated lands lying outside urban areas.

Table 3.3 Population by Ethnic Origin in the Blue Sky Region, 1996[a]

	Blue Sky Region		Northern Ontario		Ontario	
English	89,560	17.29%	226,995	17.17%	3,086,145	20.50%
Canadian	109,435	21.13%	260,500	19.70%	2,700,870	17.94%
Scottish	51,655	9.97%	138,845	10.50%	1,887,695	12.54%
Irish	55,875	10.79%	137,300	10.38%	1,723,065	11.44%
French	121,195	23.40%	252,140	19.07%	1,330,465	8.84%
German	27,245	5.26%	69,665	5.27%	984,770	6.54%
Italian	17,330	3.35%	57,570	4.35%	743,425	4.94%
Dutch	7,985	1.54%	23,070	1.74%	433,690	2.88%
South Asian[b]	930	0.18%	2,090	0.16%	427,470	2.84%
Chinese[c]	1,140	0.22%	3,040	0.23%	422,775	2.81%
Polish	7,625	1.47%	26,470	2.00%	370,460	2.46%
Ukranian	9,435	1.82%	43,870	3.32%	276,950	1.84%
Aboriginal	17,030	3.29%	76,725	5.80%	246,070	1.63%
Portugese	780	0.15%	2,510	0.19%	231,805	1.54%
Jewish	650	0.13%	1,430	0.11%	191,445	1.27%
Total[d]	517,870	100.00%	1,322,220	100.00%	15,057,100	100.00%

[a] This table shows total response counts for the 15 most frequently reported ethnic origins in the province. Total responses represent the sum of single ethnic origin responses and multiple ethnic origin responses received in the 1996 Population Census. Percentages shown are derived from total response counts from the 15 most frequently reported ethnic origins. Response counts, totals and percentages are skewed due to the combinations of the single and multiple responses.

[b] "South Asian" includes Bangladeshi, Bengali, East Indian, Goan, Gujarati, Pakistani, Punjabi, Sinhalese, Sri Lankan, Tamil and South Asian not included elsewhere.

[c] In 1991, "Taiwanese" was included in "Chinese". In 1996, "Taiwanese" was collected as a separate response.

[d] Total indicates the number of respondents reported in each ethnic origin, either as their only response or in addition to one or more ethnic origins.

See Appendix A for Population of Census Divisions.

Source: Statistics Canada Cat. No. 95-187-XPB, 1996.

Within the Blue Sky Region, residents with French ethnicity make up the largest populations in Nipissing District, Sudbury District and The City of Greater Sudbury. Residents with English ethnicity make up the largest population in the Parry Sound District, the southernmost district in the Blue Sky Region. English is the most frequently reported ethnic group by residents of Ontario; most of these residents live in the southern part of the province. Residents who consider themselves to be uniquely 'Canadian' can be of any lineage, but are likely descendants of one or more of the predominant Euro-ethnic groups.

Table 3.3 indicates the distribution of the fifteen most frequently reported ethnic origins within the populations of Blue Sky Region, Northern Ontario and Ontario, in 1996. Although each of the fifteen groups is present in each of the three regions, distribution of the groups within the population varies between them, and is more equitable in the province as a whole.

Residents with French, Canadian and English ethnicity account for 61.8% of ethnic backgrounds in the Blue Sky Region. Residents with non-European ethnic origins account for only 3.8% of the population. This includes the 3.3% of the population who claim Aboriginal ethnic backgrounds, meaning that groups other than those of European or Aboriginal ethnicity make up only about 0.5% of the population of the Blue Sky Region.

However, distribution of ethnic origins among the population of Blue Sky Region is more equitable than Northern Ontario, where French, Canadian and English ethnic origins account for 75.0% of the population. Aboriginals make up about 5.8% of the population of Northern Ontario. Non-European ethnic groups, excluding Aboriginals, make up 0.5% of the population.

In Ontario as a whole, English and Canadian are the two largest ethnic groups, representing 20.5% and 17.9%, respectively, of the fifteen most frequently reported ethnic groups in the province in 1996. French is the fifth largest ethnic group (8.8%), having been usurped by Scottish (12.5%) and Irish (11.4%). Other non-European ethnic groups make up a larger proportion of the province's ethnic makeup(6.9%) than in either the Blue Sky Region or Northern Ontario, indicating that most of these groups also settle in the southern parts of the province. Throughout the province, Aboriginals make up only 1.8% of the population. With respect to French, the region has 23.4% of its population of french origin compared to 8.8% in Ontario and 19.1% in Northern Ontario.

3.1.3 Mobility

Table 3.4 and 3.5 show the frequency of mobility (i.e., immigration and emigration) in the Blue Sky Region, Northern Ontario and Ontario for the years 1986 and 1996. *Non-movers* are residents who had not moved during the five-year period previous to the census year. *Movers* are residents who moved at some point during the five-year period previous to the census year. Movers consist of *Non-migrants* (people who moved within their Census sub-division) and *Migrants*, who are people who moved from another Census Sub-division within the Census Division (*Internal Migrants*), another Census Division within the province (*Intraprovincial Migrants*), another province (*Interprovincial Migrants*) or another country (*External Migrants*).

As shown in Table 3.4, the majority of residents in each of the districts, the Blue Sky Region (62%), Northern Ontario (61%) and Ontario (55%) were Non-movers during the five-year period previous to the 1986 census. The pattern remained similar for the 1996 census. Within the Blue Sky Region however, two areas experienced notable shifts. In Sudbury District the proportion of movers declined from approximately 38% to 32% while in the Greater City of Sudbury the proportion of movers increased from 36% to 40%.

Intraprovincial Migrants made up the greatest population of Migrants in each of the districts, the Blue Sky Region, Northern Ontario and Ontario as a whole. External migrants in the Blue Sky Region make up a substantially smaller proportion of the migrant population than the province as whole (4.8% vs. 13% in 1986 and 3.3% vs. 22.6% in 1996). For Northern Ontario and the province as a whole, there was little change in the proportion of movers and non-movers for the census periods 1986 and 1996.

Table 3.4 Mobility in Blue Sky Region, Northern Ontario and Ontario, 1986.

1986	Nipissing District	%	Parry Sound District	%	Sudbury District	%	City of Greater Sudbury	%	Blue Sky Region	%	Northern Ontario	%	Ontario	%
Total population [a]	72,080	100%	31,295	100%	14,125	100%	141,470	100%	258,970	100%	731,605	100%	8,361,220	100%
Non-movers	41,865	58.08%	20,245	64.69%	8,800	62.30%	90,375	63.88%	161,285	62.28%	446,730	61.06%	4,636,850	55.46%
Movers	30,215	41.92%	11,050	35.31%	5,325	37.70%	51,095	36.12%	97,685	37.72%	284,875	38.94%	3,724,370	44.54%
Non-migrants	16,445	54.43%	4,375	39.59%	2,745	51.55%	33,445	65.46%	57,010	58.36%	175,415	61.58%	2,037,830	54.72%
Migrants	13,770	45.57%	6,675	60.41%	2,580	48.45%	17,650	34.54%	40,675	41.64%	109,460	38.42%	1,686,540	45.28%
Internal migrants	13,025	94.59%	6,380	95.58%	2,515	97.48%	16,805	95.21%	38,725	95.21%	104,505	95.47%	1,465,215	86.88%
Intraprovincial migrants	10,025	76.97%	5,830	91.38%	2,140	85.09%	14,470	86.11%	32,465	83.83%	84,235	80.60%	1,179,690	80.51%
Interprovincial migrants	3,000	23.03%	550	8.62%	375	14.91%	2,335	13.89%	6,260	16.17%	20,270	19.40%	285,525	19.49%
External migrants	745	5.41%	295	4.42%	65	2.52%	845	4.79%	1,950	4.79%	4,955	4.53%	221,325	13.12%

[a] Total population 5 years and over by mobility status.

Source: Adapted from Statistics Canada Population Census, 1986.

Table 3.5 Mobility in Blue Sky Region, Northern Ontario and Ontario, 1996.

1996	Nipissing District	%	Parry Sound District	%	Sudbury District	%	City of Greater Sudbury	%	Blue Sky Region	%	Northern Ontario	%	Ontario	%
Total population [a]	78,295	100%	37,295	100%	14,105	100%	152,195	100%	281,890	100%	765,100	100%	9,904,600	100%
Non-movers	45,325	57.89%	24,350	65.29%	9,555	67.74%	90,645	59.56%	169,875	60.26%	472,260	61.73%	5,635,420	56.90%
Movers	32,970	42.11%	12,945	34.71%	4,550	32.26%	61,550	40.44%	112,015	39.74%	292,840	38.27%	4,269,180	43.10%
Non-migrants	18,810	57.05%	4,625	35.73%	2,040	44.84%	38,785	63.01%	64,260	57.37%	181,760	62.07%	2,252,460	52.76%
Migrants	14,160	42.95%	8,320	64.27%	2,510	55.16%	22,765	36.99%	47,755	42.63%	111,080	37.93%	2,016,720	47.24%
Internal migrants	13,485	95.23%	8,175	98.26%	2,475	98.61%	21,905	96.22%	46,040	96.41%	106,895	96.23%	1,561,105	77.41%
Intraprovincial migrants	11,440	84.84%	7,840	95.90%	2,345	94.75%	20,000	91.30%	41,625	90.41%	91,930	86.00%	1,367,085	87.57%
Interprovincial migrants	2,045	15.16%	335	4.10%	130	5.25%	1,905	8.70%	4,415	9.59%	14,965	14.00%	194,020	12.43%
External migrants	675	4.77%	145	1.74%	35	1.39%	860	3.78%	1,715	3.59%	4,185	3.77%	455,615	22.59%

[a] Total population 5 years and over by mobility status.

Source: Adapted from Statistics Canada Population Census, 1996.

3.2 Economy in the Blue Sky Region

3.2.1 Employment

The Standard Industrial Classification (SIC) system refers to the standard system used to organize Canadian industries into easily distinguishable categories, or classifications. As the greatest level of aggregation in published census data, these industries are divided into 18 separate categories, and are presented in Table 3.6. The study uses the 1980 SIC system in analyzing trends in employment.

Accommodation, Food and Beverage Industries include: *Accommodation Service Industries* (e.g., hotels, motels, tourist courts, lodging houses, residential clubs, camping grounds, travel trailer parks, recreation and vacation camps) and *Food and Beverage Service Industries* (e.g., food services, taverns, bars and nightclubs). Other Service Industries include: *Amusement and Recreational Service Industries, Personal and Household Service Industries, Membership Organization Industries* and Other Service Industries (e.g., machinery and equipment rental and leasing services, automobile and truck rental and leasing services, photographers, other repair services, services to buildings and dwellings, and travel services). Services relevant to agriculture in the Other Service category include: machinery and equipment rental and leasing, welding shops that repair farm equipment and auctioneers providing services for livestock and farm equipment owners.

Table 3.6 provides the levels of employment in each of the industrial sectors in 1991 and 1996 in the Blue Sky Region and Ontario. It also shows the change in employment in the sectors between 1991 and 1996.

Table 3.6 Employment by Industrial Sector in the Blue Sky Region and Ontario, 1991 and 1996.[a]

Industrial Sectors	Blue Sky Region				Ontario			
	1991	1996	Total Change	% Change	1991	1996	Total Change	% Change
Division A - Agricultural and related service industries	1500	1330	-170	-11.33%	139880	131060	-8820	-6.30%
Division B - Fishing and trapping industries	70	80	10	14.29%	1965	1915	-50	-2.50%
Division C - Logging and forestry industries	1145	980	-165	-14.41%	13965	11405	-2560	-18.30%
Division D - Mining (including milling), quarrying and oil well industries	9020	7845	-1175	-13.03%	34355	26050	-8305	-24.20%
Division E - Manufacturing industries	12635	11285	-1350	-10.68%	942995	922565	-20430	-2.20%
Division F - Construction industries	11610	9315	-2295	-19.77%	358890	290430	-68460	-19.10%
Division G - Transportation and storage industries	7530	7400	-130	-1.73%	187830	198555	10725	5.70%
Division H - Communication and other utility industries	4450	4095	-355	-7.98%	188630	173040	-15590	-8.30%
Division I - Wholesale trade industries	4775	5485	710	14.87%	233915	278220	44305	18.90%
Division J - Retail trade industries	20995	21130	135	0.64%	700925	662815	-38110	-5.40%
Division K - Finance and insurance industries	3970	3195	-775	-19.52%	253135	228880	-24255	-9.60%
Division L - Real estate operator and insurance agent industries	1910	2505	595	31.15%	100090	111890	11800	11.80%
Division M - Business service industries	4600	5310	710	15.43%	367200	411070	43870	11.90%
Division N - Government service industries	15680	11285	-4395	-28.03%	411450	304640	-106810	-26.00%
Division O - Educational service industries	12265	11315	-950	-7.75%	365235	369320	4085	1.10%
Division P - Health and social service industries	14140	16320	2180	15.42%	457115	513615	56500	12.40%
Division Q - Accommodation, food and beverage service industries	11995	12235	240	2.00%	322955	350945	27990	8.70%
Division R - Other service industries	8860	9775	915	10.33%	355310	414980	59670	16.80%
TOTAL	147150	140885	-6265	-4.26%	5435840	5401395	-34445	-0.60%

[a] Employment is linked to place of residence not place of work and refers to a period of at least three months' work in the last year

Source: Statistics Canada, 1991 and 1996.

Between 1991 and 1996, employment in Ontario declined by 34,445 jobs, or 0.6%. Throughout the province, Manufacturing makes up the greatest number of jobs (17.3% in 1991 and 17.1% in 1996). This is followed by Retail Trade (12.9% in 1991 and 12.3% in 1996) and Health and Social Service (8.4% in 1991 and 9.5% in 1996). Government Service industries had the greatest declines in terms of real numbers (-106,810 jobs) and proportion of jobs lost (-26.0%) in Ontario between 1991 and 1996. Substantial decreases in jobs in the Mining (-24.2%), Construction (-19.1%) and Logging and Forestry industries (-18.3%) were also experienced throughout the province between 1991 and 1996. The size of the sectors are to some degree arbitrary since it depends on the definition used in creating the sector.

The sectors showing the greatest rates of growth between 1991 and 1996 were Wholesale Trade (18.9%), Accommodation, Food and Beverage (16.8%), and Health and Social Service (12.4%).

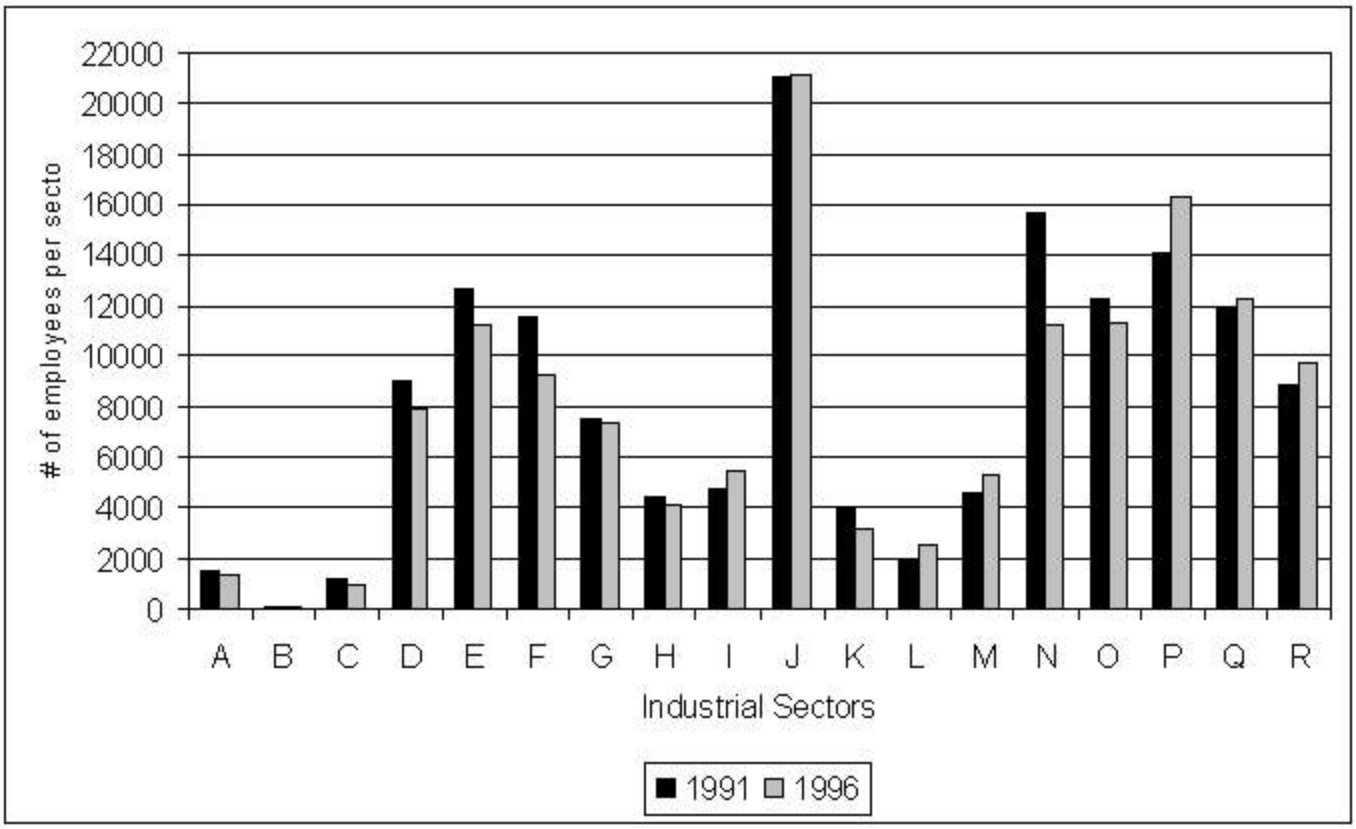
Overall employment in the Blue Sky Region declined by 6,265 jobs, or 4.2% from 147,150 jobs in 1991 to 140,885 jobs in 1996. Retail Trade has consistently provided the greatest number of jobs in the Blue Sky Region between 1991 and 1996. In 1991, Government Service industries were the second largest employer in the Blue Sky Region but then experienced the largest decline of all the sectors losing close to 4,400 jobs by 1996 - this accounts for 70% of the total job loss from 1991 to 1996. Government Service industries now rank as the fourth largest employer in the study area, tied with Manufacturing industries. Health and Social Service industries increased by 15% between 1991 and 1996 becoming the second largest employer in the region followed by Accommodation, Food and Beverage industries.

Figure 3.1 illustrates employment and changes in employment for each of the industrial sectors in the Blue Sky Region and Ontario for 1991 and 1996.

Agriculture remains an important sector for employment both at the provincial level and in the Blue Sky Region. However, the sector experienced a period of decline between 1991 and 1996. In 1991, the sector employed 139,880 people in Ontario (2.6% of the provincial employment) and 1,500 people in the Blue Sky Region (1% of regional employment). By 1996, the number of people directly employed in Agriculture in Ontario declined by 8,820 people while employment in Agriculture in the Blue Sky Region declined by 170 jobs.

Current unemployment data is not available for the Blue Sky Region. Data is available for the larger urban centers and labour force regions that cannot be disaggregated for Blue Sky.

Figure 3.1 Employment by Industrial Sector for the Blue Sky Region, 1991 and 1996.



Source: Statistics Canada 1991 and 1996.

3.2.2 Family Incomes

Table 3.7 shows family income distribution in the Blue Sky Region, Ontario and Canada in 1996. The distribution is organized according to income categories, ranging from less than $10,000 to more than $100,000.

Blue Sky Region has a higher percentage of families with incomes less than $50,000 than Ontario (54.2% vs. 48.2%), but about the same as Canada (53.8%). There are proportionately fewer families in Blue Sky Region with incomes in excess of $100,000 than in either Ontario or in Canada. However, the proportion of incomes between $50,000 and $100,000 in Blue Sky Region are comparable with those of Ontario and Canada. On the whole, average incomes in Blue Sky Region are lower ($47,200) than those of either Ontario or Canada ($59,830 and $54,583, respectively). Although data are not available, the median incomes for Blue Sky are likely lower than the Ontario median, but probably comparable to the median income in Canada (given the similar distribution lower and mid-level incomes between Blue Sky Region and Canada).

Table 3.7 Family Incomes in the Blue Sky Region, Ontario and Canada, 1996.

	Blue Sky Region		Ontario		Canada	
	No. of Families	% of Families	No. of Families	% of Families	No. of Families	% of Families
Less than $10,000	4,315	5.0%	148,050	5.0%	435,760	5.6%
$ 10,000 - $19,999	9,320	10.8%	256,625	8.8%	795,895	10.2%
$ 20,000 - $29,999	11,645	13.5%	332,130	11.3%	1,007,840	12.9%
$ 30,000 - $39,999	10,825	12.6%	336,440	11.5%	992,020	12.7%
$ 40,000 - $49,999	10,580	12.3%	340,330	11.6%	968,900	12.4%
$ 50,000 - $59,999	9,395	10.9%	324,365	11.1%	883,520	11.3%
$ 60,000 - $69,999	8,225	9.6%	289,155	9.9%	736,990	9.4%
$ 70,000 - $79,999	6,210	7.2%	235,015	8.0%	568,055	7.2%
$ 80,000 - $89,999	4,725	5.5%	179,905	6.1%	416,740	5.3%
$ 90,000 - $99,999	3,220	3.7%	127,950	4.4%	286,875	3.7%
$100,000 and more than	7,525	8.8%	362,765	12.4%	745,265	9.5%
Total	85,985	100.0%	2,932,730	100.0%	7,837,860	100.0%
Average family income $	$47,200.50		$59,830.00		$54,583.00	
Median family income $	N/A		$51,520.00		$46,951.00	

Source: Statistics Canada Population Census, 1996.

3.2.3 Education

Table 3.8 and 3.9 indicates the highest levels of education attained in the population of each of the districts, the Blue Sky Region, and Ontario for residents 15 years and older. Numbers may not add up to 100 percent due to rounding.

Table 3.8 indicates a greater proportion of residents in the Blue Sky Region, have at least a basic level of education than do residents across Ontario. In the Blue Sky Region, 12.6% of residents have less than a Grade 9 education, and 39.5% have between a Grade 9 and Grade 13 education. Across the province, 10.0% of the population has less than a Grade 9 education, and 37.6% have between a Grade 9 and Grade 13 education. This trend is reflected in each of the districts in the Blue Sky Region.

Beyond Secondary School, more emphasis is placed on Trade Certificates and Diplomas, and Other Non-university types of education in the Blue Sky Region than there is across Ontario. These two categories comprise 4.6% and 26.8%, respectively, across the Blue Sky Region, and 3.5% and 24.6% across Ontario, respectively. A greater proportion of residents with Trade Certificates or Diplomas are found in each of the Blue Sky Districts than across Ontario. Parry Sound District and Sudbury District have a smaller and an equal proportion, respectively, of residents with Other Non-university education than Ontario.

Table 3.8 Education Levels in Blue Sky Region and Ontario, 1996.

	Blue Sky Region Total		Ontario	
Less than grade 9	30250	12.56%	845385	10.03%
Grades 9 to 13	95201	39.53%	3170835	37.62%
Trades certificate or diploma	10975	4.56%	293160	3.48%
Other non-university education only	64551	26.81%	2069210	24.55%
University	39830	16.54%	2050615	24.33%
Total	240808	100.00%	8429205	100.00%

Source: Statistics Canada Population Census,1996.

Table 3.9 Education Levels in Blue Sky Region and Ontario, 1996.

	Nipissing District		Parry Sound District		Sudbury District		City of Greater Sudbury	
Less than grade 9	7805	11.78%	4110	12.80%	2215	18.47%	16120	12.36%
Grades 9 to 13	25465	38.44%	14320	44.61%	5210	43.43%	50205	38.48%
Trades certificate or diploma	3060	4.62%	1840	5.73%	560	4.67%	5515	4.23%
Other non-university education only	18605	28.08%	7740	24.11%	2940	24.51%	35265	27.03%
University	11315	17.08%	4090	12.74%	1070	8.92%	23355	17.90%
Total	66250	100.00%	32100	100.00%	11995	100.00%	130460	100.00%

Source: Statistics Canada Population Census,1996.

The greatest disparity is apparent in the proportion of residents with a University-level education. Almost one-quarter of Ontario residents over the age of 15 have a University education, while only 16.5% of Blue Sky Region residents hold the same. The proportion of residents with a University-level education are also smaller in each of the districts in the Blue Sky Region than it is across Ontario.

Appendix B and C provide data on post-secondary qualifications by major field of study for males and females in each of the districts, the Blue Sky Region, and Ontario in 1996. Trends in post-secondary qualifications in the Blue Sky Region largely reflect those at the provincial level. As shown in the table, Engineering and Applied Science Technologies and Trades is studied by the greatest number of males with post-secondary qualifications across Ontario, Blue Sky Region and each of the districts in Blue Sky Region. Commerce, Management and Business Administration has the second highest number of males in Ontario, the Blue Sky Region, Nipissing District and The City of Greater Sudbury. More males in Parry Sound have post-secondary qualifications in Soil Sciences and related fields than in Commerce, Management and Business Administration, and Sudbury District has an equal number of males in both disciplines.

The greatest number of females with post-secondary qualifications in Ontario, Blue Sky Region, and each of the districts in Blue Sky Region are in Commerce, Management and Business Administration. Health and Related Fields is the second largest category in each of the administrative units, followed by Educational, Recreational and Counseling Services.

3.2.4 Occupations

The distribution of employment in occupation categories in the Blue Sky Region is largely consistent with those at the provincial level. Sales and Service occupations are the most important occupational category for both males and females in both the Blue Sky Region and across Ontario. Sales and service-related occupations employ the greatest percentage of females in the Blue Sky Region (37.5%) and Ontario (29.6%). Sales and service occupations employ the second-largest percentage of males in the Blue Sky Region (22.6%) and Ontario (20.8%). Occupations in Trades, Transport and Equipment Operators, and Related Occupations employ the greatest percentage of males in the Blue Sky Region (29.5%) and Ontario (23.1%). Among females, Business, Finance and Administrative occupations employs the second-largest percentage of workers in both the Blue Sky Region (29%) and Ontario (28.9%).

Differences in occupational distributions between the Blue Sky Region and Ontario largely reflect characteristics in their overall respective economies. A greater percentage of Occupations Unique to Primary Industry are shown in the Blue Sky Region, in comparison to the same category across Ontario. This is likely due to the important employment roles played by agriculture and mining in the Blue Sky Region, where 8.2% of males have occupations unique to primary industry. In comparison, 4.4% of males across Ontario are employed in these occupations. Conversely, Manufacturing plays a larger employment role in the overall Ontario economy. Across the province, 11.4% of males and 5.8% of females are employed in Occupations Unique to Processing, Manufacturing and Utilities, compared to only 7.1% of males and 1.4% of females in the Blue Sky Region.

Table 3.10 indicates the numbers of males and females employed in the broad occupation categories in the Blue Sky Region, and Ontario in 1996. Trends in occupations at the provincial and regional levels are consistent within each of the Blue Sky Region's districts (See Appendix D for Broad Occupation Categories for Census Subdivisions of the Blue Sky Region, 1996).

Table 3.10 Broad Occupation Categories for the Blue Sky Region and Ontario, 1996.

	Blue Sky Region				Ontario			
	Male		Female		Male		Female	
Trades, transport and equipment operators and related occupations	22555	29.55%	1500	2.31%	667765	23.07%	47415	1.81%
Sales and service occupations	17230	22.57%	24305	37.45%	603335	20.85%	776805	29.65%
Management occupations	7675	10.05%	3925	6.05%	351965	12.16%	170740	6.52%
Occupations unique to primary industry	6240	8.17%	890	1.37%	126445	4.37%	151775	5.79%
Business, finance and administrative occupations	6025	7.89%	18845	29.03%	315495	10.90%	756945	28.90%
Occupations unique to processing, manufacturing and utilities	5435	7.12%	890	1.37%	329875	11.40%	151775	5.79%
Natural and applied sciences and related occupations	4570	5.99%	700	1.08%	228120	7.88%	52360	2.00%
Occupations in social science, education, government service and religion	4035	5.29%	6440	9.92%	147660	5.10%	226590	8.65%
Health occupations	1510	1.98%	6145	9.47%	52795	1.82%	203010	7.75%
Occupations in art, culture, recreation and sport	1060	1.39%	1265	1.95%	70855	2.45%	82165	3.14%
Total	76335	100.00%	64905	100.00%	2894310	100.00%	2619580	100.00%

Source: Statistics Canada Population Census,1996.

3.3 Summary

The population of the Blue Sky Region increased 67% between 1951 and 1996 from 187,478 to 314,244 people. Population annual growth was highest between 1951 and 1961 at 1.15% and then declined to .09% per annum between 1971 and 1996. The City of Greater Sudbury (previously recorded as Sudbury Regional Municipality) has maintains the largest population.

Populations of the Blue Sky Region are predominantly urban (71.8%). The large urban population is due to the two centers of North Bay and the City of Greater Sudbury, which account for 46.8% of the areas total population.

Within the Blue Sky Region, residents with French ethnicity make up the largest populations in Nipissing District, Sudbury District and The City of Greater Sudbury, but not Parry Sound. Residents with French, Canadian and English ethnicity account for 61.8% of the region, while 3.3% of the residents have aboriginal ethnic background.

The majority of residents in the Blue Sky Region were Non-movers during the five-year period previous to the 1986 census. The pattern remained similar for the 1996 census. Within the Blue Sky Region however, two areas experienced notable shifts. In Sudbury District the proportion of movers declined while in the Greater City of Sudbury the proportion of movers increased.

Overall employment in the Blue Sky Region declined between 1991 and 1996 by 6,265 jobs, or 4.2%, much higher than the province at .6%. Retail Trade industries have consistently provided the greatest number of jobs in the Blue Sky Region in 1991 and 1996. Government Service industries in 1991, were the second largest employer in region but then experienced a 28% decline, the largest of all the sectors. In 1991 the agriculture sector employed 1,500 people in the Blue Sky Region (1.02% of the labour force). By 1996, the number of people directly employed in Agriculture fell by 11.3% (170 people).

On the whole, average incomes in Blue Sky Region are lower than those of either Ontario or Canada.

The greatest disparity regarding education is the proportion of residents with a University-level education. Almost one-quarter of Ontario residents over the age of 15 have a University education, while only 16.5% of Blue Sky Region residents hold the same. Trends in post-secondary qualifications in the Blue Sky Region largely reflect those at the provincial level. Engineering and Applied Science Technologies and Trades is studied by the greatest number of males with post-secondary qualifications across Ontario, Blue Sky Region and each of the districts in Blue Sky Region. The greatest number of females with post-secondary qualifications in Ontario, Blue Sky Region, and each of the districts in Blue Sky Region are in Commerce, Management and Business Administration.

The distribution of employment in occupation categories in the Blue Sky Region is largely consistent with those at the provincial level. Sales and Service occupations employ the greatest percentage of females in the Blue Sky Region (37%), while Trades, Transport and Equipment Operators, and Related Occupations employ the greatest percentage of males in the Blue Sky Region (29.5%).

The following section provides a profile of agriculture in the Blue Sky Region including a review of farm numbers, farm types, operator characteristics and operating arrangements.

4.0 Profile of Agriculture in the Blue Sky Region

This section of the report provides a profile of agriculture in the Blue Sky Region. Data for the analysis have been drawn from Statistics Canada data compiled during agricultural censuses, which are conducted at five-year intervals, with the most recent being conducted in 1996. The census organizes data at a number of levels: Canada, Province/Territory, Census Divisions (e.g. Counties, Regional Municipalities and Districts) and Census Subdivisions (e.g. Townships, Towns and Villages). Due to confidentiality constraints, the data for some Census Subdivisions are consolidated. Where appropriate, these data have been supported with data assembled from Statistics Canada's Whole Farm Data Base (WFDB), using the years 1990, 1995 and 1999. The analysis also uses knowledge gained from numerous completed and ongoing studies on the economic impacts of agriculture which have recently been conducted throughout a number of counties in Ontario.

Data for the Blue Sky region are further compared to data at the Regional (i.e. Northern Ontario Agricultural Region[8]) and Provincial levels to provide further insight into the relative importance of the Blue Sky's contribution to these economies.

4.1 Area of Farmland

Table 4.1 shows the total area of farmland in the Blue Sky Region, Northern Ontario and Ontario for the years 1976, 1986 and 1996. With the exception of the increasing area of farmland in Sudbury District and The City of Greater Sudbury between 1976 and 1986, there has been a continuous decline in the availability of farmland throughout the Blue Sky Region. This decline was greatest between 1986 and 1996, when the amount of farmland in the Blue Sky Region decreased by 22.8%. Sudbury District exhibits the greatest fluctuation in farmland area, having increased by 46.8% between 1976 and 1986, and then declining by 51.0% between 1986 and 1996. Over the same period, the amount of farmland in Northern Ontario and Ontario also declined, but only by 0.1% and 0.5%, respectively. Overall, about 2 percent of Ontario's farmland was located in the Blue Sky Region (varying from 2.3% in 1986 to 1.8% in 1996).

[8] The Northern Ontario Agricultural Region includes: Nipissing District, City of Greater Sudbury, Sudbury District, Manitoulin District, Timiskaming District, Cochrane District, Algoma District, Thunder Bay District, Rainy River District, and Kenora District. Parry Sound District is in the Central Ontario Agricultural Region, but has been included as part of the Northern Ontario Agricultural Region for this study as it is one of the four Census Divisions in the Blue Sky Region.

Table 4.1 Total Area of Farmland in the Blue Sky Region, Northern Ontario and Ontario, 1976, 1986 and 1996 (in acres).

	1976	1986	% Change	1996	% Change
Parry Sound District	127,219	112,612	-11.5%	95,496	-15.2%
Nipissing District	121,957	100,256	-17.8%	87,657	-12.6%
Sudbury District	53,666	78,758	46.8%	38,615	-51.0%
City of Greater Sudbury	22,241	28,530	28.3%	25,457	-10.8%
Blue Sky Region	325,083	320,156	-1.5%	247,225	-22.8%
Northern Ontario	1,183,249	1,094,347	-0.1%	1,025,190	-0.1%
Ontario	14,744,324	13,953,009	-5.4%	13,879,565	-0.5%
% of Ontario farmland in the Blue Sky Region	2.2%	2.3%		1.8%	

Source: Statistics Canada, Census of Agriculture Quebec and Ontario 1976, Census of Canada, 1986- Agriculture Ontario, and Agricultural Profile of Ontario 1996.

4.2 Land Use

Table 4.2 shows the farmland area classified by use in the Blue Sky Region, Northern Ontario and Ontario for 1996. The greatest proportion of farmland in Blue Sky Region was classified as Other (43.6%), followed by land Under Crops (30.4%). Lands classified as Other included all lands used for Christmas tree farms, swamp, bush, lands occupied by buildings and those agricultural lands not elsewhere classified. In Northern Ontario and Ontario, land Under Crops was the dominant use of farmland (34.2% and 63.1%, respectively) followed by land classified as Other (32.1% and 18.5%, respectively). Within the Blue Sky Region, Nipissing District possessed the greatest amount of land Under Crops (32,826 acres). Very little farmland was kept in summer fallow in the Blue Sky Region (0.2%).

Table 4.2 Land Area Classified by Use in Blue Sky Region, Northern Ontario and Ontario, 1996 (in acres).

	Under Crops	Summer Fallow	Improved Pasture	Unimproved Pasture	Other	Total
Parry Sound District	22,282	142	6,274	19,966	46,832	95,496
Nipissing District	32,826	110	5,993	16,838	31,890	87,657
Sudbury District	11,906	20	2,792	6,808	17,089	38,615
City of Greater Sudbury	8,208	203	848	4,118	12,080	25,457
Blue Sky Region	75,222	475	15,907	47,730	107,891	247,225
Northern Ontario	350,511	3,920	90,526	251,066	329,167	1,025,190
Ontario	8,759,707	48,492	860,786	1,641,692	2,568,888	13,879,565

Source: Statistics Canada, Agricultural Profile of Ontario 1996.

Table 4.3 shows land area classified by use at the township level within the Blue Sky Region, for 1996. The symbol N/A (Not Available) has been inserted in townships where there are too few farms reporting data to ensure confidentiality. As such, N/A does not equal zero; it indicates that a positive figure exists for the township, and has been included in calculating the total area of the township, as well as in the total area of the land use within the larger district.

Table 4.3 Land Area Classified by Use in the Blue Sky Region, 1996 (in acres).

	Under Crops	Summer Fallow	Improved Pasture	Unimproved Pasture	Other	Total
Parry Sound District	**22,282**	**142**	**6,274**	**19,966**	**46,832**	**95,496**
%	23.33%	.15%	6.5%	20.91%	49.04%	100%
Perry	489	0	219	266	2,319	3,293
Armour	628	N/A	134	1,100	N/A	4,164
Ryerson	2,379	N/A	549	1,964	N/A	9,381
McKellar	1,661	0	473	1,421	2,838	6,393
McDougall	2,086	N/A	631	1,890	N/A	8,473
Chapman	1,811	0	762	1,407	2,873	6,853
Strong	2,001	0	426	1,621	3,556	7,604
Machar	391	0	168	62	2,158	2,779
South Himsworth	4,958	N/A	855	3,038	N/A	15,381
North Himsworth	600	0	138	1,174	764	2,676
Nipissing	2,143	N/A	626	2,149	N/A	10,318
Unorganized, Centre Part	3,135	0	1,293	3,874	N/A	18,181
Nipissing District	**32,826**	**110**	**5,993**	**16,838**	**31,890**	**87,657**
%	37.44%	.12%	6.83%	19.21%	36.38%	100%
Papineau-Cameron	1,079	0	701	2,009	2,743	6,532
Calvin	2,417	0	566	2,415	N/A	8,383
Bonfield	3,395	0	730	3,479	3,766	11,370
Chisholm	5,353	0	964	3,820	3,131	13,268
Springer	3,343	0	230	549	1,946	6,068
Caldwell	9,135	N/A	1,442	1,411	N/A	17,644
Unorganized, North Part	8,104	N/A	1,360	3,155	N/A	24,392
Sudbury District	**11,906**	**20**	**2,792**	**6,808**	**17,089**	**38,615**
%	30.83%	.05%	7.23%	17.63%	44.25%	100%
Cosby, Mason and Martland	3,442	N/A	672	2,603	N/A	10,746
Casimir, Jennings and Appleby	4,029	0	1,344	2,024	5,308	12,705
Ratter and Dunnet	3,279	0	518	1,481	4,402	9,680
Unorganized, North Part	1,156	N/A	258	700	N/A	5,484
City of Greater Sudbury	**8,208**	**203**	**848**	**4,118**	**12,080**	**25,457**
%	32.24%	.80%	3.33%	16.18%	47.45%	100%
Walden	1,237	N/A	262	2,036	N/A	8,572
Rayside-Balfour	4,537	N/A	345	1,270	N/A	10,296
Valley East	2,434	0	241	812	3,102	6,589
Blue Sky Region	75,222	475	15,907	47,730	107,891	247,225
%	30.42%	.19%	6.43%	19.30%	43.64%	100%

Source: Statistics Canada, Agricultural Profile of Ontario 1996.

4.3 Number of Farms[9]

Table 4.4 shows the number of farms in the Blue Sky Region, Northern Ontario and Ontario for each of the census years from 1971 to 1996. The data show that the number of farms is in decline within the three areas, although the rate of decline is greater across Ontario than in either Northern Ontario or the Blue Sky Region. About 1.5% of Ontario's farms are located in the Blue Sky Region; a figure that is consistent with the percentage of Ontario's farmland found in the region (between 2.3% and 1.8%).

Within the Blue Sky Region, Parry Sound District has the greatest number of farms; the data show that the number of farms in Parry Sound in 1996 exceeded the number found there in 1976. Between 1991 and 1996, the number of farms increased in Parry Sound District (4.4%), Nipissing District (13.7%) and the City of Greater Sudbury (12.4%). Sudbury District was the only municipality in the Blue Sky Region to experience a decrease in the number of farms between 1991 and 1996 (-14%).

[9] In 1996, Statistics Canada defined a census farm as an agricultural operation that produces at least one of the following products intended for sale: crops (field crops, tree fruits or nuts, berries or grapes, vegetables or seed); livestock (cattle, pigs, sheep, horses, exotic animals, etc.); poultry (hens, chickens, turkeys, exotic birds, etc.); animal products (milk or cream, eggs, wool, fur, meat); or other agricultural products (greenhouse or nursery products, Christmas trees, mushrooms, sod, honey, maple syrup products). The definition of a census farm was expanded for the 1996 Census of Agriculture to include commercial poultry hatcheries and operations that produced only Christmas trees. This expanded definition resulted in the inclusion of 138 commercial poultry hatcheries and 1,593 operations across Canada that produced only Christmas trees.

Table 4.4 Total Number of Farms in Blue Sky Region, Northern Ontario and Ontario, 1971 to 1996.

	1971	1976	% Change 71-76	1981	1986	% Change 81-86	1991	1996	% Change 91-96	% Change 71-96
Parry Sound District	520	392	-24.62%	491	407	-17.11%	407	425	4.42%	-18.27%
Nipissing District	462	381	-17.53%	437	315	-27.92%	263	299	13.69%	-35.28%
Sudbury District [a]	416	128	-69.23%	201	176	-12.44%	157	135	-14.01%	-67.55%
City of Greater Sudbury [b]		148	N/A	181	191	5.52%	153	172	12.42%	N/A
Blue Sky Region	1,398	1,049	-24.96%	1,310	1,089	-16.87%	980	1,031	5.20%	-26.25%
Northern Ontario	3,900	3,171	-18.69%	3,715	3,152	-15.15%	2,908	2,915	0.24%	-25.26%
Ontario	94,722	76,983	-18.73%	82,448	72,713	-11.81%	68,633	67,520	-1.62%	-28.72%
% of Ontario farms in the Blue Sky Region	1.50%	1.40%		1.60%	1.50%		1.40%	1.50%		

[a] Not all Census Sub-divisions from Sudbury District, as defined in the 1996 Census of Agriculture, are included in the Blue Sky Region. As such, tables and data in this profile define Sudbury District as including: Cosby, Mason and Martland; Casimir, Jennings and Appleby; Ratter and Dunnet; and Sudbury Unorganized North Part. Townships with no active census farms have been excluded. The Spanish River is not part of the Blue Sky Region, and has therefore been excluded from the Sudbury District.

[b] Previous to 1976 Sudbury District and The City of Greater Sudbury were not sub-divided, this number represents both areas for 1971 census period.

Source: Statistics Canada, 1971, 1976, 1981, 1986, 1991 and 1996.

4.4 Farm Size

Approximately half of the farms in the Blue Sky Region were between 180 and 759 acres in size in 1996 (see Table 4.5). However, the proportion of farms in the Blue Sky Region that are between 0 and 179 acres is increasing; farms of this size made up 44.6% of farms in 1986, 45.4% of farms in 1991 and 48.3% of farms in 1996. Over the same period, the proportion of farms greater than 760 acres in size decreased from 4.8% in 1986 to 3.8% in 1991 and to 3.0% in 1996. This indicates that while farms in the Blue Sky Region are still, on average, larger than farms across Ontario (239.8 acres in Blue Sky versus 205.6 acres in Ontario) they are becoming smaller over time in the Blue Sky Region. This trend contradicts the overall trend in Ontario that indicates that farms are becoming larger, due to the amalgamation of smaller and mid-size farms into larger ones. Farms in Northern Ontario were also large (351.7 acres) compared to the Ontario average, and the proportion of 'small', 'medium' and 'large' farms remained relatively unchanged over the three census periods.

Table 4.5 Farm Sizes in the Blue Sky Region and Ontario, 1986, 1991 and 1996.

1986	**0 to 179 acres**		**180 to 759 acres**		**760 + acres**		**Farms**
Parry Sound District	150	36.9%	239	58.7%	18	4.4%	407
Nipissing District	109	34.6%	183	58.1%	23	7.3%	315
Sudbury District	82	46.6%	87	49.4%	7	4.0%	176
City of Greater Sudbury	145	75.9%	42	22.0%	4	2.1%	191
Blue Sky Region	**486**	**44.6%**	**551**	**50.6%**	**52**	**4.8%**	**1,089**
Northern Ontario	**1,293**	**41.0%**	**1,546**	**49.0%**	**313**	**9.9%**	**3,152**
Ontario	**45,279**	**62.3%**	**25,618**	**35.2%**	**1,816**	**2.5%**	**72,713**
1991	**0 to 179 acres**		**180 to 759 acres**		**760 + acres**		**Farms**
Parry Sound District	179	44.0%	211	51.8%	17	4.2%	407
Nipissing District	99	37.6%	152	57.8%	12	4.6%	263
Sudbury District	59	37.6%	92	58.6%	6	3.8%	157
City of Greater Sudbury	108	70.6%	43	28.1%	2	1.3%	153
Blue Sky Region	**445**	**45.4%**	**498**	**50.8%**	**37**	**3.8%**	**980**
Northern Ontario	**1,143**	**39.5%**	**1,465**	**50.3%**	**289**	**9.9%**	**2,908**
Ontario	**43,403**	**63.2%**	**23,246**	**33.9%**	**1,984**	**2.9%**	**68,633**
1996	**0 to 179 acres**		**180 to 759 acres**		**760 + acres**		**Farms**
Parry Sound District	203	47.8%	211	49.6%	11	2.6%	425
Nipissing District	110	36.8%	177	59.2%	12	4.0%	299
Sudbury District	56	41.5%	75	55.6%	4	3.0%	135
City of Greater Sudbury	129	75.0%	39	22.7%	4	2.3%	172
Blue Sky Region	**498**	**48.3%**	**502**	**48.7%**	**31**	**3.0%**	**1,031**
Northern Ontario	**1,197**	**41.1%**	**1,431**	**49.1%**	**287**	**9.8%**	**2,915**
Ontario	**42,372**	**62.8%**	**22,731**	**33.7%**	**2,417**	**3.6%**	**67,520**

Source: Statistics Canada, Census of Canada, 1986- Agriculture Ontario, and Agricultural Profile of Ontario 1991 and 1996.

Within the Blue Sky Region, Nipissing District had the greatest proportion of farms over 760 acres in size, although this number has fallen between each census period. The City of Greater Sudbury had the greatest proportion of farms in the 0 to 179 size category; approximately 75.0% of farms in this municipality were categorized as 'small' in 1996.

4.5 Types of Farms[10]

Table 4.6 shows the types of farms in the Blue Sky Region, Northern Ontario and Ontario for 1986, 1991 and 1996. Farm numbers are based on farms reporting farm gate sales of $2,500 or more. This classification is used to omit small hobby farms that might have skewed the results. *Miscellaneous Specialty* farms includes greenhouse flower and plant production, bulbs, shrubs, trees, sod, ornamentals, mushrooms houses, honey production, maple syrup production, etc. *Livestock Combination* farms refers to two types of livestock or more, (i.e. poultry and beef, dairy and hogs).

Livestock farms were the dominant farm type in the Blue Sky Region in 1996 accounting for 44% of all farm types in the Study Area. Beef farms were the dominant livestock farm type (29%) followed by Dairy (12.5%). The Miscellaneous Specialty sector accounted for 25% of all farm types in 1996 while Field Crop farms represented 22% of all farms. The profile of the agriculture sector in the Blue Sky Region is undergoing considerable change as some sectors are declining in farm numbers while others are increasing. Miscellaneous Specialty and Field Crop farms have experienced a steady increase in farm numbers over the past 15 years while Beef and Dairy farms have declined in number.

Within the Blue Sky Region, Beef farms and Field Crop farms appear to be more concentrated in Parry Sound (97 beef farms and 81 field crop farms) and Nipissing District (82 beef farms and 56 field crop farms). Nipissing District also features the largest concentration of Dairy farms (56 farms). Parry Sound District has the largest number of Miscellaneous Specialty farms in the Study Area (81 farms). Miscellaneous Specialty farms are the number one farm type in both Sudbury District (32 farms) and the City of Greater Sudbury (44 farms) followed by Dairy and Field Crop farms.

[10] Each census farm is classified according to the predominant commodity produced. Statistics Canada does this by estimating the potential receipts from the inventories of crops and livestock reported on the questionnaire. The commodity or group of commodities that accounts for 51% or more of the total potential receipts determines the farm type. For example, a census farm with total potential receipts of 60% from dairy, 20% from hogs and 20% from field crops, would be classified as a dairy farm. Where there is no single major commodity associated with the farm operation (ie. 45% dairy, 45% hogs and 10% field crops; 40% grains and oilseeds, 35%, hogs, 25% maple syrup), the farm is categorized as either a 'livestock combination' or 'other combination' operation. Field Crop farms include wheat, grain, oilseed and other field crops. Miscellaneous specialty includes greenhouse flower and plant production, bulbs, shrubs, trees, sod, ornamentals, mushroom houses, honey production, maple syrup production, etc.

Table 4.6 Number of Farms by Major Product, 1986, 1991 and 1996 [a].

	Dairy	Beef	Hogs	Poultry	Field Crops	Fruit	Veg.	Misc. Spec.	Live. Combo	Other Combo	Total # of Farms [b]
1986											
Parry Sound District	27	165	6	7	11	3	1	34	12	27	293
Nipissing District	101	86	3	6	22	1	2	17	5	13	256
Sudbury District	23	55	1	1	1	0	0	4	1	1	87
City of Greater Sudbury	5	31	0	3	21	2	2	25	4	13	106
Blue Sky Region	156	337	10	17	55	6	5	80	22	54	742
Northern Ontario	503	1,170	40	51	211	20	21	215	48	85	2,364
Ontario	11,028	17,160	4,840	1,643	16,414	2,298	1,791	4,203	1,653	3,876	64,906
% of Ontario in Blue Sky Region	1.4%	1.9%	0.2%	1%	0.3%	0.2%	0.9%	1.9%	1.3%	1.4%	
1991											
Parry Sound District	29	155	3	6	26	3	1	75	14	5	317
Nipissing District	63	84	1	1	24	1	2	32	5	3	216
Sudbury District	27	56	1	2	13	3	2	22	3	0	129
Sudbury Regional Municipality	2	34	3	3	19	4	2	41	4	6	118
Blue Sky Region	121	329	8	12	82	11	7	170	26	14	780
Northern Ontario	420	1,119	17	35	251	25	29	384	80	38	2,389
Ontario	9,757	16,855	3,827	1,583	15,497	2,107	1,639	7,312	1,921	934	61,432
% of Ontario in Blue Sky Region	1.2%	2.0%	0.2%	0.8%	0.5%	0.5%	0.4%	2.3%	1.4%	1.5%	
1996											
Parry Sound District	20	97	3	8	64	5	4	81	11	12	305
Nipissing District	56	82	2	1	56	2	4	38	8	5	254
Sudbury District	20	31	0	2	18	2	2	32	1	1	109
Sudbury Regional Municipality	3	21	1	2	35	3	3	44	4	7	123
Blue Sky Region	99	231	6	13	173	12	13	195	24	25	791
Northern Ontario	362	828	15	22	513	23	28	459	82	47	2,379
Ontario	8,320	14,172	2,677	1,686	17,681	2,016	1,428	8,547	2,030	1,330	59,887
% of Ontario in Blue Sky Region	1.2%	1.6%	0.2%	0.8%	1.0%	0.6%	0.9%	2.3%	1.2%	1.9%	

[a] Farms reporting farm total gross farm receipts of $2,500 or more. Not all Census Sub-divisions from Sudbury District, as defined in the 1996 Census of Agriculture, are included in the Blue Sky Region. As such, tables and data in this profile define Sudbury District as including: Cosby, Mason and Martland; Casimir, Jennings and Appleby; Ratter and Dunnet; and Sudbury Unorganized North Part. Townships with no active census farms have been excluded. The Spanish River is not part of the Blue Sky Region, and has therefore been excluded from the Sudbury District.

[b] Total # of Farms is derived from the addition of major farm products and are different than census farm totals due to variation in farm types reported. Source: Statistics Canada, Census of Canada, 1986 Agriculture Ontario; Agricultural Profile of Ontario 1991 and 1996.

4.6 Field Crops and Vegetables

Table 4.7 shows the acreage of field crops in the Blue Sky Region, Northern Ontario and Ontario in 1996. Other tame hay and fodder crops made up the greatest area of field crops in the Blue Sky Region (52,186 acres, or 21.1% of all farmland in the Blue Sky Region). About 5.0% of Ontario's other tame hay and fodder crops are found in the Blue Sky Region. Nipissing District had the greatest proportion of Blue Sky Region's acreage of other tame hay and fodder crops. Acreages of other field crop categories in the Blue Sky Region, which include Alfalfa and Alfalfa Mixtures, Other Crops[11], and Vegetables are small, comprising less than 9,000 acres.

4.7 Livestock

As demonstrated previously, livestock farms, primarily beef and dairy farms, are the dominant farm types in the Blue Sky Region. Table 4.8 shows the number of farms reporting livestock in the Blue Sky Region, Northern Ontario and Ontario in 1996. These totals include all farms that contain different types of livestock, regardless of the type of farm (ie. a farm categorized as a Field Crop farm does not preclude it from having livestock; rather it is classified as a Field Crop farm as it receives 50 percent or more of its revenue from field crops). Beef cattle were reported on the greatest number of farms in the Blue Sky Region (462 farms, or 44.8% of all farms in the Blue Sky Region). More farms reported having horses (242, or 23.5%) and chickens (204 farms, or 19.8%) than dairy cows (120 farms, or 11.6%) even though dairy farms were the second-most common farm type in the Blue Sky Region.

Table 4.9 shows the populations of livestock in the Blue Sky Region, Northern Ontario and Ontario, for 1996. Chickens formed the greatest population of livestock in the Blue Sky Region, as they did across Northern Ontario and Ontario as a whole. In the Blue Sky Region this was followed by cattle (with more beef cows than dairy cows), and then by horses. The Blue Sky Region contained approximately 1.0% of Ontario's cattle, including about 0.9% of dairy cows and 1.6% of beef cows. Across Ontario, cattle were outnumbered by turkeys and hogs, although the populations of both of these livestock types appear to be small in the Blue Sky Region. Within the Blue Sky Region, the greatest number of cattle were found in Nipissing District (10,123 head including 2,258 dairy cows and 2,747 beef cows). Parry Sound District had the most beef cows 2,861) and chickens (35,604).

[11] Other Crops includes corn for grain, buckwheat, rye, corn for silage, canola (rapeseed) and potatoes.

Table 4.7 Field Crops and Vegetables in the Blue Sky Region, 1996 (in acres).

	Alfalfa and alfalfa mixtures			Other tame hay & fodder crops			Other Crops			Vegetables		
	Total	% of Blue Sky	% of Ontario	Total	% of Blue Sky	% of Ontario	Total	% of Blue Sky	% of Ontario	Total	% of Blue Sky	% of Ontario
Parry Sound District	1,256	14.0%	0.08%	18,629	35.7%	1.8%	81	4.6%	0.0%	102	28.1%	0.0%
Nipissing District	5,041	56.2%	0.34%	20,877	40.0%	2.0%	779	44.0%	0.0%	119	32.8%	0.0%
Sudbury District [a]	1,354	15.1%	0.09%	8,592	16.5%	0.8%	5	0.3%	0.0%	46	12.7%	0.0%
City of Greater Sudbury	1,320	14.7%	0.08%	4,088	7.8%	0.4%	905	51.1%	0.0%	96	26.4%	0.0%
Blue Sky Region	8,971	100.0%	0.60%	52,186	100.0%	5.0%	1,770	100.0%	0.1%	363	100.0%	0.0%
Northern Ontario	66,908			195,393			10,864			920		
Ontario	1,479,447			1,036,399			2,357,179			93,570		

[a] Not all Census Sub-divisions from Sudbury District, as defined in the 1996 Census of Agriculture, are included in the Blue Sky Region. As such, tables and data in this profile define Sudbury District as including: Cosby, Mason and Martland; Casimir, Jennings and Appleby; Ratter and Dunnet; and Sudbury Unorganized North Part. Townships with no active census farms have been excluded. The Spanish River is not part of the Blue Sky Region, and has therefore been excluded from the Sudbury District.

Source: Statistics Canada, 1996 Agricultural Profile of Ontario.

Table 4.8 Number of Farms Reporting Livestock in the Blue Sky Region, 1996.

	Beef	Horses	Chickens	Dairy	Other poultry	Hog	Sheep	Rabbits	Goats	Bees	Turkeys	Other Livestock	Deer	Bison	Llamas & Alpaca
Parry Sound District	194	98	106	30	41	40	34	22	24	16	18	5	0	0	0
Nipissing District	152	56	47	64	16	14	24	10	8	6	7	2	2	0	0
Sudbury District [a]	62	37	25	20	12	4	4	14	13	4	6	1	1	2	1
City of Greater Sudbury	54	51	26	6	14	12	5	11	9	13	7	2	1	1	0
Blue Sky Region	462	242	204	120	83	70	67	57	54	39	38	10	4	3	1
Northern Ontario	1,448	640	451	437	206	144	189	163	124	85	84	35	16	14	13
Ontario	19,572	11,829	8,295	10,122	3,160	6,777	3,592	1,952	2,521	1,263	1,197	835	256	46	161

[a] Not all Census Sub-divisions from Sudbury District, as defined in the 1996 Census of Agriculture, are included in the Blue Sky Region. As such, tables and data in this profile define Sudbury District as including: Cosby, Mason and Martland; Casimir, Jennings and Appleby; Ratter and Dunnet; and Sudbury Unorganized North Part. Townships with no active census farms have been excluded. The Spanish River is not part of the Blue Sky Region, and has therefore been excluded from the Sudbury District.

Source: Statistics Canada, Agricultural Profile of Ontario 1996.

Table 4.9 Livestock Populations in the Blue Sky Region, 1996 (number of animals). [a]

	Chickens	Turkeys	Other Poultry	Total Cattle	Dairy Cows	Beef Cows	Hog	Sheep	Horses	Goats	Rabbits	Bee Colonies
Parry Sound District	35,604	N/A	N/A	7,262	644	2,861	1,548	1,875	452	309	280	873
Nipissing District	2,001	76	102	10,123	2,258	2,747	N/A	1,012	205	117	166	59
Sudbury District [b]	N/A	105	413	4,084	803	1,181	N/A	N/A	258	N/A	N/A	N/A
City of Greater Sudbury	5,045	155	815	1,553	26	716	67	N/A	435	70	71	83
Blue Sky Region	N/A	N/A	N/A	23,022	3,454	7,130	N/A	N/A	1,350	N/A	N/A	N/A
Northern Ontario	283,388	1,057	3,680	124,032	18,259	37,720	7,606	10,435	3,555	1,462	4,064	1,796
Ontario	35,596,946	3,447,259	1,061,257	2,285,996	404,797	441,211	2,831,082	231,087	76,553	45,258	120,801	62,928
% of Ontario in Blue Sky Region	0.1%	0.0%	0.1%	1.0%	0.9%	1.6%	0.1%	1.2%	1.8%	1.6%	0.7%	1.6%

[a] The missing data (N/A) indicates where Statistics Canada has identified confidentially concerns regarding the level of detail and the data has been suppressed.

[b] Not all Census Sub-divisions from Sudbury District, as defined in the 1996 Census of Agriculture, are included in the Blue Sky Region. As such, tables and data in this profile define Sudbury District as including: Cosby, Mason and Martland; Casimir, Jennings and Appleby; Ratter and Dunnet; and Sudbury Unorganized North Part. Townships with no active census farms have been excluded. The Spanish River is not part of the Blue Sky Region, and has therefore been excluded from the Sudbury District.

Source: Statistics Canada, 1996 Agricultural Profile of Ontario.

4.8 Farm Operation Arrangements

Table 4.10 provides data on the types and number of farm operation arrangements in the Blue Sky Region, Northern Ontario and Ontario for the ten-year period from 1986 to 1996. Unfortunately, similar data gathered during the 1991 Census of Agriculture were not collected in a manner that allows for direct comparison to the 1986 and 1996 data. Table 4.10 uses four categories of operation arrangements. *Sole Proprietor* farms are one-person operations. *Partnership* includes farms operating with and without written agreements between the partners. *Corporation* includes Family and Non-family farms. *Other* farms include institution farms, community pastures and other types of farms that are not otherwise categorized.

Table 4.10 Farm Operation Arrangements, 1986 and 1996.

	Sole Proprietor		Partnership		Corporation		Other	
	1986	1996	1986	1996	1986	1996	1986	1996
Parry Sound District	363 (89.2%)	286 (67.3%)	36 (8.8%)	117 (27.5%)	8 (2.0%)	21 (4.9%)	0 (0.0%)	1 (0.2%)
Nipissing District	256 (81.3%)	187 (62.5%)	45 (14.3%)	88 (29.4%)	14 (4.4%)	24 (8.0%)	0 (0.0%)	0 (0.0%)
Sudbury District	163 (92.6%)	92 (68.1%)	11 (6.3%)	29 (21.5%)	2 (1.1%)	14 (10.4%)	0 (0.0%)	0 (0.0%)
City of Greater Sudbury	164 (85.7%)	110 (64.0%)	18 (9.4%)	43 (25.0%)	9 (4.7%)	18 (10.5%)	0 (0.0%)	1 (0.6%)
Blue Sky Region	946 (86.9%)	675 (65.5%)	110 (10.1%)	277 (26.9%)	33 (3.0%)	77 (7.5%)	0 (0.0%)	2 (0.2%)
Northern Ontario	2,584 (82.0%)	1,820 (62.4%)	436 (13.8%)	839 (28.8%)	121 (3.8%)	251 (8.6%)	0 (0.0%)	5 (0.2%)
Ontario	56,708 (78.0%)	38,465 (57.0%)	11,684 (16.1%)	21,076 (31.2%)	4,192 (5.8%)	7,909 (11.7%)	129 (0.2%)	70 (0.1%)

Source: Statistics Canada, Agricultural Profile of Ontario, 1986 and 1996.

Most of the farms in the Blue Sky Region, Northern Ontario and Ontario continue to be managed under a sole proprietor operating arrangement. However, between 1986 and 1996 the proportion of farms being operated under that arrangement has declined substantially. As farms become larger and decrease in number, an increasing proportion of farms are being operated as either a partnership or a corporation. Partnership arrangements have grown the most in terms of real numbers, as well as making up a greater share of farm operation arrangements. Other categories of operation arrangements have fallen across Ontario over the ten-year period, but established a small role in managing farms in the Blue Sky Region and Northern Ontario.

4.9 Characteristics of Farm Operators

Table 4.11 shows the age and sex of farm operators in the Blue Sky Region, Northern Ontario and Ontario, for 1996. Note that sub-totals of male/female and age columns may not add up exactly to total operators due to rounding.

Table 4.11 Age and Sex of Farm Operators in the Blue Sky Region, 1996.

	Male	Female	Under 35 years	35 to 54 years	55 years and over	Average age	Total operators
Parry Sound District	425	180	60	305	240	52	605
Nipissing District	305	140	60	250	140	48	445
Sudbury District	125	50	25	105	60	48	190
City of Greater Sudbury	175	80	20	155	75	49	255
Blue Sky Region	1,030	450	165	815	515	49	1,495
Northern Ontario	3,010	1,170	575	2,190	1,415	49	4,180
Ontario	71,050	25,895	13,835	49,000	34,105	49	96,940

Source: Statistics Canada, 1996 Agricultural Profile of Ontario.

The table shows that most of the farm operators in the three regions are males (68.9% in Blue Sky Region, 72.0% in Northern Ontario, and 73.3% in Ontario). Females play a greater role as farm operators in the Blue Sky Region than in either Northern Ontario or Ontario. Within the Blue Sky Region, females make up 29.8% of farm operators in Parry Sound District, 31.5% of farm operators in Nipissing District, 26.3% of farm operators in Sudbury District, and 31.4% of farm operators in The City of Greater Sudbury.

The table also shows that farmers in the Blue Sky region are about the same age as farmers in Northern Ontario and Ontario, with the average age of farmers in Parry Sound District being about three years older than the average and farmers in Nipissing District and Sudbury District being about a year younger than the average. The greatest proportion of farmers are between 35 and 54 years of age. There are, however, substantially more farm operators that are over 55 years of age than under 35 years of age, indicating that the population of farmers is aging in the Blue Sky Region, and across Ontario, and recruitment of younger farm operators to succeed them is declining.

4.10 Work Characteristics

Table 4.12 shows the on-farm and off-farm work characteristics of farm operators in the Blue Sky Region, Northern Ontario, and Ontario for 1996. While all farm operators had on-farm employment in 1996, about 33.4% of farm operators in the Blue Sky Region also had off-farm employment. Most of these conducted a single non-farm business providing some sort of service, sales or construction. Within Northern Ontario, approximately 36.2% of farm operators had off-farm employment in 1996, compared with 31.8% of farm operators across Ontario. As such, it would appear that farmers in Northern Ontario and the Blue Sky Region are more dependent on off-farm work to supplement their farming activities. This may be the result of a combination of less productive farms combined with shorter growing seasons in these areas compared with farms in southern Ontario.

Table 4.12 On-Farm and Off-Farm Work Characteristics of Farm Operators in the Blue Sky Region, 1996.

	Type of Work		# of Non-farm Businesses		Type of Business Operated in 1996				
	On Farm	Off Farm	1	2+	Sales	Service	Const.	Manuf.	Other
Parry Sound District	605	200	135	5	25	60	35	20	10
Nipissing District	445	150	70	5	20	35	10	5	5
Sudbury District	190	55	15	5	5	0	5	0	10
Sudbury Regional Municipality	255	95	50	5	20	20	10	0	10
Blue Sky Region	1,495	500	270	20	70	115	60	25	35
Northern Ontario	4,180	1,515	645	60	175	315	115	55	110
Ontario	96,940	30,835	14,070	905	4,145	7,205	2,765	1,435	445

Source: Statistics Canada, 1996 Agricultural Profile of Ontario.

4.11 Summary

The area of farmland in the Blue Sky Region accounts for approximately 2% of all farmland in Ontario. Farmland in the Blue Sky Region has declined by 24% between 1976 and 1996, with the greatest decline occurring between 1986 and 1996 (22.8%). The greatest proportion of farmland use in the region was classified as Other (43.6%), followed by land Under Crops (30.4%).

Approximately 1.5% of Ontario's farms are located in the Blue Sky Region. In 1996, Parry Sound District had the greatest number of farms followed by Nipissing District (425 and 299 respectively). The number of farms across Ontario, Northern Ontario and the Blue Sky Region have been in decline between 1971 and 1996.

In 1996, approximately half of the farms in the Blue Sky Region were between 180 and 759 acres in size. There is a noticeable increase in mid sized farms (between 0 and 179 acres) making up 48.3% of farms and a decrease in larger farms (over 760 acres). This trend contradicts the overall trend in Ontario that indicates that farms are becoming larger, due to the amalgamation of smaller and mid-size farms into larger ones.

In 1996, beef farms were the dominant farm type in the Blue Sky Region, followed by Dairy farms and Miscellaneous Specialty Farms. Approximately 2% of Ontario's Beef farms and Miscellaneous Specialty farms are located in the Blue Sky Region. Parry Sound District has the greatest number of Beef Farms and Miscellaneous Specialty farms (165 farms and 34 farms, respectively, in 1996).

Vegetables comprise a small portion of field crops in the Blue Sky Region. Other tame hay and fodder crops made up the greatest area of (52,186 acres, or 21.1% of all farmland in the Blue Sky Region) making up about 5.0% of Ontario's total. Nipissing District had the greatest proportion of Blue Sky Region's acreage of other tame hay and fodder crops in 1996. Acreages of other field crop categories in the Blue Sky Region, which include Alfalfa and Alfalfa Mixtures, Other Crops, and Vegetables are small, comprising less than 9,000 acres.

Most of the farms in the Blue Sky Region, Northern Ontario and Ontario continue to be managed under a sole proprietor operating arrangement. However, an increasing proportion of farms are being operated as either a partnership or a corporation. In terms of farm operators, the majority are male throughout the three regions, however, females play a greater role as farm operators in the Blue Sky Region than in either Northern Ontario or Ontario. The greatest proportion of farmer operators are between 35 and 54 years of age. There are, however, substantially more farm operators that are over 55 years of age than under 35 years of age, indicating that the population of farmers is aging in the Blue Sky Region, and across Ontario, and recruitment of younger farm operators to succeed them is declining. Approximately 33.4% of the farm operators in the Blue Sky Region had off-farm employment. Most conducted a single non-farm business providing some sort of service, sales or construction.

5.0 Direct Economic Impact of Agriculture

This and the following sections focus on the economics of agriculture and more particularly, one of the most important indicators- farm gate sales. In addition, we look at expenditures and capital investments as additional measures of the impact. For a more detailed discussion of economic impact analysis see section 6.0 following.

5.1 Farm Gate Sales

Farm gate sales have increased in each of the municipalities in the Blue Sky Region, Northern Ontario and Ontario in each of the most recent census periods (Table 5.1). Farm gate sales in the Blue Sky Region increased by 34.4% between 1985 and 1990, and a further 13.9% between 1990 and 1995. In comparison, farm gate sales in Northern Ontario increased by 23.0% between 1985 and 1990 and by 9.5% between 1990 and 1995. Farm gate sales in Ontario as a whole increased by 21.0% between 1985 and 1990 and by 16.6% between 1990 and 1995.

Table 5.1 Farm Gate Sales (000) in Blue Sky Region, Northern Ontario and Ontario, 1985,1990 and 1995.

	1985	% change 1985 - 1990	1990	% change 1990 - 1995	1995	% change 1985 - 1995
Parry Sound District	$5,348	55.33%	$8,307	23.23%	$10,237	91.42%
Nipissing District	$11,714	4.40%	$12,230	13.96%	$13,937	18.98%
Sudbury District	$4,280	22.24%	$5,232	11.05%	$5,810	35.75%
City of Greater Sudbury	$2,886	135.52%	$6,797	4.80%	$7,123	146.81%
Blue Sky Region	$24,229	34.41%	$32,567	13.95%	$37,109	53.16%
Northern Ontario	$112,651	23.04%	$138,602	9.51%	$151,786	34.74%
Ontario	$5,511,666	21.04%	$6,671,452	16.59%	$7,778,476	41.13%

Source: Statistics Canada Census of Agriculture, 1986, 1991 and 1996.

In 1995, farm gate sales in the Blue Sky Region totaled over $37.1 million, representing 0.5% of the province's total output in that year. Within the Blue Sky Region, Nipissing District has the greatest amount of farm gate sales with over $13.9 million in 1995, followed by Parry Sound District ($10.2 million), The City of Greater Sudbury ($7.1 million) and Sudbury District ($5.8 million).

In comparison to other agricultural counties and municipalities in Ontario, farm gate sales in the Blue Sky Region are low. Table 5.2 provides farm gate sales for the leading agriculture-producing municipalities in Ontario for the past two census periods.

Table 5.2 Municipalities with the Highest Farm Gate Sales in Ontario, 1990 and 1995.

County/Regional Municipality	1990 Sales ($ millions)	1995 Sales ($ millions)	% Change
Huron	436.9	511.9	17.2%
Haldimand Norfolk R.M.	378.3	453.1	19.8%
Middlesex	417.3	450.4	7.9%
Kent	295.0	444.4	50.6%
Perth	366.2	430.3	17.5%
Oxford	341.5	418.6	22.6%
Niagara R.M.	318.9	408.3	28.0%
Wellington	320.1	373.1	16.6%
Essex	218.5	315.7	44.5%
Lambton	258.0	301.4	16.8%
Waterloo R.M.	257.8	301.4	16.9%

Source: Statistics Canada, Catalogue No. 95-356, Table 28.1, pp. 29-30; Catalogue No. 95-117-XPB, Table 28.1, pp. 184-185

Average farm gate sales per farm are presented in Table 5.3. Sales per farm in the Blue Sky Region are, on average, substantially less than Northern Ontario and Ontario. Blue Sky Region farms averaged $35,994 in gross farm gate sales in 1995, compared with $52,071 in average sales per farm in Northern Ontario and $115,203 in Ontario. Within the Blue Sky Region, farms in Nipissing District had the highest average sales per farm ($46,614). Farms in the Parry Sound District had the lowest average sales per farm ($24,089). At the census subdivision level, average sales per farm ranged from $7,042 in Machar Township (Parry Sound District) to $92,150 in Caldwell Township (Nipissing District).

Average farm gate sales per acre of farmland are also presented in Table 5.3. Sales per acre in the Blue Sky Region are, on average, slightly higher than those in Northern Ontario, but still much lower than the Ontario average. Sales in the Blue Sky Region averaged $150 per acre in 1995, compared with $148 in average sales per acre in Northern Ontario and $560 in Ontario. Within the Blue Sky Region, farms in The City of Greater Sudbury had the highest average sales per acre of farmland ($280). Farms in the Parry Sound District had the lowest average sales per acre of farmland ($107). At the census subdivision level, average sales per acre of farmland ranged from $35 in Ryerson Township (Parry Sound District) to $379 in Valley East Township (City of Greater Sudbury).

Table 5.3 Average Farm Gate Sales per Farm and per Acre in Blue Sky Region, 1995.

	Farm Gate Sales	# of Farms	Sales per Farm	# of Acres	Sales / Acre
Parry Sound District	**$10,237,983**	**425**	**$24,089**	**95,496**	**$107**
Perry	$254,861	28	$9,102	3,293	$77
Armour	$917,311	25	$36,692	4,164	$220
Ryerson	$324,295	35	$9,266	9,381	$35
McKellar	$350,019	30	$11,667	6,393	$55
McDougall	$881,159	43	$20,492	8,473	$104
Chapman	$493,148	26	$18,967	6,853	$72
Strong	$562,429	46	$12,227	7,604	$74
Machar	$140,843	20	$7,042	2,779	$51
South Himsworth	$2,804,483	62	$45,234	15,381	$182
North Himsworth	$275,379	17	$16,199	2,676	$103
Nipissing	$2,079,441	36	$57,762	10,318	$202
Unorganized, Centre Part	$1,154,615	57	$20,256	18,181	$64
Nipissing District	**$13,937,713**	**299**	**$46,614**	**87,657**	**$159**
Papineau-Cameron	$314,552	22	$14,298	6,532	$48
Calvin	$469,096	28	$16,753	8,383	$56
Bonfield	$715,511	45	$15,900	11,370	$63
Chisholm	$2,407,342	52	$46,295	13,268	$181
Springer	$1,805,092	27	$66,855	6,068	$297
Caldwell	$4,515,364	49	$92,150	17,644	$256
Unorganized, North Part	$3,710,756	76	$48,826	24,392	$152
Sudbury District	**$5,810,913**	**135**	**$43,044**	**38,615**	**$150**
Cosby, Mason and Martland	$1,749,190	29	$60,317	10,746	$163
Casimir, Jennings and Appleby	$1,036,752	41	$25,287	12,705	$82
Ratter and Dunnet	$1,748,938	32	$54,654	9,680	$181
Unorganized, North Part	$1,276,033	33	$38,668	5,484	$233
City of Greater Sudbury	**$7,123,006**	**172**	**$41,413**	**25,457**	**$280**
Walden	$978,375	47	$20,816	8,572	$114
Rayside-Balfour	$3,645,645	75	$48,609	10,296	$354
Valley East	$2,498,986	50	$49,980	6,589	$379
Blue Sky Region	**$37,109,615**	**1,031**	**$35,994**	**247,225**	**$150**
Northern Ontario	**$151,786,040**	**2,915**	**$52,071**	**1,025,190**	**$148**
Ontario	**$7,778,476,4**	**67,520**	**$115,203**	**13,879,565**	**$560**

Source: Statistics Canada Census of Agriculture, 1996.

5.2 Operating Expenditures

Table 5.4 compares operating expenditures in the Blue Sky region, Northern Ontario and Ontario in 1985, 1990 and 1995. Operating expenditures have increased in each of the regions during the three census periods.

Table 5.4 Operating Expenditures in Blue Sky Region, Northern Ontario and Ontario, 1985,1990 and 1995.

	1985	1990	1995
Parry Sound District	$5,828,349	$7,612,275	$10,388,595
Nipissing District	$10,057,883	$10,517,717	$12,290,416
Sudbury District	$4,559,878	$4,661,805	$5,043,093
City of Greater Sudbury	$3,686,919	$5,778,863	$6,800,190
Blue Sky Region	$24,133,029	$28,570,660	$34,522,294
Northern Ontario	$101,048,005	$116,211,580	$133,749,010
Ontario	$4,711,942,124	$5,462,588,275	$6,545,516,325

Source: Statistics Canada Census of Agriculture, 1986, 1991 and 1996.

Average operating expenditures per farm are presented in Table 5.5. Expenses per farm in the Blue Sky Region are, on average, lower than Northern Ontario, and substantially lower than Ontario as a whole. Blue Sky Region farms averaged $33,484 in expenditures in 1995, compared with $45,883 in average expenses per farm in Northern Ontario, and $96,942 in Ontario. Within the Blue Sky Region, farms in Nipissing District had the highest average expenses per farm ($41,105). Farms in the Parry Sound District had the lowest average expenses per farm ($24,444). At the census subdivision level, average expenses per farm ranged from $11,627 in Machar Township (Parry Sound District) to $70,405 in Caldwell Township (Nipissing District).

Average operating expenditures per acre of farmland are also presented in Table 5.5. Expenses per acre in the Blue Sky Region are, on average, higher than those in Northern Ontario, but still much lower than the Ontario average. Expenses in the Blue Sky Region averaged $140 per acre in 1995, compared with $130 in average expenses per acre in Northern Ontario, and $472 in Ontario. Within the Blue Sky Region, farms in The City of Greater Sudbury had the highest average expenses per acre of farmland ($267). Farms in the Parry Sound District had the lowest average expenses per acre of farmland ($109). At the census subdivision level, average sales per acre of farmland ranged from $54 in Ryerson Township (Parry Sound District) to $390 in Valley East Township (City of Greater Sudbury).

Table 5.5 Average Operating Expenditures per Farm and per Acre in Blue Sky Region, 1995.

	Operating Expenditures	# of Farms	Cost per Farm	# of Acres	Cost per Acre
Parry Sound District	**$10,388,595**	**425**	**$24,444**	**95,496**	**$109**
Perry	$341,007	28	$12,179	3,293	$104
Armour	$862,454	25	$34,498	4,164	$207
Ryerson	$508,883	35	$14,540	9,381	$54
McKellar	$438,703	30	$14,623	6,393	$69
McDougall	$1,118,157	43	$26,004	8,473	$132
Chapman	$540,140	26	$20,775	6,853	$79
Strong	$752,608	46	$16,361	7,604	$99
Machar	$232,531	20	$11,627	2,779	$84
South Himsworth	$2,549,955	62	$41,128	15,381	$166
North Himsworth	$303,408	17	$17,848	2,676	$113
Nipissing	$1,641,534	36	$45,598	10,318	$159
Unorganized, Centre Part	$1,099,215	57	$19,284	18,181	$60
Nipissing District	**$12,290,416**	**299**	**$41,105**	**87,657**	**$140**
Papineau-Cameron	$506,948	22	$23,043	6,532	$78
Calvin	$596,391	28	$21,300	8,383	$71
Bonfield	$828,394	45	$18,409	11,370	$73
Chisholm	$2,203,681	52	$42,378	13,268	$166
Springer	$1,624,276	27	$60,158	6,068	$268
Caldwell	$3,449,868	49	$70,405	17,644	$196
Unorganized, North Part	$3,080,858	76	$40,538	24,392	$126
Sudbury District	**$5,043,093**	**135**	**$37,356**	**38,615**	**$131**
Cosby, Mason and Martland	$1,602,177	29	$55,247	10,746	$149
Casimir, Jennings and Appleby	$1,050,779	41	$25,629	12,705	$83
Ratter and Dunnet	$1,195,144	32	$37,348	9,680	$123
Unorganized, North Part	$1,194,993	33	$36,212	5,484	$218
City of Greater Sudbury	**$6,800,190**	**172**	**$39,536**	**25,457**	**$267**
Walden	$1,123,798	47	$23,911	8,572	$131
Rayside-Balfour	$3,106,140	75	$41,415	10,296	$302
Valley East	$2,570,252	50	$51,405	6,589	$390
Blue Sky Region	**$34,522,294**	**1,031**	**$33,484**	**247,225**	**$140**
Northern Ontario	**$133,749,010**	**2,915**	**$45,883**	**1,025,190**	**$130**
Ontario	**$6,545,516,325**	**67,520**	**$96,942**	**13,879,565**	**$472**

Source: Statistics Canada Census of Agriculture, 1996.

5.3 Net Revenue

Table 5.6 compares net revenue in the Blue Sky Region, Northern Ontario and Ontario in 1985, 1990 and 1995. Net revenue increased throughout Ontario during each of the census periods, but has fluctuated within the Blue Sky Region and Northern Ontario. Of particular note are years of negative net revenue in Parry Sound District (1985 and 1995), Sudbury District (1985) and The City of Greater Sudbury (1985).

Table 5.6 Net Revenue in Blue Sky Region, Northern Ontario and Ontario, 1985,1990 and 1995.

	1985	1990	1995
Parry Sound District	$-479,876	$695,593	$-150,612
Nipissing District	$1,656,903	$1,712,325	$1,647,297
Sudbury District	$-279,569	$570,226	$767,820
City of Greater Sudbury	$-800,760	$1,018,480	$322,816
Blue Sky Region	$96,698	$3,996,624	$2,587,321
Northern Ontario	$11,603,003	$22,390,598	$18,037,030
Ontario	$799,724,637	$1,208,864,107	$1,232,960,158

Source: Statistics Canada Census of Agriculture, 1986, 1991 and 1996.

Average net revenue per farm is presented in Table 5.7. Net revenue per farm in the Blue Sky Region is, on average, lower than Northern Ontario, and substantially lower than Ontario as a whole. Blue Sky Region farms averaged $2,510 in net revenue in 1995, compared with $6,188 in average net revenue per farm in Northern Ontario, and $18,261 in Ontario. Within the Blue Sky Region, farms in Sudbury District had the highest average net revenue per farm ($5,688). Farms in the Parry Sound District had the lowest average net revenue per farm ($-355). At the census subdivision level, average net revenue per farm ranged from $-8,745 in Papineau-Cameron Township (Nipissing District) to $21,745 in Caldwell Township (Nipissing District).

Average net revenue per acre of farmland are also presented in Table 5.7. Net revenue per acre in the Blue Sky Region is, on average, lower than that in Northern Ontario, but still much lower than the Ontario average. Net revenue in the Blue Sky Region averaged $10 per acre in 1995, compared with $18 in average net revenue per acre in Northern Ontario, and $88 in Ontario. Within the Blue Sky Region, farms in Nipissing District and Sudbury District had the highest average net revenue per acre of farmland ($19). Farms in the Parry Sound District had the lowest average net revenue per acre of farmland ($-2). At the census subdivision level, average net revenue per acre of farmland ranged from $-33 in Machar Township (Parry Sound District) to $60 in Caldwell Township (Nipissing District).

Table 5.7 Average Net Revenue per Farm and per Acre in the Blue Sky Region, 1995.

	Sales per Farm	Costs per Farm	Net Revenue per Farm	Sales per Acre	Costs per Acre	Net Revenue per Acre
Parry Sound District	**$24,089**	**$24,444**	**$-355**	**$107**	**$109**	**$-2**
Perry	$9,102	$12,179	$-3,077	$77	$104	$-27
Armour	$36,692	$34,498	$2,194	$220	$207	$13
Ryerson	$9,266	$14,540	$-5,274	$35	$54	$-19
McKellar	$11,667	$14,623	$-2,956	$55	$69	$-14
McDougall	$20,492	$26,004	$-5,512	$104	$132	$-28
Chapman	$18,967	$20,775	$-1,808	$72	$79	$-7
Strong	$12,227	$16,361	$-4,134	$74	$99	$-25
Machar	$7,042	$11,627	$-4,585	$51	$84	$-33
South Himsworth	$45,234	$41,128	$4,106	$182	$166	$16
North Himsworth	$16,199	$17,848	$-1,649	$103	$113	$-10
Nipissing	$57,762	$45,598	$12,164	$202	$159	$43
Unorganized, Centre Part	$20,256	$19,284	$972	$64	$60	$4
Nipissing District	**$46,614**	**$41,105**	**$5,509**	**$159**	**$140**	**$19**
Papineau-Cameron	$14,298	$23,043	$-8,745	$48	$78	$-30
Calvin	$16,753	$21,300	$-4,547	$56	$71	$-15
Bonfield	$15,900	$18,409	$-2,509	$63	$73	$-10
Chisholm	$46,295	$42,378	$3,917	$181	$166	$15
Springer	$66,855	$60,158	$6,697	$297	$268	$29
Caldwell	$92,150	$70,405	$21,745	$256	$196	$60
Unorganized, North Part	$48,826	$40,538	$8,288	$152	$126	$26
Sudbury District	**$43,044**	**$37,356**	**$5,688**	**$150**	**$131**	**$19**
Cosby, Mason and Martland	$60,317	$55,247	$5,070	$163	$149	$14
Casimir, Jennings and Appleby	$25,287	$25,629	$-342	$82	$83	$-1
Ratter and Dunnet	$54,654	$37,348	$17,306	$181	$123	$58
Unorganized, North Part	$38,668	$36,212	$2,456	$233	$218	$15
City of Greater Sudbury	**$41,413**	**$39,536**	**$1,877**	**$280**	**$267**	**$13**
Walden	$20,816	$23,911	$-3,095	$114	$131	$-17
Rayside-Balfour	$48,609	$41,415	$7,194	$354	$302	$52
Valley East	$49,980	$51,405	$-1,425	$379	$390	$-11
Blue Sky Region	**$35,994**	**$33,484**	**$2,510**	**$150**	**$140**	**$10**
Northern Ontario	**$52,071**	**$45,883**	**$6,188**	**$148**	**$130**	**$18**
Ontario	**$115,203**	**$96,942**	**$18,261**	**$560**	**$472**	**$88**

Source: Statistics Canada Census of Agriculture, 1996.

5.4 Farm Capital

Table 5.8 compares farm capital in the Blue Sky Region, Northern Ontario and Ontario in 1985, 1990 and 1995. Investment in farm capital increased throughout each of the regions during each of the census periods.

Table 5.8 Farm Capital in Blue Sky Region, Northern Ontario and Ontario, 1985, 1990 and 1995.

	1985	1990	1995
Parry Sound District	$61,459,877	$101,691,579	$115,423,025
Nipissing District	$65,558,183	$73,671,401	$96,886,078
Sudbury District	$27,678,820	$35,786,499	$37,441,674
City of Greater Sudbury	$24,532,181	$39,431,127	$49,239,505
Blue Sky Region	$179,229,061	$250,580,606	$298,990,282
Northern Ontario	$651,579,407	$825,804,807	$1,022,746,952
Ontario	$23,737,179,535	$40,702,680,717	$40,860,936,035

Source: Statistics Canada Census of Agriculture, 1986, 1991 and 1996.

Average capital per farm is presented in Table 5.9. Capital investment per farm in the Blue Sky Region is, on average, lower than both Northern Ontario and Ontario. Blue Sky Region farms averaged $290,000 in farm capital in 1995, compared with $350,857 in farm capital per farm in Northern Ontario, and $605,168 in Ontario. Within the Blue Sky Region, farms in Nipissing District had the highest average capital per farm ($324,034). Farms in the Parry Sound District had the lowest average capital per farm ($271,584). At the census subdivision level, average capital per farm ranged from $161,744 in Machar Township (Parry Sound District) to $412,907 in Chisholm Township (Nipissing District).

Average farm capital per acre of farmland is also presented in Table 5.6. Capital investment per acre in the Blue Sky Region is, on average, higher than that in Northern Ontario, but still much lower than Ontario. Farm capital in the Blue Sky Region averaged $1,209 per acre in 1995, compared with $998 in farm capital per acre in Northern Ontario, and $2,944 in Ontario. Within the Blue Sky Region, farms in The City of Greater Sudbury had the highest average farm capital per acre of farmland ($1,934). Farms in Sudbury District had the lowest average farm capital per acre of farmland ($970). At the census subdivision level, average farm capital per acre of farmland ranged from $791 in Casimir, Jennings and Appleby Township (Sudbury District) to $2,407 in Rayside-Balfour Township (City of Greater Sudbury).

Table 5.9 Average Farm Capital per Farm and per Acre in Blue Sky Region, 1996.

	Farm Capital	# of Farms	Capital per Farm	# of Acres	Capital per Acre
Parry Sound District	**$115,423,025**	**425**	**$271,584**	**95,496**	**$1,209**
Perry	$5,148,094	28	$183,861	3,293	$1,563
Armour	$4,826,303	25	$193,052	4,164	$1,159
Ryerson	$7,690,213	35	$219,720	9,381	$820
McKellar	$7,251,425	30	$241,714	6,393	$1,134
McDougall	$14,632,874	43	$340,299	8,473	$1,727
Chapman	$7,757,262	26	$298,356	6,853	$1,132
Strong	$10,622,792	46	$230,930	7,604	$1,397
Machar	$3,234,887	20	$161,744	2,779	$1,164
South Himsworth	$22,022,011	62	$355,194	15,381	$1,432
North Himsworth	$4,378,443	17	$257,555	2,676	$1,636
Nipissing	$11,924,656	36	$331,240	10,318	$1,156
Unorganized, Centre Part	$15,934,065	57	$279,545	18,181	$876
Nipissing District	**$96,886,078**	**299**	**$324,034**	**87,657**	**$1,105**
Papineau-Cameron	$7,081,450	22	$321,884	6,532	$1,084
Calvin	$7,607,412	28	$271,693	8,383	$907
Bonfield	$11,775,372	45	$261,675	11,370	$1,036
Chisholm	$21,471,162	52	$412,907	13,268	$1,618
Springer	$8,705,492	27	$322,426	6,068	$1,435
Caldwell	$16,782,021	49	$342,490	17,644	$951
Unorganized, North Part	$23,463,169	76	$308,726	24,392	$962
Sudbury District	**$37,441,674**	**135**	**$277,346**	**38,615**	**$970**
Cosby, Mason and Martland	$8,826,925	29	$304,377	10,746	$821
Casimir, Jennings and Appleby	$10,053,295	41	$245,202	12,705	$791
Ratter and Dunnet	$8,897,714	32	$278,054	9,680	$919
Unorganized, North Part	$9,663,740	33	$292,841	5,484	$1,762
City of Greater Sudbury	**$49,239,505**	**172**	**$286,276**	**25,457**	**$1,934**
Walden	$10,028,972	47	$213,382	8,572	$1,170
Rayside-Balfour	$24,777,364	75	$330,365	10,296	$2,407
Valley East	$14,433,169	50	$288,663	6,589	$2,190
Blue Sky Region	**$298,990,282**	**1,031**	**$290,000**	**247,225**	**$1,209**
Northern Ontario	**$1,022,746,952**	**2,915**	**$350,857**	**1,025,190**	**$998**
Ontario	**$40,860,936,035**	**67,520**	**$605,168**	**13,879,565**	**$2,944**

Source: Statistics Canada Census of Agriculture, 1996.

As part of the analysis of the direct impacts of agriculture on the local economy, the Consultant reviewed estimates of farm revenue and operating expenses from the Whole Farm Data Base (WFDB). The WFDB is produced by the Agriculture Division of Statistics Canada and Agriculture and Agri-Food Canada and utilizes tax filer data to produce disaggregated statistics.

Similar to the Agriculture Census, the WFDB Tax Data Program (TDP) contains data on farm revenue and operating expenses. However, there are significant differences between the two data sets as the TDP draws from a smaller population of farm operators. As described by Sheila Young, Analytical Officer / Agriculture Division / Statistics Canada, the population of farm tax filers is composed of corporations who file T2 tax forms and all individuals who claim either positive gross farm income or non-zero net farm income from self-employment on their T1 General Tax Return. For the incorporations, by and large, only those agricultural farm tax filers who claim 51% or more of their revenues from agricultural activity are included in the TDP. Another feature of the TDP is that it only provides data for farms with reported revenues of $10,000 and more. Finally, the TDP is limited to farm tax filers who have filed on time. Late filers are not included.

Our review of the tax filer data also experienced problems in retrieving a complete data set for the study area. The small population of farm tax filers in certain areas of the study area resulted in data being suppressed by Statistics Canada for reasons of confidentiality. As a result, we were unable to retrieve data for many of the census subdivisions in the study area.

Problems were also found with the reliability of the tax filer data for the study area. As noted in the WFDB Reference Manual (January 2001), all of the estimates produced by the WFDB are derived from samples, making them subject to sampling errors. In sample surveys, inference is made about the entire population based on data obtained from part of the population, therefore the results are likely to be different than if a complete census was taken under the same survey conditions. At the level of the larger geographic area (i.e. Northern Ontario) the estimates were found to be very good. However, the data sets for individual Census Divisions (Parry Sound, Nipissing, Sudbury, City of Greater Sudbury) were found to be unreliable and were released with the advisory to use with caution unless independent data sources concur with the estimate.

Table 5.10 presents the estimated total farm revenue and operating expenses reported in the WFDB Tax Data Program for 1995 with a comparison to the 1995 figures reported in the 1996 Agriculture Census. While the TDP data appears to be consistent with the Census data in some areas (Parry Sound and Sudbury District), there is considerable deviation in other areas (Nipissing and the City of Greater Sudbury). Furthermore, the TDP data for 1999 appears to be very irregular in light of 1998 projections (Table 5.11).

Table 5.10 Comparison of Total Farm Revenue and Operating Expenses using Tax Data Program and Agriculture Census Data, 1995.

Region	1995 Tax Data Program [a]		1996 Agriculture Census	
	Total Revenue	Total Operating Expenses	Total Revenue (1995)	Total Operating Expenses (1995)
Parry Sound District	$11,254,516	$10,018,453	$10,237,983	$10,388,595
Nipissing District	$10,338,657	$8,551,619	$13,937,713	$12,290,416
Sudbury District	$5,067,832	$3,918,470	$5,810,913	$5,043,093
City of Greater Sudbury	$5,811,579	$5,777,572	$7,123,006	$6,800,190

[a] Data for Sudbury District reflects the total for all of the municipalities in the District.

Source: Whole Farm Data Base - Tax Data Program 2001; Statistics Canada, Agricultural Profile of Ontario 1996.

Table 5.11 Comparison of Total Farm Revenue and Operating Expenses using Tax Data Program (1999) and Projections (1998).

Region	1999 Tax Data Program [a]		1998 Projections [b]	
	Total Revenue	Total Operating Expenses	Total Revenue	Total Operating Expenses
Parry Sound District	$3,950,426	$4,436,984	$8,143,000	N/A
Nipissing District	$8,545,630	$7,971,222	$12,313,000	N/A
Sudbury District	$6,046,719	$4,641,073	$15,201,000	N/A
City of Greater Sudbury	$5,090,022	$4,811,625		

[a] Data for Sudbury District reflects the total for all of the municipalities in the District.

[b] Data for Sudbury District and the City of Greater Sudbury is combined.

Source: Whole Farm Data Base - Tax Data Program 2001; Projections adapted by HCA from OMAFRA, 2000.

The low number of farms in Northern Ontario (relative to farm numbers in Southern Ontario) clearly creates problems for using the TDP data to provide a more current estimate of farm gate sales and operating expenses. Our review of the TDP suggests that the tax filer data tends to under represent the size the agriculture sector as it draws from a smaller population of farm operators. Given that the data for the 2001 Agriculture Census will not be available for approximately two more years, other methods should be considered for acquiring a more current estimate of farm gate sales. One approach could involve a primary producer survey with a representative sample of producers in the study area.

5.5 Summary

Farm gate sales in the Blue Sky Region have experienced steady growth since 1985 with a rate of increase that is fairly consistent with the provincial average. In 1995, farm gate sales in the Region amounted to just over $37 million. While farm gate sales in the Blue Sky Region are not as substantial as regions of Southern Ontario, the figure is impressive considering the adverse growing conditions and limited availability of arable farmland.

Sales per farm in the Blue Sky Region are considerably lower than the provincial average but operating expenses per farm are also much lower. Farm operators in the Blue Sky Region are making substantial capital investments in the industry. While the province as a whole experienced less than one percent growth in farm capital between 1991 and 1996, the value of farm capital in the Blue Sky Region increased by 19% or close to $50 million.

6.0 Indirect and Service Sector (Induced) Impact of Agriculture

Initial research for the study was carried out from May to August 2001. The economic impact of agriculture in the Blue Sky Region was measured through an accounting of the total sales and employment of Agriculture and Agriculture-related (Ag-related) businesses in the study area. This work involved a review of the primary data from Statistics Canada's 1996 Population Census of Canada and 1996 Agriculture Census, and Tax Filer Data from 1995 and 1999 to study the direct economic impacts of agriculture on the economy of the Blue Sky Region. A survey-based 'input-output-like' approach was used to measure the indirect impacts. The survey was aimed at businesses that sell products to, or buy products from, the farmer. The induced economic and employment impacts of the Agriculture sector were also studied using secondary data derived from the Statistics Canada census data. The methodological background behind the approach is presented in the following sections.

6.1 Economic Impact Analysis: An Overview

Economic impact is generally a measure of the impact of a sector or a project on all sectors of the economy. Economic Impact Analysis studies are aimed at identifying "...changes in a local economy resulting from a stimulus (positive or negative) to a particular segment of the economy" (Davis, 1990, p 5). These studies are often based on one of the several standard methodologies of regional analysis: the economic base analysis and input-output analysis (Faas, 1980, p. 4).

6.1.1 Economic Base Approach

Economic Base Theory maintains that economic growth is only possible if the economy's exports grow (Bradfield, 1988, p.38). The theory is based on the belief that as exporting industries expand their sales, there will be an increasing demand for inputs locally which will consequently drive local economic growth (Bradfield, 1988, p.39). In economic base theory, the economy is classified into two sectors of basic and non-basic. The basic sector includes industries that ultimately export their product out of the region. The non-basic sector is the economic activity with final sales remaining inside the region (Davis, 1990, p. 10). These are support industries that provide everything from industrial inputs to houses for basic sector employees (Higgins and Savoie, 1995, p. 66). The exporting industries are identified as basic sectors while all other industries are classified as non-basic.

According to economic base theory, exports are the engine of the local economy. It follows then that the export of goods supports all other needs of the economy (Bendavid-Val, 1991, p. 77). Economic base theory and its supporters carry the separation of basic and non-basic sectors to the point where they attempt to predict the relative impact of the basic sector on the non-basic sector. The prediction of economic impact is assessed through two economic indicators known as the economic base ratio and economic base multiplier. Economic base theory has been refined to the point where it can be questioned: "[W]hat is the overall gain in employment or income in the region associated with

each gain in export sales?" (Bendavid-Val, 1991, p. 78).

The question is answered through the economic base ratio indicator and the base multiplier indicator (Bendavid-Val, 1991, p. 780). The economic base ratio calculates jobs that are theoretically created from one additional job in the basic sector. The economic base ratio is the ratio between employment in the basic and non-basic sectors and is supported by the idea of basic and non-basic employment combined equalling total employment (Bendavid-Val, 1991, p. 78). The economic base multiplier is the ratio of total employment to basic employment and indicates how many jobs in total are provided for each basic job. Thus, the economic base multiplier is the total sum of the jobs created in both sectors from one job in the basic sector (Bendavid-Val, 1991, p. 78). The economic base method is used in this study to estimate jobs in the service sector related to the basic sector of agriculture.

6.1.2 Input-Output Analysis

Input-Output (IO) analysis is used to measure the inter-relationships between economic activities at the sectoral, national and regional levels. Linkages are expressed by estimating the sales (outputs) from a given sector to all other sectors in the economy, and by estimating inputs from all other sectors to a specific sector. What makes the IO model so useful is the comprehensiveness of the model which disaggregates the economy into individual sectors (Josling, 1996, p. 5). Disaggregation permits analysis at the sectoral level, providing researchers with a close-up view of the economy. This analysis allows the researcher to assess where each sector purchases its inputs and where it sells its outputs. Such analysis is invaluable in identifying what investment will provide the greatest impact on an economy (Poole et al., 1994, p. 30).

The IO model estimates the movement of expenditures through the economy. This is traced through four different levels of expenditure: intermediate and primary suppliers, and intermediate and primary purchasers (Bendavid-Val, 1991, p. 88). Suppliers - intermediate and primary - purchase inputs for processing into inputs. Purchasers - intermediate and primary - buy outputs from suppliers and either use them to manufacture a product, or sell them as a final product (Bendavid-Val, 1991, p.88).

Input-output analysis has two main approaches. The Open Model allows the estimation of only the direct and indirect effects of a sector. The Closed Model estimates these, as well as the induced effects of a sector. The open model is used to trace the flow of variables between sectors of the economy (ie. direct and indirect expenditures). The open model does not measure induced spending in the economy; expenditures on food, services and other household expenses would not be included (Davis, 1990, p. 59). The closed model is used to measure all aspects of the economy, including the direct, indirect and induced effects. Treating the household sector as a producer that sells labour to other purchasing sectors assesses induced effects (Davis, 1990, p. 59). As this study aims to measure all of the effects of agriculture on the Blue Sky Region economy, it is based on the Closed Model

approach.

There are several problems associated with the IO model. The first is that it is time-specific; it takes a snapshot of the economy at a specific point in time. This model cannot account for changes in product demand or input costs, or for the introduction of new technology into the industrial sector (Davis, 1990, p. 62). Thus, the IO model does not adjust for the changing nature of the economy. A second problem of the IO model is the cost and time needed for the construction of the tables associated with this analysis. For this reason, the analysis for this study has been carried out using a survey-based "input-output-like" approach.

6.1.3 Multipliers

Given the previous discussion of economic base analysis and input-output analysis, the reader may question where the application of the two models leads. One of the best uses is that they allow the analyst to identify the impacts of economic changes or shocks to a system. Essentially, what these models do is measure the multiplier effects that result from a change in the economic system. In basic terms, multiplier effects are the relationship between direct jobs produced by a project or sector and indirect and/or induced jobs caused by the direct jobs, presented in a single number (Lewis et al., 1979, p. 1). Therefore, an economic multiplier can be used to estimate the impact of change in one variable (for example, the value of agricultural production) on another variable (for example, the value of non-agricultural production). Direct employment and production in the agriculture sector will affect the rest of the economy by supporting employment in related industries as well as in the retail sector. In this way, "...a multiplication of transactions occurs in the economy by people re-spending money" (Van Hoeve, 1995, p. 66). The multipliers calculated for this research include a sales expenditure multiplier and an employment multiplier.

6.1.4 Direct Impact Methodology

Data were taken from the 1996 Population Census of Canada, the 1996 Agricultural Census, and 1995 and 1999 Tax Filer data. These data yielded information on the economy of the Blue Sky Region, including general labour trends and population data. Where appropriate, data from earlier censuses were incorporated to examine long-term trends in employment and sales in the Blue Sky Region. This information has been presented in Section 3 and 5 of this report. For the purposes of this study, Direct Impacts are the jobs and sales generated ‘on the farm’.

6.1.5 Indirect Impact Methodology

For the purposes of this study, Indirect Impacts are jobs and sales generated ‘off the farm’ by businesses which interact directly with farm operations through buying and selling products and services. It should be noted that ‘related to agriculture’ includes only those businesses that buy from or sell to the farm business; sales to farm families for personal consumption are excluded from the indirect

impact assessment, but are included later as induced impacts.

The research method used to measure the indirect impacts was a survey-based 'input-output-like' approach. This was completed through a telephone survey conducted in June 2001. The method and survey format was originally developed for use in a similar survey in Huron County in 1996 (Cummings, Morris and McLennan, 1998), and used again with some modifications (primarily translation into French) in Prescott, Russell, Stormont, Dundas and Glengarry Counties in eastern Ontario in 1998 (Cummings and Deschamps, 1999), Simcoe County, Lambton County and Perth County in 1999, and Elgin, Middlesex, Oxford, Lanark and Renfrew Counties and the New City of Ottawa in 2000. The methodology was designed to identify the value of gross sales and the jobs produced by a sample of businesses related to agriculture. From this sample, an estimate was produced for the total population of agriculture-related businesses in the Blue Sky Region. This in turn provided an estimate of the economic impact of these Ag-related businesses in the Blue Sky Region through indirect employment and sales.

6.2 Agri-Related Business Survey

6.2.1 Development of the Business Inventory and Survey Sample

The survey was based on a random sample of local Ag-related businesses. A list of Ag-related businesses was developed by collecting lists from a number of sources in the area: local Federations of Agriculture Representatives, Municipal Offices, Chambers of Commerce, Economic Development Offices and the Yellow Pages. The original list of 362 businesses was reduced to 300 by eliminating businesses that were either out of business, double-listed or had moved out of the Blue Sky Region.

In order to attain a sample of businesses representative at the 95% confidence level for the 300 businesses in the inventory, an original sample size of 168 businesses was selected at random from the adjusted inventory. As 28 of the first 180 contacts were businesses that did not directly buy from or sell to farm operations, it was estimated that 15.6% of the businesses in the adjusted inventory had no direct interaction with farm operations. The inventory was adjusted accordingly, to a final estimate of 253 total Ag-related Businesses in the Blue Sky Region, with a sample size of 153 required for a 95% confidence level. Surveyors exhausted the Ag-business list. In total, 152 businesses were surveyed; 150 of them provided data regarding employment, and 148 provided sales data.

During the course of the telephone survey, respondents were asked to provide information regarding the total value of sales and employment figures for their business for the previous fiscal year. They were also asked to estimate the percentage of sales related to the agriculture sector through sales to, or purchases from, farm operations. Data were entered directly onto a spreadsheet; paper copies of the surveys were not kept. This section reports on the results of the Blue Sky Region as a whole.

6.2.2 Total Gross Sales for the Businesses Surveyed

Total gross sales for the businesses surveyed include sales related and unrelated to the Agriculture sector. For example, a plumbing business may have sales to farmers for their farm business, sales to farmers for their house, and sales to non-farmers. Agriculture-related sales include only those sales to farmers for operating the farm. Sales unrelated to agriculture include those of farmers for their personal use, as well as sales to non-farmers.

The sample included Ag-related businesses that buy or sell products or services to agriculture, but may also buy or sell to other sectors of the economy. Total gross sales are divided by the location of these sales; 8.1% of total gross sales for the businesses surveyed were made outside of the Blue Sky Region. The businesses in the sample generate sales: i) inside the Blue Sky Region, ii) outside Blue Sky Region, but in Ontario, and iii) outside Ontario but in Canada. Table 6.1 illustrates the total gross sales for the businesses surveyed, by the location of these sales.

Table 6.1 Total Gross Sales of the Businesses Surveyed.

# Businesses n = 148	i. Sales in Study Area	ii. Sales in Ontario	iii. Ontario Sales in S. Ont.	iv. Sales in Canada	Total Sales
Sales in $'s	$104,062,850	$7,472,750	$5,234,450	$1,737,500	$113,273,100
% total sales	91.9%	6.6%	4.6%	1.5%	100.0%

Source: 2001 Ag-business Survey

The survey determined that total gross sales was $113,273,100 for the 148 businesses that provided sales data. The initial estimate for total gross sales generated inside the Blue Sky Region is $104,062,850, or 91.9% of the total gross sales for these businesses. Total gross sales for these businesses outside of the Blue Sky Region but in Ontario was $7,472,750, or 6.6% of total gross sales. Most of the sales generated outside of Blue Sky Region, but in Ontario, were generated in Southern Ontario ($5,234,450, or 4.6% of total gross sales for the business surveyed). Total gross sales outside of Ontario but in Canada accounted for $1,737,500 or 1.5%. None of the Ag-related businesses surveyed reported sales outside of Canada.

6.2.3 Agriculture-related Sales for the Businesses Surveyed

Part of the telephone survey asked respondents to estimate the percentage of their sales that were related to agriculture, either by providing products and/or services to farm businesses, or by purchasing products of agricultural origin. The survey determined that $24,929,935, or 22.0% of total gross sales from the businesses surveyed were related to agriculture through purchases made from, or sales made to, farm operations. Ag-related businesses in the Blue Sky Region have sales both related

and unrelated to agriculture. By separating the Ag-related sales from sales unrelated to agriculture, and using the same percentages for location of sales as in section 4.2.2, we are able to estimate both the type and location of sales for the businesses surveyed. These figures are illustrated in Table 6.2.

Table 6.2 Ag-related Sales of the Businesses Surveyed.

# Businesses n = 148	i. Sales in Study Area	ii. Sales in Ontario	iii. Ontario Sales in S. Ont.	iv. Sales in Canada	Total Sales
Total Sales	$104,062,850	$7,472,750	$5,234,450	$1,737,500	$113,273,100
Ag-related (22.0%)	$22,902,879	$1,644,655	$1,152,034	$382,401	$24,929,935
Unrelated to Agriculture (78.0%)	$81,159,971	$5,828,095	$4,082,416	$1,355,099	$88,343,165

Source: 2001 Ag-business Survey

6.2.4 Total Gross Sales for Study Area Ag-related Businesses

From the sample, we can estimate the total gross sales of all Ag-related businesses in the Blue Sky Region. This includes sales both related and unrelated to agriculture. We have already established that there are approximately 253 Ag-related businesses in the Blue Sky Region; a total of 148 of these provided sales data. This represents 58.5% of the total number of businesses (e.g. 148/253 *100 = 58.5%). By dividing the total estimated number of businesses (253) by the total number of businesses that provided sales data (148), a sampling multiplier of 1.71 (e.g. 253/148 = 1.71) can be used to calculate the total gross sales for Ag-related businesses in the Blue Sky Region. Table 6.3 illustrates the estimated total gross sales for all Ag-related businesses in the Blue Sky Region. This estimate was derived by applying the sampling multiplier to the total gross sales of the 148 businesses that provided sales data. Once again, the table presents the data according to location of sales.

Table 6.3 Estimated Total Gross Sales for Ag-related businesses Using Sampling Multiplier for Sales (based on 95% level of Confidence).

# Businesses n = 253	i. Sales in Study Area	ii. Sales in Ontario	iii. Ontario Sales in S. Ont.	iii. Sales in Canada	Total Sales
Total Sales	$178,125,599	$12,791,194	$8,959,869	$2,974,099	$193,890,892
Ag-related	$39,203,126	$2,815,175	$1,971,951	$654,561	$42,672,862
Unrelated to Agriculture	$138,922,473	$9,976,019	$6,987,918	$2,319,538	$151,218,030

Source: 2001 Ag-business Survey

It should be noted that sales data from financial institutions, such as banks and credit unions, were analysed somewhat differently. Typically their sales would be based on profits generated from loans and services provided to farm businesses. However, this information is difficult to obtain. Therefore, for the purposes of this study, 'sales' by financial institutions are based on the number of employees at the institution multiplied by an average salary of $30,000.

By using the figures from the businesses surveyed and applying the multiplier of 1.71, we can estimate that Ag-related businesses in the Blue Sky Region generated a combined $193,890,892 in total gross sales. Of this, $178,125,599 in total gross sales were generated within the Blue Sky Region. Total gross sales generated outside of the Blue Sky Region but inside Ontario was $12,791,194; most of this was generated in Southern Ontario ($8,959,869). The total gross sales generated outside of Ontario but still in Canada was $2,974,099.

6.2.5 Agriculture-related Sales for Ag-related Businesses in the Study Area

Total Ag-related sales for all Ag-related businesses in the Blue Sky Region can also be derived using estimates of the Ag-related sales generated by the businesses surveyed. These sales data are also illustrated in Table 6.3. Using the same 1.71 sales sampling multiplier, we can estimate that the total Ag-related sales for businesses in the Blue sky region was $42,672,862. Of this, $39,203,126 were Ag-related sales generated in the Blue Sky Region. Ag-related sales outside of the Blue Sky Region but inside Ontario were $2,815,175. Most of these sales, $1,971,951, were made in Southern Ontario. A further $654,561 in Ag-related sales generated outside of Ontario but in Canada.

6.2.6 Number of FTE Employees Working at the Businesses Surveyed

The survey separated employees at the Ag-related businesses into two categories. The first are employees who work on activities related to the agriculture sector. The second includes employees who work at Ag-related businesses, but do not serve the agriculture sector. For example, a veterinary office may have four veterinarians specializing in large mammals (Ag-related employees) and one veterinarian specializing in house pets (unrelated to the agriculture sector). Data on both types of employees were collected in the survey, and organized to reflect the total Full Time Equivalent (FTE) number of jobs at that business based on a 1,875 hours per year workload (7.5 hours a day X 5 days a week X 50 weeks a year). Using the FTE jobs as a measure of employment allows for greater insight into the total number of jobs, at the Full-time level, that are supported by sales and services to farms.

Altogether, 150 businesses surveyed provided employment data. The total number of employees at these businesses was 1,103, comprised of 807 Full-time employees, 164 Part-time employees and 132 seasonal employees. Based on the hours and weeks worked over the course of a year, and using the FTE calculation as shown above, the initial estimate for the total number of FTE jobs at the businesses surveyed is 1,021.1. This includes all employees (full-time, part-time and seasonal employees) for the businesses surveyed, regardless of whether or not they perform activities

related to the agriculture sector. One would assume that the number of total employees should be substantially larger than the total number of FTE jobs. The reason that the total FTE number is close to the total number of employees, even though 157.1 FTE, or 15.4% of the employees at these businesses were either part-time or seasonal employees, is because the average work-week for full-time employees is actually 41.8 hours; higher than the FTE job equivalent of 37.5.

For the businesses surveyed, it is estimated that 23.4% of the employees spent their time on activities related to buying from and selling to farm operations. As a result, of the 1,103 employees, 189 Full-time, 38 Part-time, and 31 Seasonal employees worked on activities related to sales and service to farms. When converted to FTE jobs, a total of 239.3 of the total 1,021.1 FTE jobs were related to agriculture. Table 6.4 summarizes FTE jobs at the businesses surveyed.

Table 6.4 FTE jobs for the businesses surveyed.

# of Businesses Surveyed n = 150	Total FTE Jobs	% Ag-related Jobs	Ag-related FTE Jobs
Blue Sky Region	1,021.1	23.4%	239.3

Source: 2001 Ag-business Survey

The survey also determined that there are jobs generated outside of the Blue Sky Region by Ag-related businesses. This is calculated by multiplying the total FTE jobs by the percentage of sales generated outside of the region (8.1%). Therefore, the total number of FTE jobs generated by sales outside of the Blue Sky Region by the businesses surveyed is 82.7. Of these, 19.5 service the agriculture sector (83.1 X 23.4%).

6.2.7 Number of FTE Employees Working in Ag-related Businesses

The total number of FTE jobs for all Ag-related businesses in the Blue Sky region, as well as the total FTE jobs that serve the agriculture sector, can be derived from the sample. A sampling multiplier for employment can be calculated by dividing the total number of Ag-related businesses in the inventory (253) by the number of respondents who provided employment data (150). This results in a sampling multiplier of 1.69 From these values, the total number of FTE jobs for all Ag-related businesses in the Blue Sky Region can be estimated at 1,724.5 (1,021.1 X 1.69). Of these, an estimated 404.1 FTE jobs serve the agriculture sector. Table 6.5 illustrates the estimated total and Ag-related jobs using the sampling multiplier for employment. Note that figures may not add up exactly due to rounding.

Table 6.5 Estimated Total and Ag-related FTE Jobs Using Sampling Multiplier for Employment (based on 95% level of Confidence).

# of Businesses n = 253	Total FTE Jobs	% Ag-related Jobs	Ag-related FTE Jobs
Blue Sky Region	1,724.5	23.4%	404.1

Source: 2001 Ag-business Survey

Using the sampling multiplier, total FTE jobs created by sales generated outside of the Blue sky Region can also be calculated. The total number of FTE jobs generated by sales outside of the Blue Sky Region is 140.3. Of these, 32.9 work on activities related to the agriculture sector.

6.3 Induced Impact Methodology

An examination of the induced effects of agriculture was conducted. Induced employment refers to jobs in the Education, Government, Health and Social service sectors that are supported by services used or purchased by Agriculture employees. Population Census (1996) employment data from the agriculture and manufacturing sectors were compared to service sector jobs in the three sectors mentioned above to estimate the number of induced jobs in the Blue Sky Region. Details of the induced impacts are presented in the results section of this report.

7.0 Results

7.1 Introduction to the Blue Sky Region Results

The aim of this chapter is to present the results of the study, including findings concerning the direct, indirect and induced impacts of agriculture and agriculture-related businesses on the economy of the Blue Sky Region. This chapter includes findings of an in-depth examination of the backward and forward linkages of agriculture-related businesses.

This research focuses on the economic impact of the Agriculture sector. More specifically, it focuses on agriculture-related businesses in the Blue Sky Region. Both primary and secondary data collection were undertaken; the primary research collection was an 'input-output-like' survey approach of Ag-related businesses in the Blue Sky Region. Further calculations of the induced and direct impacts were completed, based on Population Census of Canada data and, to some extent, on multipliers from previous studies (Cummings et al., 1998, 1999 & 2000). The final analysis of the data illustrates that the Agriculture sector continues to be very important to the economy of Blue Sky Region.

The study aimed to identify the total economic impact of the agriculture sector in the Blue Sky Region. While published data present significant farm gate sales for the Blue Sky Region, there was no evidence to prove the actual impact of the agriculture sector. Similarly, published data showed that direct employment in agriculture in 1996 continued on a downward trend. From this information, it was predicted that this decline would continue while employment in other sectors would grow. Given this trend and subsequent predictions, estimates of some aspects of the employment patterns in Blue Sky Region were made. Through a profile of Blue Sky Region, the direct impact of the agriculture sector was illustrated through the employment data for the area's economy, which illustrated growth and decline industries (Section 3 of this report). However, this did not provide the full story of the economic impact of agriculture to the Blue Sky Region. To provide a clearer picture of the indirect impact of the agriculture sector, the input-output-like methodology was applied.

7.2 Direct, Indirect and Induced Impact Results

7.2.1 Estimated Direct Sales and Jobs

Direct impacts refer to the value of sales and number of jobs created by the agriculture sector in the Blue Sky Region. Direct sales are equivalent to the value of farm gate sales. In 1990, the value of farm gate sales in the Blue Sky Region was $32.6 million. This figure increased 13.9% to $37.1 million in 1995. Farm gate sales from the Blue Sky Region represent 0.47% of Ontario's total farm gate sales. In 1991 the Blue Sky Region's agriculture sector contained 1,500 employees. This number includes farm owners, operators and labourers. In 1996, this number fell 11% to 1,330 employees.

7.2.2 Estimated Indirect Sales and Jobs

The indirect impacts of agriculture refer to the value of sales and number of jobs created by Agriculture-related businesses in the Blue Sky Region. An Agriculture-related business is defined here as any business which sells directly to, or buys directly from, farming operations. This study found that the value of indirect impacts created by these businesses is substantial.

7.2.2.1 Location of Agriculture-related Businesses in the Survey

Agriculture-related businesses are located in rural areas, villages, towns and cities in every township across the Blue Sky Region. Greater numbers of Agriculture-related businesses are found in and around Mattawa, North Bay, Powassan, Sturgeon Falls and Sudbury. Other important centres for Agriculture-related businesses were found in smaller communities, such as Astorville, Cache Bay, Sundridge and Verner.

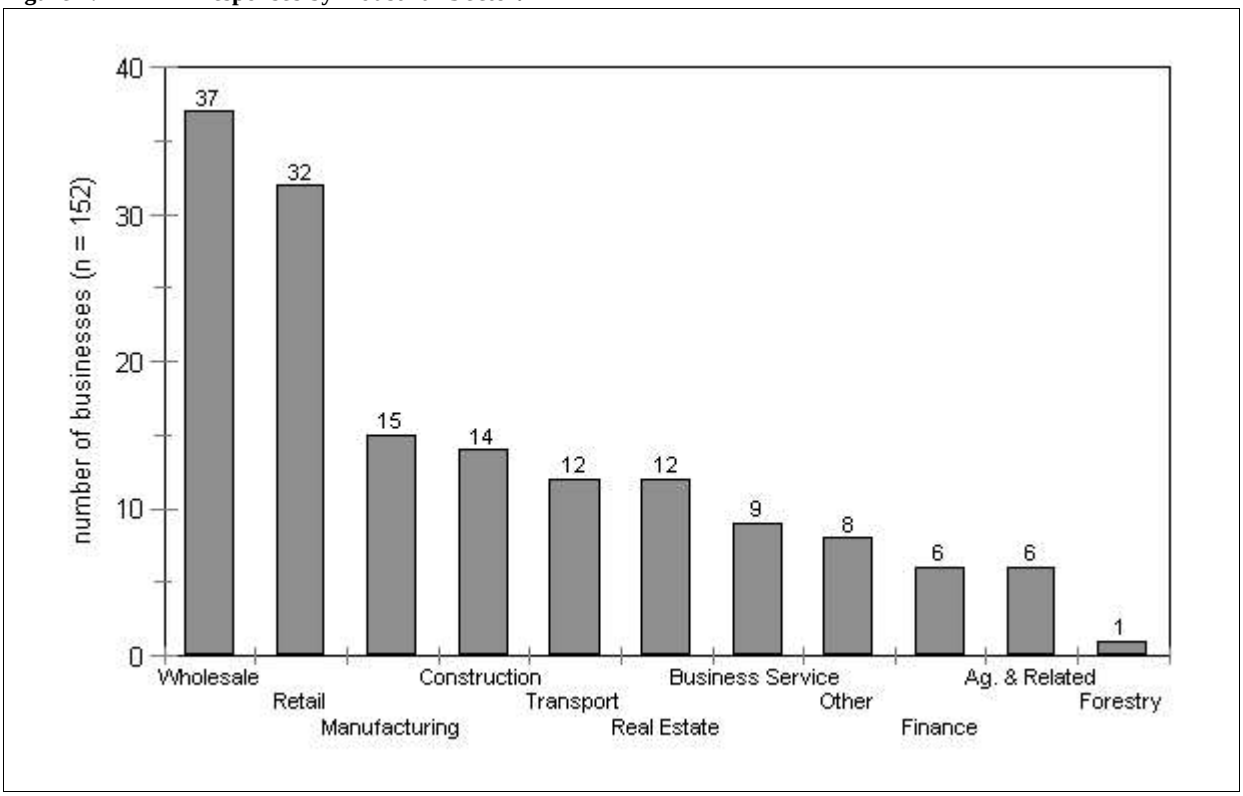
7.2.2.2 Characteristics of the Businesses Surveyed

The common characteristic of all the businesses surveyed is that they deal in some way with the agriculture sector. More specifically, all of the businesses surveyed either sell products or services directly to, and/or buy products or services directly from agricultural producers. It is important to note that these Ag-related businesses may also conduct trade with other sectors of the economy.

For the purposes of this study, the surveyed businesses were categorized according to their primary activity, using the Standard Industrial Code (SIC) categorization method developed by Statistics Canada. This system separates Canadian businesses into eighteen divisions, or sectors, such as Manufacturing, Retail Trade and Agriculture and Related Service Industries. Employment data for all eighteen sectors in the Study Area for 1991 and 1996 were presented earlier in Table 3.6.

During the agriculture-related business survey, businesses from three industrial sectors (Education, Health and Government Services) were deliberately omitted from the survey as their impacts are being considered under Induced impacts. This leaves fifteen possible sectors with which Ag-related businesses could form links. As illustrated in Figure 7.1, the study surveyed businesses in eleven of these fifteen sectors.

Figure 7.1 Responses by Industrial Sector.



Source: 2001 Ag-business Survey.

This suggests that the agriculture sector has links with almost every sector of the Blue Sky Region economy. Connections were found with the following sectors: Wholesale Trade, Retail Trade, Manufacturing, Construction, Transportation, Real Estate and Insurance, Business Services, Other Services, Finance, and Forestry. Linkages were also found among businesses classified as Agriculture and Related Service Industries.

The survey did not include businesses from the following sectors: Fishing and Trapping Industries, Mining, Communication, or Accommodation Food and Beverage Industries. This does not mean that these industries do not exist in the Blue Sky Region; they may not be directly linked to agriculture, or may not have had enough local representation to be picked up by the survey sample.

Some of the industries analysed in the study have comparatively stronger linkages with the agricultural sector. Of the 152 businesses surveyed, high representations of Ag-related businesses are found in Wholesale Trade (37 of the business surveyed), Retail Trade (32), Manufacturing (15), Construction (14), and Transportation (12). Businesses within the Agriculture and Related Services sector are also making strong linkages with other businesses within that sector (6 of the businesses surveyed). Characteristics of the businesses surveyed in various sectors of the Blue Sky Region's economy are discussed below.

i) Agriculture and Related Service Industries

The study found that linkages exist between businesses within the Agriculture and Related Service Industries sector in the Blue Sky Region. Most often, backward linkages are in the form of services provided to farms by these businesses such as veterinary services and land drainage services. More specialized services include breeding services, seed cleaning and custom planting and harvesting. Many of the smaller businesses in this sector are run on a seasonal or part-time basis by farmers. In total, 6 businesses from the agriculture and related services sector were surveyed. A typical example is Springer Animal Hospital, which provides herd health and artificial insemination.

ii) Logging and Forestry Industries

Only one business from this sector was surveyed, which provided a backward link to agriculture through the provision of treeline planting.

iii) Manufacturing Industries

A variety of products linked to the agriculture sector are manufactured by businesses in the Blue Sky Region. In total, 15 businesses from the sector were surveyed. A forward linkage involves the manufacturing of food products from agricultural goods, most notably meat processing. An example of such a business in the Blue Sky Region is D&R Poultry Processing.

iv) Construction Industries

Fourteen businesses from the construction sector were surveyed. These businesses have strong backward linkages to agriculture through building construction, septic systems, fence installation, electrical contracting, excavating, plumbing and heating. One example of a construction business in the Blue Sky Region is Gateway Well Drilling.

v) Transportation and Storage Industries

A total of 12 businesses from the transportation and storage sector were included in the survey. These businesses have backward linkages to agriculture through the transport of livestock, crops, equipment, fill and raw milk. Forward linkages are also present through the purchase of grain and livestock from farms. An example of a business from this sector is Northland Livestock Trucking.

vi) Wholesale Trade Industries

A number of wholesale dealers have established backward links to the agriculture sector through the sales of building materials, lumber, farm machinery, feed and seeds. Forward linkages are also present, primarily through the purchase of seed, grain, hay and eggs for resale. A total of 37 businesses from the sector were surveyed, an example of which is Belanger Feed, which supplies feed, fertilizer, grass seed, vet supplies and fencing materials, among other items.

vii) Retail Trade Industries

Businesses in the retail trade sector are primarily selling products to the general public for personal or household consumption, and in providing related services such as installation and repair.

However, they also have strong backward linkages to agriculture through the sale of products to farmers for use in the farm business, such as tire, truck and auto sales and service, hardware sales and computer sales and service. In total, 32 businesses from the retail sector were surveyed, an example of which is Groulx Garage, which provides machinery sales, parts and service.

viii) Finance Industries

A total of 6 financial service and insurance businesses were surveyed. These include banks and credit unions, which have backward linkages to agriculture through the provision of loans and banking services to farm operations. In many cases, local branches have a department responsible for servicing farm operations. An example of a finance industry in the Blue Sky Region is the Parry Sound Muskoka Credit Union.

ix) Real Estate and Insurance Industries

Real estate and insurance agencies have backward linkages to the agriculture sector. The main service provided to agriculture in the Blue Sky Region is insuring property and crops. The survey included 12 real estate and insurance businesses, an example of which is Cambrian Insurance, which provides farm insurance.

x) Business Service Industries

Business service industries surveyed include accountants and lawyers that provide, respectively, financial accounting services such as general accounting and taxes, and legal services particularly in relation to real estate transactions. The survey included 9 businesses from this sector, including Proulx et Proulx, Barrister and Solicitors.

xi) Other Service Industries

According to Statistics Canada, other service industries is broken down into four major groups. These are: Amusement and Recreational service industries such as theatres, sporting events, casinos and amusement parks; Personal and Household service industries such as beauty salons, laundry facilities and funeral services; Membership Organization industries such as religious organizations, business organizations and professional membership associations; and Other Service industries, which are the most relevant to agriculture as they include machinery and equipment rental and leasing, welding shops that repair farm machinery and equipment, and auctioneers providing service for livestock owners. In total, 8 of these businesses were included in the survey, an example of which is Callander Welding.

7.2.2.3 Importance of the Agriculture-related Business Survey

This study measures the importance of a business through its total gross sales per year and through the number of full-time equivalent (FTE) employees at the business. This provides an assessment of all the economic activities of the business, both related and unrelated to agriculture. For example, if a plumbing and heating business serves both residential and agriculture-producing (ie. farm-

business) customers, the total gross sales of this business would include both Ag-related and unrelated sales.

a) Sales for the Agriculture-related Businesses Surveyed

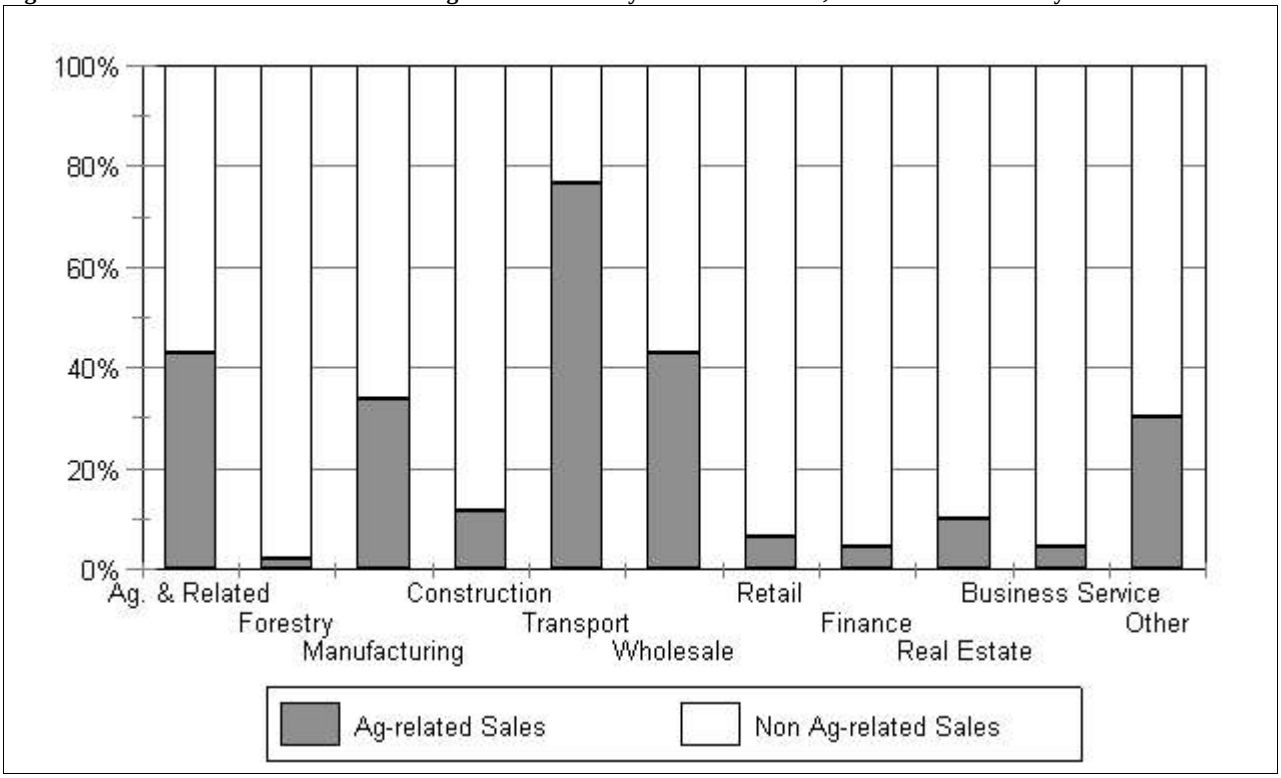
All of the businesses surveyed had some sales related directly to the agriculture sector. During the survey, the owner (or manager) of the business was asked to estimate the total gross sales for their business as well as the percentage of those sales that could be attributed to the agriculture sector. For example, if a plumbing and heating business has $500,000 in total gross sales per year, and the owner estimates that 50 percent of these sales are agriculture-related, then the total agriculture-related sales for that business would be $250,000 ($500,000 x 50%).

Ninety-seven percent of the businesses surveyed provided sales data (148 of 152). Statistics Canada classifies an industry with less than $5 million in annual sales as a small business. A medium-size business has sales between $5 million and $25 million per year. Businesses with sales above $25 million are considered large.

By this classification, businesses related to agriculture in the Blue Sky Region are generally small. Overall the total gross sales for the 148 businesses that provided sales data, including sales related and unrelated to agriculture, was $113,273,100. Sales for the businesses surveyed ranged from $2 thousand to $13 million. Ninety-seven percent of the business surveyed had sales under 5 million (143 of 148); 70 percent of businesses had sales below $500,000 (104 of 148). The average total gross sales for the businesses that provided sales data was $765,359. This number is higher than the median gross sales of $175,000 for the businesses surveyed (the mid-point sales for the businesses surveyed; 74 businesses with sales above and 74 businesses with sales below). Only two businesses had sales in excess of $10 million; the top quarter (37 businesses) had sales over $600,000. In this instance the median value provides additional insight into the types of businesses in the Blue Sky Region as it is not influenced by extremely high or extremely low values.

This study found that agriculture-related businesses have a wide range of sales, and some with very high sales. On average, the businesses in the study attributed 22 percent of their sales to the agriculture sector. As a result, the total agriculture-related sales for these businesses was $24,929,935. The average agriculture-related sales for the 148 businesses that provided sales data was $168,446. There were a number of businesses with high agriculture-related sales figures. Three percent of the businesses surveyed (4 of 148) had agriculture-related sales in excess of $1 million. Seventy-four percent of the businesses surveyed had agriculture-related sales below $100,000 (109 of 148). Figure 7.2 illustrates the percentage of Ag-related Sales according to Industrial Sector for the businesses that provided sales data.

Figure 7.2 Total Gross Sales and Ag-Related Sales by Industrial Sector, for Businesses Surveyed.



Source: 2001 Ag-business Survey.

Agriculture-related sales of the businesses surveyed in various sectors of the Blue sky Region's economy are discussed below.

i) Agriculture and Related Service Industries

Average gross sales for the 6 agriculture and related businesses that provided sales data were $117,500. Of this, an average of 42.8%, or $50,300 were attributable to sales related to the agriculture sector.

ii) Logging and Forestry Industries

As only one business in this sector was surveyed, it is not fair to calculate an average for the industry based on a single entry. However, for this business, gross sales was estimated to be $375,000. Of this, 2.0%, or $7,500 can be attributable to sales related to agriculture.

iii) Manufacturing Industries

The study found that manufacturing businesses surveyed had average gross sales of $389,867. Of this, 33.8%, or $131,864 are sales related to agriculture.

iv) Construction Industries

Average gross sales for businesses surveyed in the construction industry in the Blue Sky Region

are $420,500. Of this, 11.6%, or $48,704 can be attributable to sales related to agriculture.

v) Transportation and Storage Industries

Transportation and storage businesses surveyed in the Blue Sky Region had average gross sales of $114,800. Businesses stated that 76.4%, or $87,726 of these sales were attributable to agriculture.

vi) Wholesale Trade Industries

The study found that wholesale trade businesses providing goods and services to farm operations averaged $1,181,147 in gross sales. Of this, 42.7%, or $504,772 is sales attributable to agriculture.

vii) Retail Trade Industries

Retail stores typically sell products for personal or household use. However, many also sell products to the agriculture sector, most notably truck dealers and hardware stores. Average gross sales for the retail businesses surveyed was $1,229,531, with 6.2% or $75,989 being attributable to sales related to agriculture.

viii) Finance Industries

As mentioned earlier in the report, sales data for finance institutions were calculated by multiplying the number of employees at the branch by an annual average salary of $30,000. By using this method, the average gross sales for finance businesses surveyed in the Blue Sky Region was $1,535,000, with 4.5%, or $69,050 being attributable to agriculture.

ix) Real Estate and Insurance Industries

Average gross sales for the real estate and insurance businesses surveyed in the Blue Sky Region were $365,417, with 9.9%, or $36,125 of these sales being related to agricultural properties.

x) Business Service Industries

The business service industry in the Blue Sky Region is dominated by legal and accounting firms. Average gross sales for the businesses surveyed from this sector were $743,056, with 4.3% or $31,931 being attributed to sales related to agriculture.

xi) Other Service Industries

Average gross sales for businesses surveyed in the other service industries were almost $103,625, with 29.9% or $31,013 being attributable to sales related to agriculture.

b) Employment for the Agriculture-related Businesses Surveyed

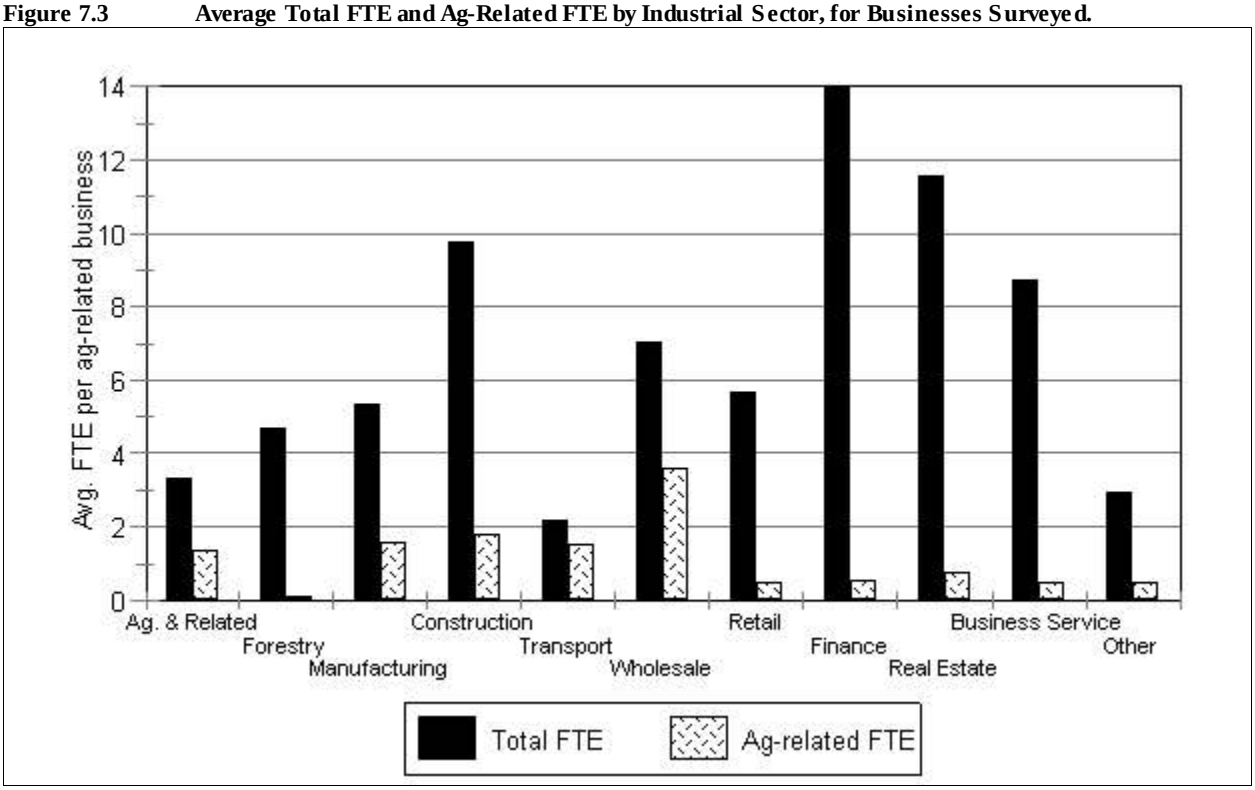
The importance of a business is also measured by the number of FTE jobs it supports. This information was gathered for the business location surveyed, as well as for any other outlets of that

business in other locations. An assumption of this study is that the percentage of sales related to agriculture is equivalent to the percentage of employees serving the agriculture sector for their business. For example, if the plumbing and heating business mentioned in section a) employed 20 people, it would be assumed that 50% of these jobs (10) are supported by sales generated to the agriculture sector. However, in the final analysis the percentage of FTE jobs may not equal the percentage of sales as some sectors/businesses report more working hours per job than others.

The number of employees in a business is another indicator of the importance of that business in the economy. According to Statistics Canada, a small business employs one to 50 people; a medium business employs 51 to 250 people and a large business employs over 250 people.

In total, 150 (98.7% of the survey sample) businesses provided employment data. By this standard, 98.7% of the agriculture-related businesses in the study are small (148 of 150 that provided employment data). The remaining 1.3%, 2 businesses, were in the medium-business range. In total, the businesses surveyed reported a total of 1,021.1 FTE jobs,. The average number of employees (as calculated by FTE jobs) for the businesses surveyed is 6.8. However, 66.0% percent of the businesses surveyed have less than five employees (99 out of 150), and 16.7% percent of the businesses surveyed have less than 10 employees (25 out of 150). Figure 6.3 shows the average number of employees by industrial sector for the businesses surveyed.

Figure 7.3 Average Total FTE and Ag-Related FTE by Industrial Sector, for Businesses Surveyed.



Source: 2001 Ag-business Survey.

All of the businesses in the study exchange goods and/or services with the agriculture sector. As such, it can be assumed that each of these businesses must have employees dedicating some or all of their work-time on activities to serve these exchanges. The businesses surveyed reported that 23.4% of their FTE jobs (239.3 of 1,021.1) were related to serving agriculture. The average number of employees working on activities related to serving the agriculture sector for the businesses surveyed was 1.6. Of the businesses surveyed, 15.3% had at least two employees working strictly on agriculture-related activities (23 out of 150).

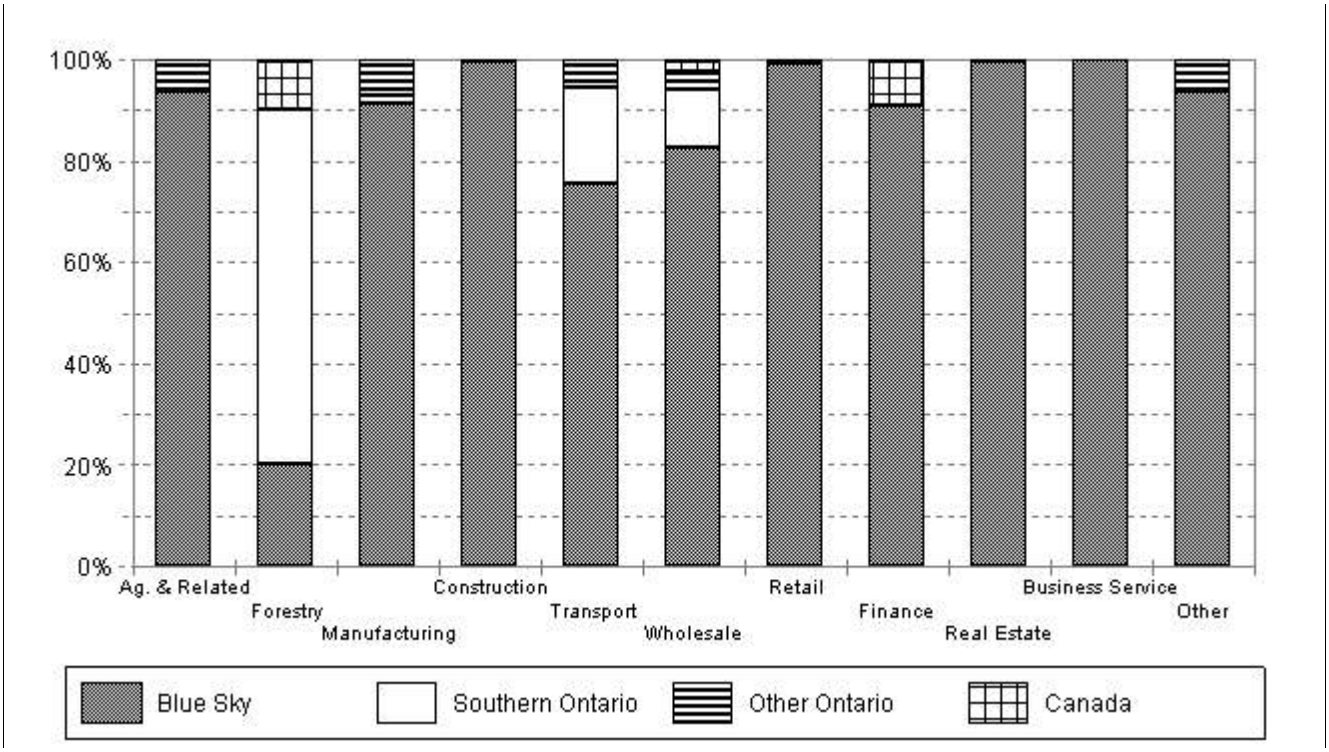
7.2.2.4 Exports of the Agriculture-related Businesses Surveyed

According to the 148 businesses that provided sales data for the study, 91.9% of their sales are made within the Blue Sky Region. The remaining 8.1% of their sales are exports to other locations in Ontario (6.6%), and outside of Ontario but within Canada (1.5%). Seventy percent of the sales within Ontario outside of the Blue Sky Region are destined to Southern Ontario. These sales represent the total sales for all the Agriculture-related businesses surveyed, including sales related to and unrelated to agriculture.

As shown in Figure 7.4, eight of the eleven Industrial Sectors that are represented by the agriculture-related businesses surveyed retain 90 percent or more of their sales in the Blue Sky Region. These include: Business Services (100%), Construction (99.8%), Retail Trade (99.4%), Real Estate and Insurance (99.4%), Other Services (93.9%), Agriculture and Related Services (93.8%), Manufacturing (91.4%), and Finance (90.9%).

Transportation and Storage businesses have the greatest percentage of exports with 24.5% of their sales being made outside of the Blue Sky Region, and the remaining 75.5% staying in the Blue Sky Region. Wholesale businesses generate 14.9% of their sales outside of the Blue Sky Region, but still in Ontario, and a further 2.5% of their sales from outside of the province. Although the single Logging and Forestry industry reported 80% of its sales outside of the Blue Sky Region (70% in Ontario and 10% throughout the rest of Canada), this sample is too small to be representative of the industry as a whole.

Figure 7.4 Location of Sales by Industrial Sector, for Businesses Surveyed.



Source: 2001 Ag-business Survey.

7.2.2.5 Summary: Agriculture-related Businesses in the Blue Sky Region

The analysis shows that businesses that buy from or sell to the agriculture sector in the Blue Sky Region generate a sizeable amount of money and jobs. Furthermore, these companies generate flows of income and expenditure outside the Blue Sky Region in terms of both employment and income. It is estimated that over $39.2 million in agriculture-related sales are generated in the Blue Sky Region by agriculture-related businesses. These businesses generate over $2.8 million in agriculture-related sales in other parts of Ontario (including over $1.97 million in Southern Ontario), and a further $650,000 outside of Ontario. This income is exchanged among the three sales regions which benefits local businesses. The total amount of agriculture-related sales for all three sales regions is almost $42.7 million.

Businesses supported by agriculture generate additional sales in other sectors of the economy. Total sales of agriculture-related businesses in the Blue Sky Region reach almost $193.9 million, including sales related and unrelated to agriculture. This is shown in Table 7.1.

Table 7.1 Gross Sales Generated by all Study Area Agriculture-related Businesses.

Location of Sales	Ag-related Sales	Total Sales: Related and Unrelated to Agriculture
Sales in Blue Sky Region	$39,203,126	$178,125,599
Sales in Ontario (other than Study Area)	$2,815,175	$12,791,194
Sales Outside Ontario	$654,561	$2,974,099
Total Sales	$42,672,862	$193,890,892

Source: 2001 Ag-business Survey

Indirect employment is a further impact of the agriculture sector. Table 7.2 shows that the total Full Time Equivalent Jobs created by agriculture-related businesses is approximately 1,725, including jobs related and unrelated to agriculture. Of this, approximately 404 are indirect agriculture jobs created by agriculture-related businesses in the Blue Sky Region. In addition, there are jobs supported outside the Blue Sky Region by residents purchasing outside the Blue Sky Region, and by jobs in subsidiary locations of Blue Sky Region businesses. There are 140 jobs maintained by the Blue Sky Region's agriculture-related businesses which are supported by sales located outside of the Blue Sky Region. Of these, 33 are positions related to the agriculture sector. These jobs are supported through sales inside and outside of the Blue Sky Region, and are important linkages for the Blue Sky Region's economy.

Table 7.2 Full Time Equivalent Indirect Jobs in Agriculture.

	Agriculture-related Jobs	Total Jobs Related and Unrelated to Agriculture
Jobs in Blue Sky Region	371	1,584
Jobs outside Blue Sky Region	33	140
Total FTE Jobs	404	1,725

Source: 2001 Ag-business Survey

7.2.3 Estimated Induced Jobs

Induced agricultural impacts are impacts on businesses that benefit from the expenditure of wages and salaries of workers in the agriculture and agriculture-related sectors. For the purposes of the current study we have not calculated induced sales although this would clearly add a significant figure to the overall agri-related sales total of agri-related businesses in the Blue Sky Region through the salaries of employees in the Health and Social Services, Education and Government Services sectors.

Induced employment refers to employment generated by the wages of workers in an area. We refer to wages spent in the services sector on private or public services. The economy can be divided into two general 'production' components: goods producing (primary production including agriculture, manufacturing, and construction) and service producing. The service component consists of public sector services (health and social services, education and government) and private sector services[10] (wholesale and retail trade, accommodation and restaurant, and finance and insurance related services). Induced effects are initiated through the spending of wages earned from agriculture and manufacturing, on public services; public service employees and agricultural workers purchase goods from retail stores; retail store workers require health services etc. This pattern of progressive spending reflects the chain of multipliers *induced* by the initial wage in the agriculture or manufacturing sector. The methodology we used to estimate the size of this multiplier is outlined below.

To make estimates of the induced jobs in the Blue Sky Region, a combination of four census subdivisions were utilized: Nipissing from Parry Sound District; Unorganized North Part from Nipissing District; Cosby, Mason and Martland from Sudbury District and Rayside-Balfour from Sudbury Regional Municipality were selected to represent the Blue Sky Region as they had the greatest direct agriculture employment numbers in each of the municipalities in 1996. The total direct employment figure for the two primary production industries in the four census subdivisions, Agriculture and Manufacturing (345 and 935 respectively for a total of 1,280 jobs), was divided into the total number of jobs in the Health and Social Services, Education and Government sectors (965, 785, and 710 respectively for a total of 2,460 jobs). This calculation indicates that for every job created in the two primary production industries, 1.92 induced jobs were supported in the three public service sectors.

When this number is applied to the total number of direct and indirect jobs related to agriculture for the Blue Sky Region as a whole (1,330 direct and 404 indirect jobs for a total of 1,734 jobs X 1.92), it indicates that 3,329 induced jobs are supported by the agriculture sector.

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[10] For our estimates we have excluded the 'private sector services' from induced employment because some of these jobs were already covered in the agriculture-related business survey. This helps in avoiding a double count of some jobs.

7.2.4 Total Direct, Indirect and Induced Impacts

As shown in Table 7.3, there are 1,330 direct, 404 indirect and 3,329 induced jobs created as a result of the agriculture sector in the Blue Sky Region. Thus, farm operations, businesses they buy from and sell to, and services that support farmers and farm businesses, are estimated to support approximately 5,063 jobs.

When this total employment figure is divided by the total number of direct agriculture jobs, a multiplier of 3.8 is the result. This calculation allows us to estimate that for every job in the agriculture sector, an additional 2.8 jobs related to agriculture are supported.

Table 7.3 Total Sales and Employment Related to Agriculture in Blue Sky Region.

	Sales	Jobs
Direct	$37,109,615	1,330
Indirect	$42,672,862	404
Induced		3,329
Total	$79,782,477	5,063

Source: 2000 Ag-business Survey.

In terms of dollars, agriculture makes a substantial contribution to the local economy. As shown in Table 7.3 there are $37.1 million in direct sales and $42.7 million in indirect sales associated with agriculture in the Blue Sky Region. In total, approximately $79.8 million in agri-related sales are generated in the Blue sky Region. In order to estimate the sales expenditure multiplier in the Blue Sky Region, the total amount of agri-related sales for the area was divided by the total amount of direct sales. This produces a sales expenditure multiplier of 2.15 In short, we can use this calculation to estimate that for every dollar generated by direct agricultural sales (farm gate sales), an additional $1.15 in sales related to agriculture is also produced. Please note, these are gross agriculture-related sales and no attempt has been made to identify the "net value-added" component.

7.3 Comparison to Previous Studies

A number of other agri-related business surveys have been conducted in various regions of Ontario using the same methodology applied here. Research has been completed for: Huron County (1998), Simcoe County (1999), Perth County (2000), Lambton County (2000) the combined counties of Prescott, Russell, Stormont, Dundas and Glengarry (1999), the combined counties of Frontenac, Lennox & Addington, Leeds and Grenville (2000), the combined counties of Elgin, Middlesex and Oxford (2000), the combined counties of Lanark and Renfrew (2000) and the new City of Ottawa (2000). Tables 7.4 and 7.5 compare sales and employment data from research collected in other areas of Ontario with the results from the Blue Sky Region research.

While sales and job figures are not directly comparable because of differences in size and characteristics of the study areas, the multipliers associated with these figures provides some insights into the importance of the linkages between agriculture-related business and farm enterprises (Table 7.4). The sales multiplier estimated for the Blue Sky Region (2.2) is similar to that of Lanark and Renfrew (2.4), Perth (2.5), Lambton (2.6), and the combined Counties of Elgin, Middlesex and Oxford (2.3).

Table 7.4 Total Agri-related Sales in Previous Studies (in $ millions).

Research Area	Direct Sales (Farm gate sales)	Indirect Sales (Agri-related businesses)	Total Sales	Sales Expenditure Multiplier
Blue Sky Region	***$37***	***$43***	***$80***	***2.2***
Lambton	$301	$472	$773	2.6
Elgin, Middlesex, Oxford	$1,131	$1,490	$2,621	2.3
Huron [a]	$512	$1,489	$2,001	3.9
Perth	$430	$653	$1,083	2.5
Simcoe	$265	$518	$783	3
Frontenac, Lennox & Addington, Leeds & Grenville	$183	$351	$534	2.9
Lanark & Renfrew	$98	$142	$240	2.4
Prescott, Russell, Stormont, Dundas & Glengarry	$363	$756	$1,119	3.1
City of Ottawa	$137	$265	$402	2.9

[a] Huron County was the first study of this type to be carried out. The methodology has been continuously refined for the succeeding studies. The higher numbers associated with Huron County's Indirect Sales may reflect these refinements.

Source: Cummings et al., 1998, 1999 & 2000.

As shown in Table 7.5, with respect to employment (direct, indirect and induced), the Blue Sky Region employment multiplier (3.8) is higher than all previous studies, with the exception of Huron County. Comparing the number of on-farm jobs to jobs in agri-related businesses, we find that the Blue Sky Region has a 3:1 ratio. While there are a number of other areas in the province with similar ratios, the Blue Sky Region is quite distant from Huron County, the largest agricultural county in the province in terms of farm gate sales. The ratio estimated for Huron is 1:3 or one on-farm for every three jobs in agri-related business.

Table 7.5 Total Agri-related Jobs in Previous Studies.

Research Area	Direct Agr. Jobs	Indirect Jobs [a] (Agri-related businesses)	Induced Jobs	Total Jobs	Employment Multiplier
Blue Sky Region	***1,330***	***404***	***3,329***	***5,063***	***3.8***
Lambton	3,920	1,624	3,382	8,926	2.3
Elgin, Middlesex, Oxford	16,515	6,856	9,348	32,720	2.0
Huron	5,025	14,186	3,528	22,739	4.5
Perth	4,935	3,133	3,066	11,131	2.3
Simcoe	4,770	2,237	7,414	14,421	3.0
Frontenac, Lennox & Addington, Leeds & Grenville	4,325	1,935	5,321	11,581	2.7
Lanark & Renfrew	3,010	848	3,163	7,021	2.3
Prescott, Russell, Stormont, Dundas & Glengarry	5,955	4,516	7,007	17,478	2.9
City of Ottawa	3,510	1,045	5,466	10,021	2.8

[a] Indirect jobs are presented as full time equivalents.

Source: Cummings et al., 1998, 1999 & 2000.

As shown in Table 7.6, agri-related businesses in the Blue Sky Region are deriving a smaller share of their sales from exports when compared to other regions of the province. The one exception is the combined counties of Prescott, Russell, Stormont, Dundas, and Glengarry where agri-related sales made up only 8.5% of the total sales activity.

Table 7.6 Location of Agri-related Business Sales in Previous Studies.

	Location of Sales (%)				
Research Area	**Sales within the Study Area**	***Sales outside Study Area but within Ontario***	***Sales to other Provinces***	***Sales outside Canada***	**Total Sales outside the Study Area**
Blue Sky Region	***91.9***	***6.6***	***1.5***	*--*	***8.1***
Lambton	83.6	*15.6*	*0.3*	*0.5*	16.4
Elgin, Middlesex, Oxford	66.8	*24.7*	*3.8*	*4.7*	33.2
Huron	42.9	*34.5*	*22.6*		57.1
Perth	65.5	*33*	*1.2*	*0.3*	34.5
Simcoe	43.6	*41.5*	*3.5*	*11.4*	56.4
Frontenac, Lennox & Addington, Leeds & Grenville	76.4	*20.5*	*0.7*	*2.4*	23.6
Lanark & Renfrew	86.2	*9.9*	*3.8*	*0.1*	13.8
Prescott, Russell, Stormont, Dundas & Glengarry	91.5	*5.8*	*1.5*	*1.2*	8.5
City of Ottawa	63.7	*36.2*	*0.1*	--	36.3

Source: Cummings et al., 1998, 1999 & 2000.

8.0 Other Agri-related Businesses

Survey efforts extended beyond the boundaries of the Blue Sky Region in order to assess the impact of other agriculturally related businesses located outside the study area.

The survey list was generated from the original list provided by the Blue Sky Economic Partnership. Businesses were also identified by researching business directories and following through on referrals provided by the primary survey effort with local agri-related businesses. Forty-one agri-related businesses and organizations were contacted. Twenty of these businesses indicated that they did not provide products or services in the Study Area or were not involved in providing agricultural related products or services.

The composition of businesses and organizations that were surveyed included: commodity groups (i.e. Ontario Deer and Elk Farmers' Association and Ontario Cattlemens' Association, Ontario Pork Producers, etc.), veterinarians, farm equipment dealers, farm supply, livestock auctions, food processors and representatives from the business service industries such as accountants and insurance agents. Many of these businesses and service providers are located in municipalities adjacent to the Blue Sky Region, while others are located in Southern Ontario or outside the province.

Businesses that provide products and services to the Blue Sky Region from outside the region represent a variety of industrial sectors including transportation and storage, finance, business service, agriculture and related, manufacturing, wholesale, and retail. Table 8.1 indicates specific agri-related products and services that external businesses and organizations provide to the Blue Sky Region.

Table 8.1 Product and Services Provided to the Blue Sky Region Agri-sector from Outside the Study Area

Products	Services
Farm equipment	Auctioneer, Sales and Marketing
Feed	Lobby groups
Feed supplements	Promotions
Fencing supplies	Financial Services
Mechanical parts	Transportation
Animal Health products	Veterinary
Hardware	Slaughter and Processing
Educational materials	Research and Advocacy

Agri-related businesses located outside the study area reported total sales of approximately $50 million with just over one million dollars worth of agri-related sales within the Study Area. Given that this figure is derived from a small sample of businesses, we suggest that this be treated as a conservative estimate of the total leakage of agri-related sales from the region. A more thorough analysis of sales leakage from the local economy could be developed through a survey of farm producers.

The majority of respondents reported declining agri-related sales in the region in recent years. A wholesale livestock feed and supplement supplier noted that deliveries to farmers in the Blue Sky Region once occurred weekly but now there is "barely a truckload of sales to the region every two months." It was also noted that with the reduction of livestock operations in the area, the distance between operations has increased which has adversely affected the economics of running trucks into the area and competing with local businesses.

Farm equipment dealers noted a decline in dealerships across the province including dealers in Northen Ontario. The loss and consolidation of dealerships is viewed as part of a larger problem concerning low commodity prices.

One respondent noted that many beef producers in the region are missing market opportunities on account of the limited use of vaccination programs. It was suggested that only about 20% of the cattle coming from the area are fully vaccinated. It was further suggested that this may be reducing returns by as much as 14 cents per pound for animals that have not been vaccinated.

Commodity groups that noted declines in activity included honey and dairy. Honey production has experienced a decline over the past ten years as a result of low honey prices and the introduction of an exotic species of mite. However, as a counter measure beekeepers in the study area and in other parts of the province are turning to alternative marketing strategies such as producing specialty honey products, offering farm tours and providing pollination services to field crop farmers.

The local dairy sector has also experienced a notable decline in farm numbers. Between 1996 and 2000 the number of dairy farms in the region declined by over 30%. However, milk production in the area during the same period experienced a decline of only 15% reflecting the broader trend across Ontario for larger herds, fewer farms and greater production efficiencies through improved feed rations and genetics.

Commodity representatives noted that the region has experienced growth in several non-traditional sectors including deer, elk, sheep and goats.

9.0 Results, Conclusions

1. The agriculture of the Blue Sky Region is dominated by the physical constraints of soil and weather. However, significant opportunities exist that relate to soils associated with lake and river deposits and new improved cold tolerant varieties. Many of the soils of the region require agricultural lime to enhance their productivity.

2. Cash crops are less important in this region than in the province as a whole. However, the Blue Sky Region features a diverse range of field crops including cereal and oilseed crops as well as forage crops. Research into developing hardier and more productive varieties of cultivars is ongoing through several research stations located in Northern Ontario including the test site at Verner. Farmers and agri-business leaders in the region are also taking efforts to bring more land into production and enhance the productivity of existing farmland while investing in the development of new production, processing and marketing facilities.

3. The mean annual growing season in Sudbury area is 183 days. Between May 1 and September 30 the region receives on average 417-418 mm of rain. In Parry Sound area there are 180 days in the growing season and 472 mm average rainfall in the growing season in this region. In Nipissing District, the growing season is 180 days with 479 mm rain in the growing season. With respect to Crop Heat Units, much of the area is in the 2100 zone. However CHU's for the region can fluctuate from year to year depending on weather patterns and some areas within the region can experience higher CHU zones. The Verner test station for example has had some years with 2800 CHU and North Bay reported 2500 CHU in 2001.

4. The summer tourist season is a significant opportunity for local producers to make use of farmers markets and direct farm sales to augment their income.

5. The rivers, lakes, roads and mineral deposits have strongly influenced the settlement pattern. With the development of land and markets in these places, opportunities for agriculture have emerged. The region straddles major national transportation corridors for rail, road and water. A major investment has also taken place in the airports of the area.

6. Over the last 25 years there has been very slow population growth in the region, compared to Ontario. In the region as a whole, 72 percent of the population is classified as urban. Compared to Ontario, the region has a larger share of its population of French origin (23.4 percent compared to 8.8% in 1996). Relative to Ontario the rate of immigration from abroad is lower in the Blue Sky Region. The mobility profile for Blue Sky is very similar to the rest of the Province.

7. Overall employment in the Blue Sky Region declined between 1991 and 1996 by 6,265 jobs or 4.2%, much higher than the province at 0.6%. Retail Trade industries have consistently provided the greatest number of jobs in the Blue Sky Region in 1991 and 1996. Government Service

industries in 1991 were the second largest employer in region but then experienced a 28% decline in 1996, the largest of all the sectors. With the decline in government service jobs, Health the Social Services industries became the second largest employer in the Region in 1996. In 1991 the agriculture sector employed 1,500 people in the Blue Sky Region (1.02% of the labour force). By 1996, the number of people directly employed in Agriculture declined by 11.3% (170 people).

8. With respect to family income in the Blue Sky Region, families are on average poorer than families in Ontario as a whole. The region is under represented in the high income categories and over represented in the low income categories.

9. With respect to education in the region, Blue Sky residents have a lower level of education than Ontario residents with only 16.5 percent of residents having a university education compared to 24.3 percent for Ontario. Data on occupations show that Blue Sky males are over represented compared to Ontario in the following sectors: trades, transport, equipments operators, sales and service, management and primary industry occupations. For women in the region they are over represented in: sales and service, health and social science related occupations.

10. The amount of farmland reported in the region between 1976 and 1996 declined. Of particular note was the 22.8% decline in farmland between 1986 and 1996 compared to Ontario where there was only a 0.5% decline.

11. With respect to land use it is to be noted that 30.4 percent of Blue Sky farmland is in crops compared to 63.1 percent in Ontario. The miscellaneous "other" category is proportionally larger in Blue Sky (32.1 percent) compared to Ontario (18.5%). In addition, we note the larger share of unimproved pasture in the region (19.3 percent) compared to Ontario (11.8 percent). There are large concentrations of crop land in the townships of : Caldwell, Chisholm, South Himsworth and Rayside-Balfour. Nipissing District has the best agricultural land in the region. There were a total of 247,225 acres under the main agricultural uses in Blue Sky Region in 1996.

12. Blue Sky's share of the number of farms in Ontario has remained relatively constant at 1.5%. The absolute number of farms in 1996 (1031) was similar to the number in 1976. With respect to farm size, the average Blue Sky farm is larger (239.8 acres) compared to Ontario (205.6). The proportion of farms in the Blue Sky Region that are smaller (0-179 acres) has increased from 44.6% in 1986 to 48.3% in 1996.

13. With respect to type of farm, the Region is over represented in miscellaneous specialty crops, other combinations, and beef. Proportionably, the lowest representation is in poultry, hogs, fruit and vegetable farms. Since 1986 we have seen rapid growth in the number of farms in field crops and miscellaneous specialty crops and a decline in the number of livestock (beef & dairy) operations. There is a strong specialization in hay in the region with the region having 5.0 percent of Ontario hay acreage.

14. The majority of the farms in the region are sole proprietorships and this type of ownership is more common in the Blue Sky Region than in Ontario. Women are proportionally more important as farm operators in the Region than in Ontario. The average age of farmers in the Blue Sky Region (49) is identical to Ontario. The Blue Sky farmers are more dependent on off-farm work than are farmers in Ontario.

15. Farm gate sales in the Blue Sky Region were approximately $37 million in 1995. This was an increase of 53 percent from 1985. In the same period Ontario farm gate sales increased by 41 percent. Blue Sky is growing more rapidly in this regard than Ontario. Nipissing District had the largest sales ($13.9 million in 1995) followed by Parry Sound ($10.2 million). Parry Sound grew by 91% over the 10 year period. The City of Greater Sudbury also experienced rapid growth, with farm gate sales increasing by 146% in the 1985-1995 period. Sales per acre were much lower in Blue Sky ($150) compared to Ontario ($560). The highest sales per acre were in Valley East ($379), Rayside-Balfour ($354), Springer ($ 297), Caldwell ($256) and Armour ($220).

16. Expenditures by farmers in the Blue Sky Region were $34.5 million in 1995, up from $24.1 million in 1985. Expenses per acre in the Region ($140) were higher than Northern Ontario ($130) but lower than Ontario ($472). This indicates that agriculture in the Region is more extensive than in Ontario.

17. Net revenues by farmers in the Blue Sky Region are very low with an average of $10 per acre compared to $18 in Northern Ontario and $88 in Ontario. The highest net revenues are in Nipissing township, Caldwell, Ratter and Dunnett and Rayside-Balfour. Many townships show farms with negative net revenues. Farm operators in the Blue Sky Region are making substantial capital investments in the industry. While the province as a whole experienced less than one percent growth in farm capital between 1991 and 1996, the value of farm capital in the Blue Sky Region increased by 19% or close to $50 million.

18. A survey of ag-related businesses was completed in the Region. Out of 253 businesses on the list, a representative sample (95% confidence) of 148 was surveyed. From this sample we estimate that the 253 businesses did $42.7 million in ag-related business in 2000. This amounted to 22 % of the sales of these businesses. Ninety-two percent of the sales were within the Blue Sky Region. The 253 ag-related businesses employed an estimated 404 jobs in 2001.

19. The most important type of business represented in the survey was wholesale and retail trade. The average business surveyed reported gross sales of $765,359 in 2000. These same businesses on average employed 6.8 employees (full time equivalents) of which 1.6 worked on agriculture.
Some of these businesses also exported goods and services outside the region. The most important sectors in this regard were transportation and storage, and wholesale trade.

20. HCA estimates that for every job in agriculture and ag-related businesses, 1.92 jobs were generated in the public service sector.

21. In summary, in employment terms the region has 1,330 direct jobs, 404 indirect jobs and 3,329 induced jobs for a total of 5,063 jobs provided by the 1,330 jobs in agriculture. The multiplier that results indicates that for every direct job in agriculture there are an additional 2.8 jobs in the wider economy of the Region.

22. With respect to sales, excluding the value of the government service sector, we estimate a total of $80 million in direct and indirect sales related to agriculture in Blue Sky Region. The sales expenditure multiplier indicates that for every dollar generated by direct agricultural sales (farm gate sales), an additional $1.15 in sales related to agriculture is also produced.

Future Directions

Agriculture has become a very diverse industry in the Blue Sky Region. Efforts to improve growing conditions through tile drainage and agriculture liming have brought more land into production and increased overall productivity. Interest in new ideas including new crops (buckwheat, flax, canola, garlic), new farm animals (bison, goats, emu) and agri-tourism have expanded a number of opportunities for the region.

It is recommended that Northern Ontario and Canada research be continued through the support of the agricultural research stations and programs of the Federal and Provincial governments and the private sector. There is evidence that research efforts of the past are yielding results in the variety of new crops being planted in the area and in increases in selected aspects of agricultural production.

With the movement into a more diverse agriculture base, opportunities may be emerging for new training and support services in the region. A study of current training and support programs should be undertaken in light of recent developments in the local agriculture and agri-related business sector. Many farm operators are taking an interest in value added production and niche marketing. Future skills development may also include computer science, e-commerce, agricultural policies, environmental issues, and consumer trends.

It is recommended that consideration be given to supporting selected agricultural service centres and their efforts to diversify and respond to the needs of a changing agricultural sector. This could be done by providing support to agricultural businesses in the area and/or providing for investment in public infrastructure that may serve to attract other investment in support of agriculture.

The Internet is increasingly being used by farmers in the Blue Sky Region to track market developments and to stay informed of new developments in farming methods both locally and globally. Ensuring that the agriculture community has access to this resource is an important factor in promoting new ideas and enhancing the competitiveness of the industry.

It is recommended that governments and the private sector work together to ensure that full support is given to Internet use by agriculture in the Blue Sky Region

As with other regions of the province, the Blue Sky Region is struggling to attract and maintain younger farm operators. The sustainability of the industry is linked to finding ways or incentives to attract and keep youth involved in agriculture.

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Appendices

Appendix A: Population by Ethnic Origin in the Blue Sky Region, 1996 [a]

	Nipissing District		Parry Sound District		Sudbury District		City of Greater Sudbury		Blue Sky Region		Northern Ontario		Ontario	
English	25,770	18.00%	17,020	24.80%	6,490	15.22%	40,280	15.29%	89,560	17.29%	226,995	17.17%	3,086,145	20.50%
Canadian	30,545	21.34%	14,485	21.10%	9,135	21.42%	55,270	20.98%	109,435	21.13%	260,500	19.70%	2,700,870	17.94%
Scottish	14,690	10.26%	9,725	14.17%	3,385	7.94%	23,855	9.06%	51,655	9.97%	138,845	10.50%	1,887,695	12.54%
Irish	15,755	11.01%	9,130	13.30%	4,110	9.64%	26,880	10.20%	55,875	10.79%	137,300	10.38%	1,723,065	11.44%
French	33,530	23.42%	5,440	7.93%	12,160	28.51%	70,065	26.60%	121,195	23.40%	252,140	19.07%	1,330,465	8.84%
German	7,300	5.10%	5,525	8.05%	2,355	5.52%	12,065	4.58%	27,245	5.26%	69,665	5.27%	984,770	6.54%
Italian	3,470	2.42%	910	1.33%	760	1.78%	12,190	4.63%	17,330	3.35%	57,570	4.35%	743,425	4.94%
Dutch	2,285	1.60%	1,940	2.83%	675	1.58%	3,085	1.17%	7,985	1.54%	23,070	1.74%	433,690	2.88%
South Asian [b]	185	0.13%	30	0.04%	60	0.14%	655	0.25%	930	0.18%	2,090	0.16%	427,470	2.84%
Chinese [c]	330	0.23%	125	0.18%	0	0.00%	685	0.26%	1,140	0.22%	3,040	0.23%	422,775	2.81%
Polish	1,995	1.39%	900	1.31%	530	1.24%	4,200	1.59%	7,625	1.47%	26,470	2.00%	370,460	2.46%
Ukranian	1,235	0.86%	960	1.40%	710	1.66%	6,530	2.48%	9,435	1.82%	43,870	3.32%	276,950	1.84%
Aboriginal	5,720	4.00%	2,070	3.02%	2,185	5.12%	7,055	2.68%	17,030	3.29%	76,725	5.80%	246,070	1.63%
Portugese	170	0.12%	155	0.23%	65	0.15%	390	0.15%	780	0.15%	2,510	0.19%	231,805	1.54%
Jewish	160	0.11%	220	0.32%	30	0.07%	240	0.09%	650	0.13%	1,430	0.11%	191,445	1.27%
Total [d]	143,140	100.00%	68,635	100.00%	42,650	100.00%	263,445	100.00%	517,870	100.00%	1,322,220	100.00%	15,057,100	100.00%

[a] This table shows total response counts for the 15 most frequently reported ethnic origins in the province. Total responses represent the sum of single ethnic origin responses and multiple ethnic origin responses received in the 1996 Population Census. Percentages shown are derived from total response counts from the 15 most frequently reported ethnic origins. Response counts, totals and percentages are skewed due to the combinations of the single and multiple responses.

[b] "South Asian" includes Bangladeshi, Bengali, East Indian, Goan, Gujarati, Pakistani, Punjabi, Sinhalese, Sri Lankan, Tamil and South Asian not included elsewhere.

[c] In 1991, "Taiwanese" was included in "Chinese". In 1996, "Taiwanese" was collected as a separate response.

[d] Total indicates the number of respondents reported in each ethnic origin, either as their only response or in addition to one or more ethnic origins.

Source: Statistics Canada Cat. No. 95-187-XPB, 1996.

Appendix B: Major Fields of Study: Post Secondary Qualifications by Major Field of Study, 1996 (based on 20% sample data)

	Nipissing District				Parry Sound District				Sudbury District				City of Greater Sudbury			
	Male		Female		Male		Female		Mal		Female		Male		Female	
Agricultural and biological sciences/technologies	470	3.72%	450	3.40%	225	3.95%	285	5.14%	100	5.39%	60	3.48%	785	3.16%	705	2.90%
Commerce, management and business administration	1,890	14.96%	3,805	28.78%	485	8.52%	1,605	28.92%	140	7.55%	465	26.96%	2,810	11.30%	6,940	28.56%
Educational, recreational and counseling services	895	7.09%	2,295	17.36%	420	7.37%	830	14.95%	105	5.66%	295	17.10%	1,225	4.93%	3,700	15.23%
Engineering and applied sciences	620	4.91%	50	0.38%	180	3.16%	15	0.27%	80	4.31%	15	0.87%	1,215	4.89%	175	0.72%
Engineering and applied science technologies and trades	5,715	45.25%	475	3.59%	3,155	55.40%	200	3.60%	1,130	60.92%	105	6.09%	13,070	52.55%	900	3.70%
Fine and applied arts	295	2.34%	830	6.28%	160	2.81%	410	7.39%	40	2.16%	120	6.96%	400	1.61%	1,755	7.22%
Health professions, sciences and technologies	610	4.83%	2,990	22.62%	220	3.86%	1,395	25.14%	55	2.96%	370	21.45%	1,010	4.06%	5,355	22.04%
Humanities and related fields	535	4.24%	630	4.77%	180	3.16%	235	4.23%	20	1.08%	65	3.77%	1,020	4.10%	1,240	5.10%
Mathematics and physical sciences	265	2.10%	100	0.76%	125	2.19%	35	0.63%	45	2.43%	45	2.61%	980	3.94%	480	1.98%
Social sciences and related fields	1,320	10.45%	1,580	11.95%	535	9.39%	540	9.73%	140	7.55%	185	10.72%	2,345	9.43%	3,030	12.47%
No specialization and all other, n.e.c.	15	0.12%	15	0.11%	10	0.18%	0	0.00%	0	0.00%	0	0.00%	10	0.04%	20	0.08%
Total	12630	100.00%	13220	100.00%	5695	100.00%	5550	100.00%	1855	100.00%	1725	100.00%	24870	100.00%	24300	100.00%

Source: Statistics Canada Population Census,1996.

Appendix C: Major Fields of Study: Post Secondary Qualifications by Major Field of Study, 1996 (based on 20% sample data)

	Blue Sky Region				Ontario			
	Male		Female		Male		Female	
Agricultural and biological sciences/technologies	1,580	3.50%	1,500	3.35%	75,450	4.29%	70,010	4.09%
Commerce, management and business administration	5,425	12.02%	12,815	28.61%	292,540	16.65%	460,755	26.91%
Educational, recreational and counseling services	2,645	5.86%	7,120	15.89%	83,215	4.74%	248,665	14.52%
Engineering and applied sciences	2,095	4.64%	255	0.57%	144,005	8.20%	20,375	1.19%
Engineering and applied science technologies and trades	23,070	51.10%	1,680	3.75%	655,685	37.32%	75,120	4.39%
Fine and applied arts	895	1.98%	3,115	6.95%	62,285	3.55%	130,690	7.63%
Health professions, sciences and technologies	1,895	4.20%	10,110	22.57%	72,420	4.12%	321,290	18.76%
Humanities and related fields	1,755	3.89%	2,170	4.84%	96,875	5.51%	132,510	7.74%
Mathematics and physical sciences	1,415	3.13%	660	1.47%	88,985	5.06%	44,370	2.59%
Social sciences and related fields	4,340	9.61%	5,335	11.91%	183,245	10.43%	206,020	12.03%
No specialization and all other, n.e.c.	35	0.08%	35	0.08%	2,230	0.13%	2,420	0.14%
Total	45150	100.00%	44795	100.00%	1756935	100.00%	1712225	100.00%

Source: Statistics Canada Population Census,1996.

Appendix D: Broad Occupation Categories for Census Subdivisions in the Blue Sky Region, 1996.

	Nipissing District				Parry Sound District				Sudbury District				City of Greater Sudbury			
	Male		Female		Male		Female		Male		Female		Male		Female	
Trades, transport and equipment operators and related occupations	5585	26.96%	440	2.41%	3460	35.36%	155	1.89%	1250	32.72%	135	5.08%	12260	29.18%	770	2.15%
Sales and service occupations	5420	26.16%	6835	37.40%	1825	18.65%	3380	41.22%	710	18.59%	1040	39.17%	9275	22.08%	13050	36.49%
Management occupations	2115	10.21%	1160	6.35%	1175	12.01%	635	7.74%	335	8.77%	160	6.03%	4050	9.64%	1970	5.51%
Occupations unique to primary industry	790	3.81%	420	2.30%	620	6.34%	180	2.20%	550	14.40%	25	0.94%	4280	10.19%	265	0.74%
Business, finance and administrative occupations	1895	9.15%	4940	27.03%	445	4.55%	1895	23.11%	130	3.40%	720	27.12%	3555	8.46%	11290	31.57%
Occupations unique to processing, manufacturing and utilities	1545	7.46%	420	2.30%	860	8.79%	180	2.20%	450	11.78%	25	0.94%	2580	6.14%	265	0.74%
Natural and applied sciences and related occupations	1265	6.11%	170	0.93%	530	5.42%	70	0.85%	200	5.24%	30	1.13%	2575	6.13%	430	1.20%
Occupations in social science, education, government service and religion	1265	6.11%	1795	9.82%	595	6.08%	775	9.45%	140	3.66%	275	10.36%	2035	4.84%	3595	10.05%
Health occupations	480	2.32%	1725	9.44%	165	1.69%	810	9.88%	35	0.92%	175	6.59%	830	1.98%	3425	9.58%
Occupations in art, culture, recreation and sport	355	1.71%	370	2.02%	110	1.12%	120	1.46%	20	0.52%	70	2.64%	575	1.37%	705	1.97%
Total	20715	100.00%	18275	100.00%	9785	100.00%	8200	100.00%	3820	100.00%	2655	100.00%	42015	100.00%	35765	100.00%

Source: Statistics Canada Population Census,1996.

Appendix E: Geographic Area Amalgamations by Census Divisions and Census Consolidated Subdivisions for the Study Area, 1986-1996. [a]

	1996		1991		1986	
Parry Sound District	**Armour**		**Armour**		**Armour**	
	Chapman		**Chapman**		**Chapman**	
	Machar	*Machar, Joly, Parry Sound Unorganized, North East Part*	**Christie**	*Christie, Foley, Humphrey, McDougall, and The Archipelago*	**Christie**	*Christie, Foley, Humphrey, McDougall, and The Archipelago*
	McDougall	*McDougall, Humphrey, Christie, The Archipelago, Foley*			**Hagerman**	
					Humphrey	
					Joly	*Joly and Kearney*
	McKellar	*McKellar and Hagerman*	**McKellar**	*McKellar and Hagerman*	**McKellar**	
	Nipissing		**Nipissing**		**Nipissing**	
	North Himsworth				**North Himsworth**	
	Unorganized, Centre Part		**Unorganized, Centre Part**		**Unorganized, Centre Part**	
	Perry	*Perry, Kearney, McMurrich*	**Perry**	*Perry, Kearney, McMurrich, and Joly*	**Perry**	*Perry and McMurrich*
	Ryerson		**Ryerson**		**Ryerson**	
	South Himsworth		**South Himsworth**	*South Himsworth, North Himsworth, Parry Sound Unorganized North East Part*	**South Himsworth**	
	Strong		**Strong**	*Strong and Machar*	**Strong**	
					The Archipelago	

[a] The Census subdivisions that form the amalgamated areas are shown in italics.

	1996		1991		1986	
Nipissing District	**Bonfield**	***Bonfield and East Ferris***	**Bonfield**	***Bonfield and East Ferris***	**Bonfield**	
	Caldwell		**Caldwell**		**Caldwell**	
	Calvin		**Calvin**	***Calvin, Cameron, Nipissing Unorganized South Part, and Papineau***	**Calvin**	
	Chisholm		**Chisholm**		**Chisholm**	
					East Ferris	
	Nipissing Unorganized, North Part		**Nipissing Unorganized, North Part**		**Nipissing Unorganized, North Part**	***Nipissing Unorganized, North Part, and Nipissing Unorganized South Part***
	Papineau-Cameron	***Papineau-Cameron and Nipissing Unorganized South Part***			**Papineau**	***Papineau and Cameron***
	Springer		**Springer**		**Springer**	
Selected Parts of Sudbury District	**Casimir, Jennings and Appleby**	***Casimir, Jennings and Appleby and Hagar***	**Casimir, Jennings and Appleby**	***Casimir, Jennings and Appleby and Hagar***	**Casimir, Jennings and Appleby**	***Casimir, Jennings and Appleby and Hagar***
	Cosby, Mason and Martland		**Cosby, Mason and Martland**		**Cosby, Mason and Martland**	
	Ratter and Dunnet		**Ratter and Dunnet**		**Ratter and Dunnet**	
	Unorganized, North Part		**Unorganized, North Part**		**Unorganized, North Part**	
Sudbury Regional Municipality	**Rayside-Balfour**		**Rayside-Balfour**	***Raysid-Balfour, Sudbury, Onaping Falls, and Nickel Centre***	**Rayside-Balfour**	***Raysid-Balfour, Sudbury, and Nickel Centre***
					Onaping Falls	
	Valley East		**Valley East**		**Valley East**	
	Walden	***Walden, Sudbury, Onaping Falls, and Nickel Centre***	**Walden**		**Walden**	

1.0 Introduction

This report was prepared in response to a call for proposals issued in February of 2001 by the Agricultural Sector committee of the Blue Sky Economic partnership.

The objective of the study as stated in the Terms of Reference was:

> "To provide farmers, local government and the general public with an economic picture of the area and agriculture's relative importance as an industry. It will inform stakeholders and assist possible entrepreneurs in identifying opportunities to create new businesses and enhance the life of farmers and other agri-support businesses in rural Ontario. The Study will make an analysis of how many businesses purchase and sell products to farmers and how many traditional and spin off jobs are created by the presence of farmers in the local economy."

The first section of the report provides an overview of the work, the background to the study, and an introduction to the work done in the study area. Section 2 of the report provides information on the spatial and natural resource aspects of agriculture in the Blue Sky Region (see Figure 2.1). It provides maps and discussion on the geology, topography, climate and soils in the region.

Section 3 of the report profiles changes in population and employment in the new Blue Sky Region. This includes general background information on the population such as population changes experienced in the region and the distribution of family income as compared to Northern Ontario, Ontario and Canada. A more in-depth discussion is given to the employment situation in the area, including changes in employment numbers over time. This section provides information on the number of jobs in each sector of the economy, including agriculture, manufacturing, construction, government and service industries.

Section 4 provides information on agriculture in general in the Blue Sky Region. This section uses data, largely from the agricultural census, to describe farmland, land use, number of farms, farm size, farm type, farm operators and other general characteristics of agriculture. In Section 5, the direct impact of agriculture on the Blue Sky economy is described using farm gates sales, expenditure and net revenue from the agricultural census. Farm gate sales are a strong indication of the impact agriculture has on the economy. Sales combined with agricultural jobs are the two indicators strongly emphasized within this report. Related economic figures provided will include farm operating expenses, farm capital figures and net receipts (in total, as well as per farm and per acre). Farm gate sales and agricultural jobs represent the first step in understanding the impact of agriculture on the economy of the Blue Sky Region.

In Section 6, the two other core elements of economic impact analysis are used in analyzing agriculture in the economy of the region. These are the indirect impact of agriculture on jobs and sales in the region and the induced impact of agriculture. The major source of information for this analysis was a survey of a sample of 148 businesses in the region that work

with and for farmers in the region. Businesses outside the region were also contacted to describe sales and expenditure "leakages". We also used census employment data to estimate the other "induced" spin-off jobs, largely in the service sector, supported by agriculture. Section 7 provides a summary and overview of the results of the study. Section 8 provides us with a view of links outside of the Blue Sky Region while Section 9 documents the conclusions.

1.1 Background to the Study Methodology

The study focuses on dollars and jobs created by agriculture. The methodology relies mainly on 'input-output' analysis as a tool for assessing the impact of agriculture. This approach depicts the economy as a series of sectors that buy and sell goods to each other until they reach the point of consumption. The purchases of products by sectors from other sectors are the inputs, and the sales to other sectors by a sector are the outputs.

The research presented in the report relies on data from the Population Census, Agricultural Census, surveys of Agricultural-related businesses located in the study area and information from local citizens knowledgeable of the area. Selected data from tax filer reports provided by Statistics Canada is also analyzed. The report includes a discussion of the role of agriculture in the study area economy, as well as a discussion of related socio-economic conditions.

1.2 Background to the Research Report

From a demographic perspective, the composition of the rural population has become predominantly non-farm based. By 1981, the farm-based population in rural Ontario accounted for only 18 percent of the total rural population compared to 55 percent in 1931 (Dasgupta, 1988, pp.26-30). The rural economy has also undergone considerable structural change as a consequence of global economic restructuring. Restructuring of the economy came about as other regions of the world developed competitive manufacturing sectors that challenged many of the manufacturing industries that were the heart of Canada's industrial economy (steel, automobiles, farm machinery, consumer electronics, etc.). In an effort to become more competitive, Canadian firms responded by reducing the size of their domestic workforce, adopting more automation and shifting production operations offshore.

At the same time the manufacturing sector was adjusting to global restructuring, agriculture experienced problems of reorganization and restructuring in response to overproduction, a declining market for unprocessed agricultural goods, and new competition in the world market (Goe and Kenney, 1991, p140-141).

Although rural economies continue to have a strong resource base, the percentage of jobs directly employed in agriculture production has been declining in Canada since the turn of the century (Keddie, 1999, pp.11-18). The job movement out of agriculture and other resource sectors has been accompanied by growth in service sector employment. In rural Ontario, the service sector now exceeds the goods producing sector as the principal employer (Bollman and Biggs, 1992, pp.21-28; Keddie, 1999, pp.30-31).

These changes have led some analysts to question the importance of agriculture as an engine of economic growth (Whyte, 1978, p.43). Indeed, analysts and policymakers are increasingly looking to other economic activities such as tourism to spur economic growth in rural areas.

It is important to note that, even though there were declines in the number of direct jobs in agriculture (i.e., on-farm jobs), the value of farm gate sales has continued to rise. Between 1986 and 1996, farm gate sales in Ontario rose from $5,511 million to $7,778 million (a growth rate of 3.5% per year) while employment on farms declined. Not only did the value of production increase, the volume of production also increased. This implies an increase in the productivity of farm workers and more capital intensive farm operations. With fewer people working on farms, the linkages to industries and sectors supporting agriculture become all the more important.

1.3 Introduction to the Blue Sky Region[1] and Other Agricultural Economic Impact Studies.

In recent years, a number of research initiatives have been undertaken in different regions of Ontario to assess the total impact of agriculture on the local economy. The research findings indicate that agriculture has extensive industry linkages and is responsible for generating a significant number of jobs in the local economy beyond the primary production stage.

The research strategy originated in Huron County in work done by Harry Cummings and colleagues for the Huron County Federation of Agriculture and the Huron County Planning Department. Since that initial work studies have been completed by Cummings and colleagues in Perth, Lambton, Simcoe, Elgin, Middlesex, Oxford, Prescott, Russell, Stormont, Dundas and Glengarry, Frontenac, Lennox and Addington, Leeds and Grenville, New City of Ottawa, Lanark and Renfrew. These Federations of Agriculture, combined with colleagues, in planning offices, economic development offices, school boards, the Ministry of Agriculture, Food and Rural Affairs; Labour Force Development Boards and other organizations, recognized that conventional economic indicators associated with agriculture were inadequate in showing the total impact agriculture has on the economy as a whole.

In each case a working group was formed to address the issue. A Request for Proposal was distributed by the Blue Sky Agriculture Working Group. Dr. Harry Cummings, a consultant and professor at the University of Guelph School of Rural Planning and Development, won the bid to carry out the work using a similar methodology to the other studies. This report is the result of this work done by Dr. Cummings and his associates through his consulting firm, Harry Cummings and Associates (HCA).

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[1]The study area has been enlarged from the original Blue Sky Economic Region to incorporate adjacent areas that are economically linked or have economic impacts on the region. The areas in this report identified as the Blue Sky Region include four Census Divisions: Nipissing District, City of Greater Sudbury, Sudbury District and Parry Sound District.

3.0 A Socio-Economic Profile of the Blue Sky Region

This section of the report provides a socio-economic profile of the Blue Sky Region. Data for the socio-economic have been drawn from Statistics Canada's Population Census, which is conducted at five-year intervals, with the most recent available census being conducted in 1996.[3] The census organizes data at a number of levels: Canada, Province/Territory, Census Divisions (e.g. Counties, Regional Municipalities and Districts) and Census Subdivisions (e.g. Townships, Towns and Villages). Due to confidentiality constraints, the data for some Census Subdivisions are consolidated. Data for the Blue Sky Region are further compared to data at the Regional (i.e. Northern Ontario[4]) and Provincial levels to provide further insight into the relative importance of the Blue Sky's contribution to these economies.

3.1 Population, Population Change, Population Projection

Between 1951 and 1996, population in the Blue Sky Region increased from 187,478 to 314,244 (Table 3.1). This represents a 67.9% increase over the 45-year period or a rate of growth of 1.15.% per annum. In comparison, Northern Ontario experienced a 46.6% (.85% per annum)increase in growth over the same time period. Provincially, population has increased 133.9% (1.9% per annum) over this time period, with the majority of growth taking place in the large urban areas of Southern Ontario. Growth rates in the three areas were greatest between 1951 and 1961 (39.7% or 3.56 % per annum in the Blue Sky Region, 33.4% or 2.9 % per annum in Northern Ontario, and 35.6% or 3.1 % per annum in Ontario). All three areas have experienced slower rates of inter-census period growth since 1961.

In the twenty-five year period between 1971 and 1996, population in the Blue Sky Region increased from 307,190 to 314,244 (2.3% over 25 years or .09% per annum). Table 3.1 indicates that Sudbury District[5] had the smallest population in the Blue Sky Region in 1996 (25,457) while the City of Greater Sudbury[6] had the largest (164,049). Parry Sound District is the only Census Division in the Blue Sky Region that experienced continuous population growth between 1981 and 1996.

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[3] The 2001 census will be released starting in Spring 2002. Employment data will be released in February 2003

[4] The Northern Ontario Region includes: Nipissing District, City of Greater Sudbury, Sudbury District, Manitoulin District, Timiskaming District, Cochrane District, Algoma District, Thunder Bay District, Rainy River District, and Kenora District. Parry Sound District is in the Central Ontario Region, but has been included as part of the Northern Ontario Region for this study as it is one of the four Census Divisions in the Blue Sky Region.

[5] Not all Census Sub-divisions from Sudbury District, as defined in the 1996 Population Census, are included in the Blue Sky Region. As such, tables and data in this profile define Sudbury District as including: Cosby, Mason and Martland; Casimir, Jennings and Appleby; Ratter and Dunnet; Hagar, Chapleau; Sudbury Unorganized North Part; and, Sudbury Unorganized South Part. The Spanish River is not part of the Blue Sky Region, and has therefore been excluded from the Sudbury District.

[6] Data for City of Greater Sudbury and Sudbury District are combined up to 1971 to reflect municipal boundaries at the time of the census.

In general, over the 45 year period covered by this analysis, Blue Sky Region has experienced slower growth than Ontario but faster than the rest of Northern Ontario. An exception was the 1951-61 period when Blue Sky exceeded Ontario.

A simple straight line population projection for the area was completed using a high, medium and low growth rate scenario. The three rates were chosen from actual rates of growth experienced in the region over the last 45 years, during various time periods. The high projection using 3.56% per annum suggests a population of 531,000 in 2011 growing to 753, 474 in 2021. The medium projection using 1.15% per annum suggests a population of 373040 in 2011 growing to 418,229 in 2021. The low projection using -0.21% per annum suggests a population of 304,948 in 2011 declining to 298,903 in 2021.

Table 3.1 Population in the Blue Sky Region, Northern Ontario and Ontario, 1951 - 1996.

Region	1951	1961	1971	1981	% change 51 - 81	1986	1991	1996	% change 81 - 96 [a]	% change 51 - 96
Nipissing District	50,517	70,568	78,867	80,268	58.89%	79,004	84,723	84,832	5.68%	67.93%
Parry Sound District	27,371	29,632	30,244	33,528	22.49%	33,828	38,423	39,906	19.02%	45.80%
City of Greater Sudbury	109,590	165,862	198,079	159,779	45.80%	152,476	161,210	164,049	2.67%	49.49%
Sudbury District	N/A	N/A	N/A	27,075	N/A	27,068	26,178	25,457	-5.98%	N/A
Blue Sky Region	187,478	266,062	307,190	300,643	60.36%	291,079	310,534	314,244	4.52%	67.62%
Northern Ontario	563,765	751,806	806,749	819,576	45.38%	798,140	822,450	826,276	0.82%	46.56%
Ontario	4,597,542	6,236,092	7,703,106	8,625,107	87.60%	9,101,694	10,084,885	10,753,573	24.68%	133.90%

[a] All regions Growth Rate is from 1971 to 1996 except Sudbury District. Sudbury District is from 1981 to 1986 due to unavailable data for 1971.
Source: Statistics Canada Population Census, 1951 - 1996.

3.1.1 Rural and Urban Populations[7]

As shown in Table 3.2, about 71.8% of the population in the Blue Sky Region is categorized as Urban. This is due to the relatively large populations of the City of Sudbury (in the City of Greater Sudbury) and North Bay (in Nipissing District). In 1996, the City of Sudbury had a population of 92,059, or 56.1% of the total population of the City of Greater Sudbury. The City of Sudbury accounted for 62.9% of the Urban population in the City of Greater Sudbury in 1996. In 1996, the City of North Bay recorded a population of 54,332, accounting for 64.0% of the total population, and 89.7% of the Urban population of Nipissing District. Together, these two communities account for 46.8% of the total population, and 65.3% of the Urban population of the Blue Sky Region. Rural populations make up the majority of populations in the Parry Sound District (75.3%) and Sudbury District (67.9%).

Table 3.2 Urban and Rural Populations in the Districts, Blue Sky Region and Ontario, 1996.

	Urban		Rural	
	population	**% of population**	**population**	**% of population**
Parry Sound District	9,855	24.7%	30,051	75.3%
Nipissing District	60,559	71.4%	24,273	28.6%
Sudbury District	7,659	32.1%	16,200	67.9%
Sudbury R.M	146,265	89.2%	17,784	10.8%
Blue Sky Region	224,338	71.8%	88,308	28.2%
Ontario	8,958,741	83.3%	1,794,832	16.7%

Source: Statistics Canada, 1996 Population Census.

3.1.2 Ethnic Origin

Table 3.3 shows the frequency of the fifteen most commonly reported ethnic origins in populations of the Blue Sky Region, Northern Ontario and Ontario, for 1996. As shown in the table, the greatest number of residents of the Blue Sky Region and Northern Ontario report ethnic backgrounds reflecting either 'French' or uniquely 'Canadian' roots.

[7] As defined by Statistics Canada, Urban Areas have minimum population concentrations of 1,000 and a population density of at least 400 per square kilometre. All territory outside urban areas is considered rural. Rural Areas are defined as sparsely populated lands lying outside urban areas.

Table 3.3 Population by Ethnic Origin in the Blue Sky Region, 1996[a]

	Blue Sky Region		Northern Ontario		Ontario	
English	89,560	17.29%	226,995	17.17%	3,086,145	20.50%
Canadian	109,435	21.13%	260,500	19.70%	2,700,870	17.94%
Scottish	51,655	9.97%	138,845	10.50%	1,887,695	12.54%
Irish	55,875	10.79%	137,300	10.38%	1,723,065	11.44%
French	121,195	23.40%	252,140	19.07%	1,330,465	8.84%
German	27,245	5.26%	69,665	5.27%	984,770	6.54%
Italian	17,330	3.35%	57,570	4.35%	743,425	4.94%
Dutch	7,985	1.54%	23,070	1.74%	433,690	2.88%
South Asian [b]	930	0.18%	2,090	0.16%	427,470	2.84%
Chinese [c]	1,140	0.22%	3,040	0.23%	422,775	2.81%
Polish	7,625	1.47%	26,470	2.00%	370,460	2.46%
Ukranian	9,435	1.82%	43,870	3.32%	276,950	1.84%
Aboriginal	17,030	3.29%	76,725	5.80%	246,070	1.63%
Portugese	780	0.15%	2,510	0.19%	231,805	1.54%
Jewish	650	0.13%	1,430	0.11%	191,445	1.27%
Total [d]	517,870	100.00%	1,322,220	100.00%	15,057,100	100.00%

[a] This table shows total response counts for the 15 most frequently reported ethnic origins in the province. Total responses represent the sum of single ethnic origin responses and multiple ethnic origin responses received in the 1996 Population Census. Percentages shown are derived from total response counts from the 15 most frequently reported ethnic origins. Response counts, totals and percentages are skewed due to the combinations of the single and multiple responses.

[b] "South Asian" includes Bangladeshi, Bengali, East Indian, Goan, Gujarati, Pakistani, Punjabi, Sinhalese, Sri Lankan, Tamil and South Asian not included elsewhere.

[c] In 1991, "Taiwanese" was included in "Chinese". In 1996, "Taiwanese" was collected as a separate response.

[d] Total indicates the number of respondents reported in each ethnic origin, either as their only response or in addition to one or more ethnic origins.

See Appendix A for Population of Census Divisions.

Source: Statistics Canada Cat. No. 95-187-XPB, 1996.

Within the Blue Sky Region, residents with French ethnicity make up the largest populations in Nipissing District, Sudbury District and The City of Greater Sudbury. Residents with English ethnicity make up the largest population in the Parry Sound District, the southernmost district in the Blue Sky Region. English is the most frequently reported ethnic group by residents of Ontario; most of these residents live in the southern part of the province. Residents who consider themselves to be uniquely 'Canadian' can be of any lineage, but are likely descendants of one or more of the predominant Euro-ethnic groups.

Table 3.3 indicates the distribution of the fifteen most frequently reported ethnic origins within the populations of Blue Sky Region, Northern Ontario and Ontario, in 1996. Although each of the fifteen groups is present in each of the three regions, distribution of the groups within the population varies between them, and is more equitable in the province as a whole.

Residents with French, Canadian and English ethnicity account for 61.8% of ethnic backgrounds in the Blue Sky Region. Residents with non-European ethnic origins account for only 3.8% of the population. This includes the 3.3% of the population who claim Aboriginal ethnic backgrounds, meaning that groups other than those of European or Aboriginal ethnicity make up only about 0.5% of the population of the Blue Sky Region.

However, distribution of ethnic origins among the population of Blue Sky Region is more equitable than Northern Ontario, where French, Canadian and English ethnic origins account for 75.0% of the population. Aboriginals make up about 5.8% of the population of Northern Ontario. Non-European ethnic groups, excluding Aboriginals, make up 0.5% of the population.

In Ontario as a whole, English and Canadian are the two largest ethnic groups, representing 20.5% and 17.9%, respectively, of the fifteen most frequently reported ethnic groups in the province in 1996. French is the fifth largest ethnic group (8.8%), having been usurped by Scottish (12.5%) and Irish (11.4%). Other non-European ethnic groups make up a larger proportion of the province's ethnic makeup(6.9%) than in either the Blue Sky Region or Northern Ontario, indicating that most of these groups also settle in the southern parts of the province. Throughout the province, Aboriginals make up only 1.8% of the population. With respect to French, the region has 23.4% of its population of french origin compared to 8.8% in Ontario and 19.1% in Northern Ontario.

3.1.3 Mobility

Table 3.4 and 3.5 show the frequency of mobility (i.e., immigration and emigration) in the Blue Sky Region, Northern Ontario and Ontario for the years 1986 and 1996. *Non-movers* are residents who had not moved during the five-year period previous to the census year. *Movers* are residents who moved at some point during the five-year period previous to the census year. Movers consist of *Non-migrants* (people who moved within their Census sub-division) and *Migrants*, who are people who moved from another Census Sub-division within the Census Division (*Internal Migrants*), another Census Division within the province (*Intraprovincial Migrants*), another province (*Interprovincial Migrants*) or another country (*External Migrants*).

As shown in Table 3.4, the majority of residents in each of the districts, the Blue Sky Region (62%), Northern Ontario (61%) and Ontario (55%) were Non-movers during the five-year period previous to the 1986 census. The pattern remained similar for the 1996 census. Within the Blue Sky Region however, two areas experienced notable shifts. In Sudbury District the proportion of movers declined from approximately 38% to 32% while in the Greater City of Sudbury the proportion of movers increased from 36% to 40%.

Intraprovincial Migrants made up the greatest population of Migrants in each of the districts, the Blue Sky Region, Northern Ontario and Ontario as a whole. External migrants in the Blue Sky Region make up a substantially smaller proportion of the migrant population than the province as whole (4.8% vs. 13% in 1986 and 3.3% vs. 22.6% in 1996). For Northern Ontario and the province as a whole, there was little change in the proportion of movers and non-movers for the census periods 1986 and 1996.

Table 3.4 **Mobility in Blue Sky Region, Northern Ontario and Ontario, 1986.**

1986	Nipissing District	%	Parry Sound District	%	Sudbury District	%	City of Greater Sudbury	%	Blue Sky Region	%	Northern Ontario	%	Ontario	%
Total population [a]	72,080	100%	31,295	100%	14,125	100%	141,470	100%	258,970	100%	731,605	100%	8,361,220	100%
Non-movers	41,865	58.08%	20,245	64.69%	8,800	62.30%	90,375	63.88%	161,285	62.28%	446,730	61.06%	4,636,850	55.46%
Movers	30,215	41.92%	11,050	35.31%	5,325	37.70%	51,095	36.12%	97,685	37.72%	284,875	38.94%	3,724,370	44.54%
Non-migrants	16,445	54.43%	4,375	39.59%	2,745	51.55%	33,445	65.46%	57,010	58.36%	175,415	61.58%	2,037,830	54.72%
Migrants	13,770	45.57%	6,675	60.41%	2,580	48.45%	17,650	34.54%	40,675	41.64%	109,460	38.42%	1,686,540	45.28%
Internal migrants	13,025	94.59%	6,380	95.58%	2,515	97.48%	16,805	95.21%	38,725	95.21%	104,505	95.47%	1,465,215	86.88%
Intraprovincial migrants	10,025	76.97%	5,830	91.38%	2,140	85.09%	14,470	86.11%	32,465	83.83%	84,235	80.60%	1,179,690	80.51%
Interprovincial migrants	3,000	23.03%	550	8.62%	375	14.91%	2,335	13.89%	6,260	16.17%	20,270	19.40%	285,525	19.49%
External migrants	745	5.41%	295	4.42%	65	2.52%	845	4.79%	1,950	4.79%	4,955	4.53%	221,325	13.12%

[a] Total population 5 years and over by mobility status.

Source: Adapted from Statistics Canada Population Census, 1986.

Table 3.5 **Mobility in Blue Sky Region, Northern Ontario and Ontario, 1996.**

1996	Nipissing District	%	Parry Sound District	%	Sudbury District	%	City of Greater Sudbury	%	Blue Sky Region	%	Northern Ontario	%	Ontario	%
Total population [a]	78,295	100%	37,295	100%	14,105	100%	152,195	100%	281,890	100%	765,100	100%	9,904,600	100%
Non-movers	45,325	57.89%	24,350	65.29%	9,555	67.74%	90,645	59.56%	169,875	60.26%	472,260	61.73%	5,635,420	56.90%
Movers	32,970	42.11%	12,945	34.71%	4,550	32.26%	61,550	40.44%	112,015	39.74%	292,840	38.27%	4,269,180	43.10%
Non-migrants	18,810	57.05%	4,625	35.73%	2,040	44.84%	38,785	63.01%	64,260	57.37%	181,760	62.07%	2,252,460	52.76%
Migrants	14,160	42.95%	8,320	64.27%	2,510	55.16%	22,765	36.99%	47,755	42.63%	111,080	37.93%	2,016,720	47.24%
Internal migrants	13,485	95.23%	8,175	98.26%	2,475	98.61%	21,905	96.22%	46,040	96.41%	106,895	96.23%	1,561,105	77.41%
Intraprovincial migrants	11,440	84.84%	7,840	95.90%	2,345	94.75%	20,000	91.30%	41,625	90.41%	91,930	86.00%	1,367,085	87.57%
Interprovincial migrants	2,045	15.16%	335	4.10%	130	5.25%	1,905	8.70%	4,415	9.59%	14,965	14.00%	194,020	12.43%
External migrants	675	4.77%	145	1.74%	35	1.39%	860	3.78%	1,715	3.59%	4,185	3.77%	455,615	22.59%

[a] Total population 5 years and over by mobility status.

Source: Adapted from Statistics Canada Population Census, 1996.

3.2 Economy in the Blue Sky Region

3.2.1 Employment

The Standard Industrial Classification (SIC) system refers to the standard system used to organize Canadian industries into easily distinguishable categories, or classifications. As the greatest level of aggregation in published census data, these industries are divided into 18 separate categories, and are presented in Table 3.6. The study uses the 1980 SIC system in analyzing trends in employment.

Accommodation, Food and Beverage Industries include: *Accommodation Service Industries* (e.g., hotels, motels, tourist courts, lodging houses, residential clubs, camping grounds, travel trailer parks, recreation and vacation camps) and *Food and Beverage Service Industries* (e.g., food services, taverns, bars and nightclubs). Other Service Industries include: *Amusement and Recreational Service Industries*, *Personal and Household Service Industries*, *Membership Organization Industries* and Other Service Industries (e.g., machinery and equipment rental and leasing services, automobile and truck rental and leasing services, photographers, other repair services, services to buildings and dwellings, and travel services). Services relevant to agriculture in the Other Service category include: machinery and equipment rental and leasing, welding shops that repair farm equipment and auctioneers providing services for livestock and farm equipment owners.

Table 3.6 provides the levels of employment in each of the industrial sectors in 1991 and 1996 in the Blue Sky Region and Ontario. It also shows the change in employment in the sectors between 1991 and 1996.

Table 3.6 Employment by Industrial Sector in the Blue Sky Region and Ontario, 1991 and 1996.[a]

Industrial Sectors	Blue Sky Region				Ontario			
	1991	1996	Total Change	% Change	1991	1996	Total Change	% Change
Division A - Agricultural and related service industries	1500	1330	-170	-11.33%	139880	131060	-8820	-6.30%
Division B - Fishing and trapping industries	70	80	10	14.29%	1965	1915	-50	-2.50%
Division C - Logging and forestry industries	1145	980	-165	-14.41%	13965	11405	-2560	-18.30%
Division D - Mining (including milling), quarrying and oil well industries	9020	7845	-1175	-13.03%	34355	26050	-8305	-24.20%
Division E - Manufacturing industries	12635	11285	-1350	-10.68%	942995	922565	-20430	-2.20%
Division F - Construction industries	11610	9315	-2295	-19.77%	358890	290430	-68460	-19.10%
Division G - Transportation and storage industries	7530	7400	-130	-1.73%	187830	198555	10725	5.70%
Division H - Communication and other utility industries	4450	4095	-355	-7.98%	188630	173040	-15590	-8.30%
Division I - Wholesale trade industries	4775	5485	710	14.87%	233915	278220	44305	18.90%
Division J - Retail trade industries	20995	21130	135	0.64%	700925	662815	-38110	-5.40%
Division K - Finance and insurance industries	3970	3195	-775	-19.52%	253135	228880	-24255	-9.60%
Division L - Real estate operator and insurance agent industries	1910	2505	595	31.15%	100090	111890	11800	11.80%
Division M - Business service industries	4600	5310	710	15.43%	367200	411070	43870	11.90%
Division N - Government service industries	15680	11285	-4395	-28.03%	411450	304640	-106810	-26.00%
Division O - Educational service industries	12265	11315	-950	-7.75%	365235	369320	4085	1.10%
Division P - Health and social service industries	14140	16320	2180	15.42%	457115	513615	56500	12.40%
Division Q - Accommodation, food and beverage service industries	11995	12235	240	2.00%	322955	350945	27990	8.70%
Division R - Other service industries	8860	9775	915	10.33%	355310	414980	59670	16.80%
TOTAL	147150	140885	-6265	-4.26%	5435840	5401395	-34445	-0.60%

[a] Employment is linked to place of residence not place of work and refers to a period of at least three months' work in the last year

Source: Statistics Canada, 1991 and 1996.

Between 1991 and 1996, employment in Ontario declined by 34,445 jobs, or 0.6%. Throughout the province, Manufacturing makes up the greatest number of jobs (17.3% in 1991 and 17.1% in 1996). This is followed by Retail Trade (12.9% in 1991 and 12.3% in 1996) and Health and Social Service (8.4% in 1991 and 9.5% in 1996). Government Service industries had the greatest declines in terms of real numbers (-106,810 jobs) and proportion of jobs lost (-26.0%) in Ontario between 1991 and 1996. Substantial decreases in jobs in the Mining (-24.2%), Construction (-19.1%) and Logging and Forestry industries (-18.3%) were also experienced throughout the province between 1991 and 1996. The size of the sectors are to some degree arbitrary since it depends on the definition used in creating the sector.

The sectors showing the greatest rates of growth between 1991 and 1996 were Wholesale Trade (18.9%), Accommodation, Food and Beverage (16.8%), and Health and Social Service (12.4%).

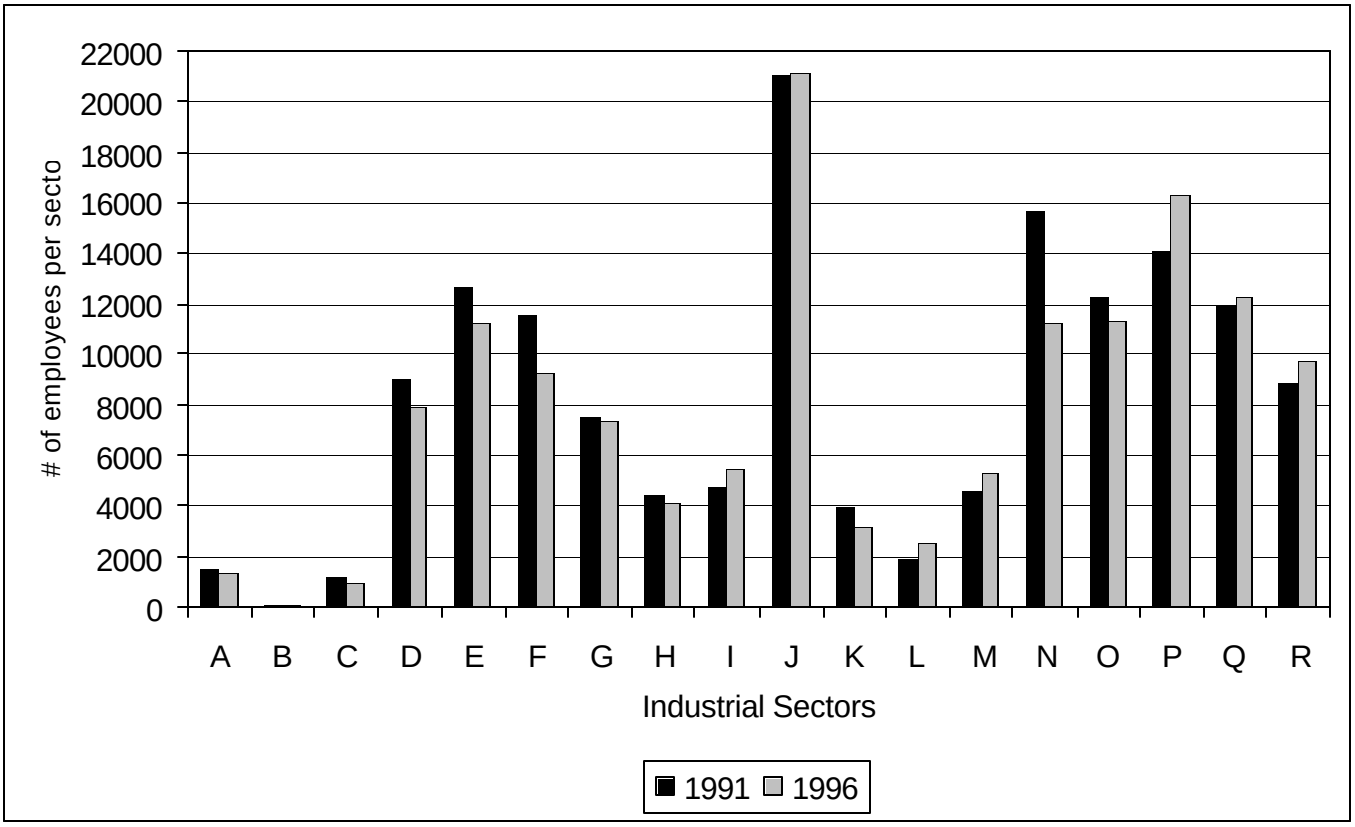
Overall employment in the Blue Sky Region declined by 6,265 jobs, or 4.2% from 147,150 jobs in 1991 to 140,885 jobs in 1996. Retail Trade has consistently provided the greatest number of jobs in the Blue Sky Region between 1991 and 1996. In 1991, Government Service industries were the second largest employer in the Blue Sky Region but then experienced the largest decline of all the sectors losing close to 4,400 jobs by 1996 - this accounts for 70% of the total job loss from 1991 to 1996. Government Service industries now rank as the fourth largest employer in the study area, tied with Manufacturing industries. Health and Social Service industries increased by 15% between 1991 and 1996 becoming the second largest employer in the region followed by Accommodation, Food and Beverage industries.

Figure 3.1 illustrates employment and changes in employment for each of the industrial sectors in the Blue Sky Region and Ontario for 1991 and 1996.

Agriculture remains an important sector for employment both at the provincial level and in the Blue Sky Region. However, the sector experienced a period of decline between 1991 and 1996. In 1991, the sector employed 139,880 people in Ontario (2.6% of the provincial employment) and 1,500 people in the Blue Sky Region (1% of regional employment). By 1996, the number of people directly employed in Agriculture in Ontario declined by 8,820 people while employment in Agriculture in the Blue Sky Region declined by 170 jobs.

Current unemployment data is not available for the Blue Sky Region. Data is available for the larger urban centers and labour force regions that cannot be disaggregated for Blue Sky.

Figure 3.1 Employment by Industrial Sector for the Blue Sky Region, 1991 and 1996.



Source: Statistics Canada 1991 and 1996.

3.2.2 Family Incomes

Table 3.7 shows family income distribution in the Blue Sky Region, Ontario and Canada in 1996. The distribution is organized according to income categories, ranging from less than $10,000 to more than $100,000.

Blue Sky Region has a higher percentage of families with incomes less than $50,000 than Ontario (54.2% vs. 48.2%), but about the same as Canada (53.8%). There are proportionately fewer families in Blue Sky Region with incomes in excess of $100,000 than in either Ontario or in Canada. However, the proportion of incomes between $50,000 and $100,000 in Blue Sky Region are comparable with those of Ontario and Canada. On the whole, average incomes in Blue Sky Region are lower ($47,200) than those of either Ontario or Canada ($59,830 and $54,583, respectively). Although data are not available, the median incomes for Blue Sky are likely lower than the Ontario median, but probably comparable to the median income in Canada (given the similar distribution lower and mid-level incomes between Blue Sky Region and Canada).

Table 3.7 Family Incomes in the Blue Sky Region, Ontario and Canada, 1996.

	Blue Sky Region		Ontario		Canada	
	No. of Families	% of Families	No. of Families	% of Families	No. of Families	% of Families
Less than $10,000	4,315	5.0%	148,050	5.0%	435,760	5.6%
$ 10,000 - $19,999	9,320	10.8%	256,625	8.8%	795,895	10.2%
$ 20,000 - $29,999	11,645	13.5%	332,130	11.3%	1,007,840	12.9%
$ 30,000 - $39,999	10,825	12.6%	336,440	11.5%	992,020	12.7%
$ 40,000 - $49,999	10,580	12.3%	340,330	11.6%	968,900	12.4%
$ 50,000 - $59,999	9,395	10.9%	324,365	11.1%	883,520	11.3%
$ 60,000 - $69,999	8,225	9.6%	289,155	9.9%	736,990	9.4%
$ 70,000 - $79,999	6,210	7.2%	235,015	8.0%	568,055	7.2%
$ 80,000 - $89,999	4,725	5.5%	179,905	6.1%	416,740	5.3%
$ 90,000 - $99,999	3,220	3.7%	127,950	4.4%	286,875	3.7%
$100,000 and more than	7,525	8.8%	362,765	12.4%	745,265	9.5%
Total	85,985	100.0%	2,932,730	100.0%	7,837,860	100.0%
Average family income $	$47,200.50		$59,830.00		$54,583.00	
Median family income $	N/A		$51,520.00		$46,951.00	

Source: Statistics Canada Population Census, 1996.

3.2.3 Education

Table 3.8 and 3.9 indicates the highest levels of education attained in the population of each of the districts, the Blue Sky Region, and Ontario for residents 15 years and older. Numbers may not add up to 100 percent due to rounding.

Table 3.8 indicates a greater proportion of residents in the Blue Sky Region, have at least a basic level of education than do residents across Ontario. In the Blue Sky Region, 12.6% of residents have less than a Grade 9 education, and 39.5% have between a Grade 9 and Grade 13 education. Across the province, 10.0% of the population has less than a Grade 9 education, and 37.6% have between a Grade 9 and Grade 13 education. This trend is reflected in each of the districts in the Blue Sky Region.

Beyond Secondary School, more emphasis is placed on Trade Certificates and Diplomas, and Other Non-university types of education in the Blue Sky Region than there is across Ontario. These two categories comprise 4.6% and 26.8%, respectively, across the Blue Sky Region, and 3.5% and 24.6% across Ontario, respectively. A greater proportion of residents with Trade Certificates or Diplomas are found in each of the Blue Sky Districts than across Ontario. Parry Sound District and Sudbury District have a smaller and an equal proportion, respectively, of residents with Other Non-university education than Ontario.

Table 3.8 Education Levels in Blue Sky Region and Ontario, 1996.

	Blue Sky Region Total		Ontario	
Less than grade 9	30250	12.56%	845385	10.03%
Grades 9 to 13	95201	39.53%	3170835	37.62%
Trades certificate or diploma	10975	4.56%	293160	3.48%
Other non-university education only	64551	26.81%	2069210	24.55%
University	39830	16.54%	2050615	24.33%
Total	240808	100.00%	8429205	100.00%

Source: Statistics Canada Population Census,1996.

Table 3.9 Education Levels in Blue Sky Region and Ontario, 1996.

	Nipissing District		Parry Sound District		Sudbury District		City of Greater Sudbury	
Less than grade 9	7805	11.78%	4110	12.80%	2215	18.47%	16120	12.36%
Grades 9 to 13	25465	38.44%	14320	44.61%	5210	43.43%	50205	38.48%
Trades certificate or diploma	3060	4.62%	1840	5.73%	560	4.67%	5515	4.23%
Other non-university education only	18605	28.08%	7740	24.11%	2940	24.51%	35265	27.03%
University	11315	17.08%	4090	12.74%	1070	8.92%	23355	17.90%
Total	66250	100.00%	32100	100.00%	11995	100.00%	130460	100.00%

Source: Statistics Canada Population Census,1996.

The greatest disparity is apparent in the proportion of residents with a University-level education. Almost one-quarter of Ontario residents over the age of 15 have a University education, while only 16.5% of Blue Sky Region residents hold the same. The proportion of residents with a University-level education are also smaller in each of the districts in the Blue Sky Region than it is across Ontario.

Appendix B and C provide data on post-secondary qualifications by major field of study for males and females in each of the districts, the Blue Sky Region, and Ontario in 1996. Trends in post-secondary qualifications in the Blue Sky Region largely reflect those at the provincial level. As shown in the table, Engineering and Applied Science Technologies and Trades is studied by the greatest number of males with post-secondary qualifications across Ontario, Blue Sky Region and each of the districts in Blue Sky Region. Commerce, Management and Business Administration has the second highest number of males in Ontario, the Blue Sky Region, Nipissing District and The City of Greater Sudbury. More males in Parry Sound have post-secondary qualifications in Soil Sciences and related fields than in Commerce, Management and Business Administration, and Sudbury District has an equal number of males in both disciplines.

The greatest number of females with post-secondary qualifications in Ontario, Blue Sky Region, and each of the districts in Blue Sky Region are in Commerce, Management and Business Administration. Health and Related Fields is the second largest category in each of the administrative units, followed by Educational, Recreational and Counseling Services.

3.2.4 Occupations

The distribution of employment in occupation categories in the Blue Sky Region is largely consistent with those at the provincial level. Sales and Service occupations are the most important occupational category for both males and females in both the Blue Sky Region and across Ontario. Sales and service-related occupations employ the greatest percentage of females in the Blue Sky Region (37.5%) and Ontario (29.6%). Sales and service occupations employ the second-largest percentage of males in the Blue Sky Region (22.6%) and Ontario (20.8%). Occupations in Trades, Transport and Equipment Operators, and Related Occupations employ the greatest percentage of males in the Blue Sky Region (29.5%) and Ontario (23.1%). Among females, Business, Finance and Administrative occupations employs the second-largest percentage of workers in both the Blue Sky Region (29%) and Ontario (28.9%).

Differences in occupational distributions between the Blue Sky Region and Ontario largely reflect characteristics in their overall respective economies. A greater percentage of Occupations Unique to Primary Industry are shown in the Blue Sky Region, in comparison to the same category across Ontario. This is likely due to the important employment roles played by agriculture and mining in the Blue Sky Region, where 8.2% of males have occupations unique to primary industry. In comparison, 4.4% of males across Ontario are employed in these occupations. Conversely, Manufacturing plays a larger employment role in the overall Ontario economy. Across the province, 11.4% of males and 5.8% of females are employed in Occupations Unique to Processing, Manufacturing and Utilities, compared to only 7.1% of males and 1.4% of females in the Blue Sky Region.

Table 3.10 indicates the numbers of males and females employed in the broad occupation categories in the Blue Sky Region, and Ontario in 1996. Trends in occupations at the provincial and regional levels are consistent within each of the Blue Sky Region's districts (See Appendix D for Broad Occupation Categories for Census Subdivisions of the Blue Sky Region, 1996).

Table 3.10 Broad Occupation Categories for the Blue Sky Region and Ontario, 1996.

	Blue Sky Region				Ontario			
	Male		Female		Male		Female	
Trades, transport and equipment operators and related occupations	22555	29.55%	1500	2.31%	667765	23.07%	47415	1.81%
Sales and service occupations	17230	22.57%	24305	37.45%	603335	20.85%	776805	29.65%
Management occupations	7675	10.05%	3925	6.05%	351965	12.16%	170740	6.52%
Occupations unique to primary industry	6240	8.17%	890	1.37%	126445	4.37%	151775	5.79%
Business, finance and administrative occupations	6025	7.89%	18845	29.03%	315495	10.90%	756945	28.90%
Occupations unique to processing, manufacturing and utilities	5435	7.12%	890	1.37%	329875	11.40%	151775	5.79%
Natural and applied sciences and related occupations	4570	5.99%	700	1.08%	228120	7.88%	52360	2.00%
Occupations in social science, education, government service and religion	4035	5.29%	6440	9.92%	147660	5.10%	226590	8.65%
Health occupations	1510	1.98%	6145	9.47%	52795	1.82%	203010	7.75%
Occupations in art, culture, recreation and sport	1060	1.39%	1265	1.95%	70855	2.45%	82165	3.14%
Total	76335	100.00%	64905	100.00%	2894310	100.00%	2619580	100.00%

Source: Statistics Canada Population Census,1996.

3.3 Summary

The population of the Blue Sky Region increased 67% between 1951 and 1996 from 187,478 to 314,244 people. Population annual growth was highest between 1951 and 1961 at 1.15% and then declined to .09% per annum between 1971 and 1996. The City of Greater Sudbury (previously recorded as Sudbury Regional Municipality) has maintains the largest population.

Populations of the Blue Sky Region are predominantly urban (71.8%). The large urban population is due to the two centers of North Bay and the City of Greater Sudbury, which account for 46.8% of the areas total population.

Within the Blue Sky Region, residents with French ethnicity make up the largest populations in Nipissing District, Sudbury District and The City of Greater Sudbury, but not Parry Sound. Residents with French, Canadian and English ethnicity account for 61.8% of the region, while 3.3% of the residents have aboriginal ethnic background.

The majority of residents in the Blue Sky Region were Non-movers during the five-year period previous to the 1986 census. The pattern remained similar for the 1996 census. Within the Blue Sky Region however, two areas experienced notable shifts. In Sudbury District the proportion of movers declined while in the Greater City of Sudbury the proportion of movers increased.

Overall employment in the Blue Sky Region declined between 1991 and 1996 by 6,265 jobs, or 4.2%, much higher than the province at .6%. Retail Trade industries have consistently provided the greatest number of jobs in the Blue Sky Region in 1991 and 1996. Government Service industries in 1991, were the second largest employer in region but then experienced a 28% decline, the largest of all the sectors. In 1991 the agriculture sector employed 1,500 people in the Blue Sky Region (1.02% of the labour force). By 1996, the number of people directly employed in Agriculture fell by 11.3% (170 people).

On the whole, average incomes in Blue Sky Region are lower than those of either Ontario or Canada.

The greatest disparity regarding education is the proportion of residents with a University-level education. Almost one-quarter of Ontario residents over the age of 15 have a University education, while only 16.5% of Blue Sky Region residents hold the same. Trends in post-secondary qualifications in the Blue Sky Region largely reflect those at the provincial level. Engineering and Applied Science Technologies and Trades is studied by the greatest number of males with post-secondary qualifications across Ontario, Blue Sky Region and each of the districts in Blue Sky Region. The greatest number of females with post-secondary qualifications in Ontario, Blue Sky Region, and each of the districts in Blue Sky Region are in Commerce, Management and Business Administration.

The distribution of employment in occupation categories in the Blue Sky Region is largely consistent with those at the provincial level. Sales and Service occupations employ the greatest percentage of females in the Blue Sky Region (37%), while Trades, Transport and Equipment Operators, and Related Occupations employ the greatest percentage of males in the Blue Sky Region (29.5%).

The following section provides a profile of agriculture in the Blue Sky Region including a review of farm numbers, farm types, operator characteristics and operating arrangements.

4.0 Profile of Agriculture in the Blue Sky Region

This section of the report provides a profile of agriculture in the Blue Sky Region. Data for the analysis have been drawn from Statistics Canada data compiled during agricultural censuses, which are conducted at five-year intervals, with the most recent being conducted in 1996. The census organizes data at a number of levels: Canada, Province/Territory, Census Divisions (e.g. Counties, Regional Municipalities and Districts) and Census Subdivisions (e.g. Townships, Towns and Villages). Due to confidentiality constraints, the data for some Census Subdivisions are consolidated. Where appropriate, these data have been supported with data assembled from Statistics Canada's Whole Farm Data Base (WFDB), using the years 1990, 1995 and 1999. The analysis also uses knowledge gained from numerous completed and ongoing studies on the economic impacts of agriculture which have recently been conducted throughout a number of counties in Ontario.

Data for the Blue Sky region are further compared to data at the Regional (i.e. Northern Ontario Agricultural Region[8]) and Provincial levels to provide further insight into the relative importance of the Blue Sky's contribution to these economies.

4.1 Area of Farmland

Table 4.1 shows the total area of farmland in the Blue Sky Region, Northern Ontario and Ontario for the years 1976, 1986 and 1996. With the exception of the increasing area of farmland in Sudbury District and The City of Greater Sudbury between 1976 and 1986, there has been a continuous decline in the availability of farmland throughout the Blue Sky Region. This decline was greatest between 1986 and 1996, when the amount of farmland in the Blue Sky Region decreased by 22.8%. Sudbury District exhibits the greatest fluctuation in farmland area, having increased by 46.8% between 1976 and 1986, and then declining by 51.0% between 1986 and 1996. Over the same period, the amount of farmland in Northern Ontario and Ontario also declined, but only by 0.1% and 0.5%, respectively. Overall, about 2 percent of Ontario's farmland was located in the Blue Sky Region (varying from 2.3% in 1986 to 1.8% in 1996).

[8] The Northern Ontario Agricultural Region includes: Nipissing District, City of Greater Sudbury, Sudbury District, Manitoulin District, Timiskaming District, Cochrane District, Algoma District, Thunder Bay District, Rainy River District, and Kenora District. Parry Sound District is in the Central Ontario Agricultural Region, but has been included as part of the Northern Ontario Agricultural Region for this study as it is one of the four Census Divisions in the Blue Sky Region.

Table 4.1 **Total Area of Farmland in the Blue Sky Region, Northern Ontario and Ontario, 1976, 1986 and 1996 (in acres).**

	1976	1986	% Change	1996	% Change
Parry Sound District	127,219	112,612	-11.5%	95,496	-15.2%
Nipissing District	121,957	100,256	-17.8%	87,657	-12.6%
Sudbury District	53,666	78,758	46.8%	38,615	-51.0%
City of Greater Sudbury	22,241	28,530	28.3%	25,457	-10.8%
Blue Sky Region	325,083	320,156	-1.5%	247,225	-22.8%
Northern Ontario	1,183,249	1,094,347	-0.1%	1,025,190	-0.1%
Ontario	14,744,324	13,953,009	-5.4%	13,879,565	-0.5%
% of Ontario farmland in the Blue Sky Region	2.2%	2.3%		1.8%	

Source: Statistics Canada, Census of Agriculture Quebec and Ontario 1976, Census of Canada, 1986- Agriculture Ontario, and Agricultural Profile of Ontario 1996.

4.2 Land Use

Table 4.2 shows the farmland area classified by use in the Blue Sky Region, Northern Ontario and Ontario for 1996. The greatest proportion of farmland in Blue Sky Region was classified as Other (43.6%), followed by land Under Crops (30.4%). Lands classified as Other included all lands used for Christmas tree farms, swamp, bush, lands occupied by buildings and those agricultural lands not elsewhere classified. In Northern Ontario and Ontario, land Under Crops was the dominant use of farmland (34.2% and 63.1%, respectively) followed by land classified as Other (32.1% and 18.5%, respectively). Within the Blue Sky Region, Nipissing District possessed the greatest amount of land Under Crops (32,826 acres). Very little farmland was kept in summer fallow in the Blue Sky Region (0.2%).

Table 4.2 **Land Area Classified by Use in Blue Sky Region, Northern Ontario and Ontario, 1996 (in acres).**

	Under Crops	Summer Fallow	Improved Pasture	Unimproved Pasture	Other	Total
Parry Sound District	22,282	142	6,274	19,966	46,832	95,496
Nipissing District	32,826	110	5,993	16,838	31,890	87,657
Sudbury District	11,906	20	2,792	6,808	17,089	38,615
City of Greater Sudbury	8,208	203	848	4,118	12,080	25,457
Blue Sky Region	75,222	475	15,907	47,730	107,891	247,225
Northern Ontario	350,511	3,920	90,526	251,066	329,167	1,025,190
Ontario	8,759,707	48,492	860,786	1,641,692	2,568,888	13,879,565

Source: Statistics Canada, Agricultural Profile of Ontario 1996.

Table 4.3 shows land area classified by use at the township level within the Blue Sky Region, for 1996. The symbol N/A (Not Available) has been inserted in townships where there are too few farms reporting data to ensure confidentiality. As such, N/A does not equal zero; it indicates that a positive figure exists for the township, and has been included in calculating the total area of the township, as well as in the total area of the land use within the larger district.

Table 4.3 Land Area Classified by Use in the Blue Sky Region, 1996 (in acres).

	Under Crops	Summer Fallow	Improved Pasture	Unimproved Pasture	Other	Total
Parry Sound District	**22,282**	**142**	**6,274**	**19,966**	**46,832**	**95,496**
%	23.33%	.15%	6.5%	20.91%	49.04%	100%
Perry	489	0	219	266	2,319	3,293
Armour	628	N/A	134	1,100	N/A	4,164
Ryerson	2,379	N/A	549	1,964	N/A	9,381
McKellar	1,661	0	473	1,421	2,838	6,393
McDougall	2,086	N/A	631	1,890	N/A	8,473
Chapman	1,811	0	762	1,407	2,873	6,853
Strong	2,001	0	426	1,621	3,556	7,604
Machar	391	0	168	62	2,158	2,779
South Himsworth	4,958	N/A	855	3,038	N/A	15,381
North Himsworth	600	0	138	1,174	764	2,676
Nipissing	2,143	N/A	626	2,149	N/A	10,318
Unorganized, Centre Part	3,135	0	1,293	3,874	N/A	18,181
Nipissing District	**32,826**	**110**	**5,993**	**16,838**	**31,890**	**87,657**
%	37.44%	.12%	6.83%	19.21%	36.38%	100%
Papineau-Cameron	1,079	0	701	2,009	2,743	6,532
Calvin	2,417	0	566	2,415	N/A	8,383
Bonfield	3,395	0	730	3,479	3,766	11,370
Chisholm	5,353	0	964	3,820	3,131	13,268
Springer	3,343	0	230	549	1,946	6,068
Caldwell	9,135	N/A	1,442	1,411	N/A	17,644
Unorganized, North Part	8,104	N/A	1,360	3,155	N/A	24,392
Sudbury District	**11,906**	**20**	**2,792**	**6,808**	**17,089**	**38,615**
%	30.83%	.05%	7.23%	17.63%	44.25%	100%
Cosby, Mason and Martland	3,442	N/A	672	2,603	N/A	10,746
Casimir, Jennings and Appleby	4,029	0	1,344	2,024	5,308	12,705
Ratter and Dunnet	3,279	0	518	1,481	4,402	9,680
Unorganized, North Part	1,156	N/A	258	700	N/A	5,484
City of Greater Sudbury	**8,208**	**203**	**848**	**4,118**	**12,080**	**25,457**
%	32.24%	.80%	3.33%	16.18%	47.45%	100%
Walden	1,237	N/A	262	2,036	N/A	8,572
Rayside-Balfour	4,537	N/A	345	1,270	N/A	10,296
Valley East	2,434	0	241	812	3,102	6,589
Blue Sky Region	75,222	475	15,907	47,730	107,891	247,225
%	30.42%	.19%	6.43%	19.30%	43.64%	100%

Source: Statistics Canada, Agricultural Profile of Ontario 1996.

4.3 Number of Farms[9]

Table 4.4 shows the number of farms in the Blue Sky Region, Northern Ontario and Ontario for each of the census years from 1971 to 1996. The data show that the number of farms is in decline within the three areas, although the rate of decline is greater across Ontario than in either Northern Ontario or the Blue Sky Region. About 1.5% of Ontario's farms are located in the Blue Sky Region; a figure that is consistent with the percentage of Ontario's farmland found in the region (between 2.3% and 1.8%).

Within the Blue Sky Region, Parry Sound District has the greatest number of farms; the data show that the number of farms in Parry Sound in 1996 exceeded the number found there in 1976. Between 1991 and 1996, the number of farms increased in Parry Sound District (4.4%), Nipissing District (13.7%) and the City of Greater Sudbury (12.4%). Sudbury District was the only municipality in the Blue Sky Region to experience a decrease in the number of farms between 1991 and 1996 (-14%).

[9] In 1996, Statistics Canada defined a census farm as an agricultural operation that produces at least one of the following products intended for sale: crops (field crops, tree fruits or nots, berries or grapes, vegetables or seed); livestock (cattle, pigs, sheep, horses, exotic animals, etc.); poultry (hens, chickens, turkeys, exotic birds, etc.); animal products (milk or cream, eggs, wool, fur, meat); or other agricultural products (greenhouse or nursery products, Christmas trees, mushrooms, sod, honey, maple syrup products). The definition of a census farm was expanded for the 1996 Census of Agriculture to include commercial poultry hatcheries and operations that produced only Christmas trees. This expanded definition resulted in the inclusion of 138 commercial poultry hatcheries and 1,593 operations across Canada that produced only Christmas trees.

Table 4.4 Total Number of Farms in Blue Sky Region, Northern Ontario and Ontario, 1971 to 1996.

	1971	1976	% Change 71-76	1981	1986	% Change 81- 86	1991	1996	% Change 91- 96	% Change 71-96
Parry Sound District	520	392	-24.62%	491	407	-17.11%	407	425	4.42%	-18.27%
Nipissing District	462	381	-17.53%	437	315	-27.92%	263	299	13.69%	-35.28%
Sudbury District [a]	416	128	-69.23%	201	176	-12.44%	157	135	-14.01%	-67.55%
City of Greater Sudbury [b]		148	N/A	181	191	5.52%	153	172	12.42%	N/A
Blue Sky Region	1,398	1,049	-24.96%	1,310	1,089	-16.87%	980	1,031	5.20%	-26.25%
Northern Ontario	3,900	3,171	-18.69%	3,715	3,152	-15.15%	2,908	2,915	0.24%	-25.26%
Ontario	94,722	76,983	-18.73%	82,448	72,713	-11.81%	68,633	67,520	-1.62%	-28.72%
% of Ontario farms in the Blue Sky Region	1.50%	1.40%		1.60%	1.50%		1.40%	1.50%		

[a] Not all Census Sub-divisions from Sudbury District, as defined in the 1996 Census of Agriculture, are included in the Blue Sky Region. As such, tables and data in this profile define Sudbury District as including: Cosby, Mason and Martland; Casimir, Jennings and Appleby; Ratter and Dunnet; and Sudbury Unorganized North Part. Townships with no active census farms have been excluded. The Spanish River is not part of the Blue Sky Region, and has therefore been excluded from the Sudbury District.

[b] Previous to 1976 Sudbury District and The City of Greater Sudbury were not sub-divided, this number represents both areas for 1971 census period.

Source: Statistics Canada, 1971, 1976, 1981, 1986, 1991 and 1996.

4.4 Farm Size

Approximately half of the farms in the Blue Sky Region were between 180 and 759 acres in size in 1996 (see Table 4.5). However, the proportion of farms in the Blue Sky Region that are between 0 and 179 acres is increasing; farms of this size made up 44.6% of farms in 1986, 45.4% of farms in 1991 and 48.3% of farms in 1996. Over the same period, the proportion of farms greater than 760 acres in size decreased from 4.8% in 1986 to 3.8% in 1991 and to 3.0% in 1996. This indicates that while farms in the Blue Sky Region are still, on average, larger than farms across Ontario (239.8 acres in Blue Sky versus 205.6 acres in Ontario) they are becoming smaller over time in the Blue Sky Region. This trend contradicts the overall trend in Ontario that indicates that farms are becoming larger, due to the amalgamation of smaller and mid-size farms into larger ones. Farms in Northern Ontario were also large (351.7 acres) compared to the Ontario average, and the proportion of 'small', 'medium' and 'large' farms remained relatively unchanged over the three census periods.

Table 4.5 Farm Sizes in the Blue Sky Region and Ontario, 1986, 1991 and 1996.

1986	**0 to 179 acres**		**180 to 759 acres**		**760 + acres**		**Farms**
Parry Sound District	150	36.9%	239	58.7%	18	4.4%	407
Nipissing District	109	34.6%	183	58.1%	23	7.3%	315
Sudbury District	82	46.6%	87	49.4%	7	4.0%	176
City of Greater Sudbury	145	75.9%	42	22.0%	4	2.1%	191
Blue Sky Region	**486**	**44.6%**	**551**	**50.6%**	**52**	**4.8%**	**1,089**
Northern Ontario	**1,293**	**41.0%**	**1,546**	**49.0%**	**313**	**9.9%**	**3,152**
Ontario	**45,279**	**62.3%**	**25,618**	**35.2%**	**1,816**	**2.5%**	**72,713**
1991	**0 to 179 acres**		**180 to 759 acres**		**760 + acres**		**Farms**
Parry Sound District	179	44.0%	211	51.8%	17	4.2%	407
Nipissing District	99	37.6%	152	57.8%	12	4.6%	263
Sudbury District	59	37.6%	92	58.6%	6	3.8%	157
City of Greater Sudbury	108	70.6%	43	28.1%	2	1.3%	153
Blue Sky Region	**445**	**45.4%**	**498**	**50.8%**	**37**	**3.8%**	**980**
Northern Ontario	**1,143**	**39.5%**	**1,465**	**50.3%**	**289**	**9.9%**	**2,908**
Ontario	**43,403**	**63.2%**	**23,246**	**33.9%**	**1,984**	**2.9%**	**68,633**
1996	**0 to 179 acres**		**180 to 759 acres**		**760 + acres**		**Farms**
Parry Sound District	203	47.8%	211	49.6%	11	2.6%	425
Nipissing District	110	36.8%	177	59.2%	12	4.0%	299
Sudbury District	56	41.5%	75	55.6%	4	3.0%	135
City of Greater Sudbury	129	75.0%	39	22.7%	4	2.3%	172
Blue Sky Region	**498**	**48.3%**	**502**	**48.7%**	**31**	**3.0%**	**1,031**
Northern Ontario	**1,197**	**41.1%**	**1,431**	**49.1%**	**287**	**9.8%**	**2,915**
Ontario	**42,372**	**62.8%**	**22,731**	**33.7%**	**2,417**	**3.6%**	**67,520**

Source: Statistics Canada, Census of Canada, 1986- Agriculture Ontario, and Agricultural Profile of Ontario 1991 and 1996.

Within the Blue Sky Region, Nipissing District had the greatest proportion of farms over 760 acres in size, although this number has fallen between each census period. The City of Greater Sudbury had the greatest proportion of farms in the 0 to 179 size category; approximately 75.0% of farms in this municipality were categorized as 'small' in 1996.

4.5 Types of Farms[10]

Table 4.6 shows the types of farms in the Blue Sky Region, Northern Ontario and Ontario for 1986, 1991 and 1996. Farm numbers are based on farms reporting farm gate sales of $2,500 or more. This classification is used to omit small hobby farms that might have skewed the results. *Miscellaneous Specialty* farms includes greenhouse flower and plant production, bulbs, shrubs, trees, sod, ornamentals, mushrooms houses, honey production, maple syrup production, etc. *Livestock Combination* farms refers to two types of livestock or more, (i.e. poultry and beef, dairy and hogs).

Livestock farms were the dominant farm type in the Blue Sky Region in 1996 accounting for 44% of all farm types in the Study Area. Beef farms were the dominant livestock farm type (29%) followed by Dairy (12.5%). The Miscellaneous Specialty sector accounted for 25% of all farm types in 1996 while Field Crop farms represented 22% of all farms. The profile of the agriculture sector in the Blue Sky Region is undergoing considerable change as some sectors are declining in farm numbers while others are increasing. Miscellaneous Specialty and Field Crop farms have experienced a steady increase in farm numbers over the past 15 years while Beef and Dairy farms have declined in number.

Within the Blue Sky Region, Beef farms and Field Crop farms appear to be more concentrated in Parry Sound (97 beef farms and 81 field crop farms) and Nipissing District (82 beef farms and 56 field crop farms). Nipissing District also features the largest concentration of Dairy farms (56 farms). Parry Sound District has the largest number of Miscellaneous Specialty farms in the Study Area (81 farms). Miscellaneous Specialty farms are the number one farm type in both Sudbury District (32 farms) and the City of Greater Sudbury (44 farms) followed by Dairy and Field Crop farms.

[10] Each census farm is classified according to the predominant commodity produced. Statistics Canada does this by estimating the potential receipts from the inventories of crops and livestock reported on the questionnaire. The commodity or group of commodities that accounts for 51% or more of the total potential receipts determines the farm type. For example, a census farm with total potential receipts of 60% from dairy, 20% from hogs and 20% from field crops, would be classified as a dairy farm. Where there is no single major commodity associated with the farm operation (ie. 45% dairy, 45% hogs and 10% field crops; 40% grains and oilseeds, 35%, hogs, 25% maple syrup), the farm is categorized as either a 'livestock combination' or 'other combination' operation. Field Crop farms include wheat, grain, oilseed and other field crops. Miscellaneous specialty includes greenhouse flower and plant production, bulbs, shrubs, trees, sod, ornamentals, mushroom houses, honey production, maple syrup production, etc.

Table 4.6 Number of Farms by Major Product, 1986, 1991 and 1996 [a].

	Dairy	Beef	Hogs	Poultry	Field Crops	Fruit	Veg.	Misc. Spec.	Live. Combo	Other Combo	Total # of Farms [b]
1986											
Parry Sound District	27	165	6	7	11	3	1	34	12	27	293
Nipissing District	101	86	3	6	22	1	2	17	5	13	256
Sudbury District	23	55	1	1	1	0	0	4	1	1	87
City of Greater Sudbury	5	31	0	3	21	2	2	25	4	13	106
Blue Sky Region	156	337	10	17	55	6	5	80	22	54	742
Northern Ontario	503	1,170	40	51	211	20	21	215	48	85	2,364
Ontario	11,028	17,160	4,840	1,643	16,414	2,298	1,791	4,203	1,653	3,876	64,906
% of Ontario in Blue Sky Region	1.4%	1.9%	0.2%	1%	0.3%	0.2%	0.9%	1.9%	1.3%	1.4%	
1991											
Parry Sound District	29	155	3	6	26	3	1	75	14	5	317
Nipissing District	63	84	1	1	24	1	2	32	5	3	216
Sudbury District	27	56	1	2	13	3	2	22	3	0	129
Sudbury Regional Municipality	2	34	3	3	19	4	2	41	4	6	118
Blue Sky Region	121	329	8	12	82	11	7	170	26	14	780
Northern Ontario	420	1,119	17	35	251	25	29	384	80	38	2,389
Ontario	9,757	16,855	3,827	1,583	15,497	2,107	1,639	7,312	1,921	934	61,432
% of Ontario in Blue Sky Region	1.2%	2.0%	0.2%	0.8%	0.5%	0.5%	0.4%	2.3%	1.4%	1.5%	
1996											
Parry Sound District	20	97	3	8	64	5	4	81	11	12	305
Nipissing District	56	82	2	1	56	2	4	38	8	5	254
Sudbury District	20	31	0	2	18	2	2	32	1	1	109
Sudbury Regional Municipality	3	21	1	2	35	3	3	44	4	7	123
Blue Sky Region	99	231	6	13	173	12	13	195	24	25	791
Northern Ontario	362	828	15	22	513	23	28	459	82	47	2,379
Ontario	8,320	14,172	2,677	1,686	17,681	2,016	1,428	8,547	2,030	1,330	59,887
% of Ontario in Blue Sky Region	1.2%	1.6%	0.2%	0.8%	1.0%	0.6%	0.9%	2.3%	1.2%	1.9%	

[a] Farms reporting farm total gross farm receipts of $2,500 or more. Not all Census Sub-divisions from Sudbury District, as defined in the 1996 Census of Agriculture, are included in the Blue Sky Region. As such, tables and data in this profile define Sudbury District as including: Cosby, Mason and Martland; Casimir, Jennings and Appleby; Ratter and Dunnet; and Sudbury Unorganized North Part. Townships with no active census farms have been excluded. The Spanish River is not part of the Blue Sky Region, and has therefore been excluded from the Sudbury District.

[b] Total # of Farms is derived from the addition of major farm products and are different than census farm totals due to variation in farm types reported. Source: Statistics Canada, Census of Canada, 1986 Agriculture Ontario; Agricultural Profile of Ontario 1991 and 1996.

4.6 Field Crops and Vegetables

Table 4.7 shows the acreage of field crops in the Blue Sky Region, Northern Ontario and Ontario in 1996. Other tame hay and fodder crops made up the greatest area of field crops in the Blue Sky Region (52,186 acres, or 21.1% of all farmland in the Blue Sky Region). About 5.0% of Ontario's other tame hay and fodder crops are found in the Blue Sky Region. Nipissing District had the greatest proportion of Blue Sky Region's acreage of other tame hay and fodder crops. Acreages of other field crop categories in the Blue Sky Region, which include Alfalfa and Alfalfa Mixtures, Other Crops[11], and Vegetables are small, comprising less than 9,000 acres.

4.7 Livestock

As demonstrated previously, livestock farms, primarily beef and dairy farms, are the dominant farm types in the Blue Sky Region. Table 4.8 shows the number of farms reporting livestock in the Blue Sky Region, Northern Ontario and Ontario in 1996. These totals include all farms that contain different types of livestock, regardless of the type of farm (ie. a farm categorized as a Field Crop farm does not preclude it from having livestock; rather it is classified as a Field Crop farm as it receives 50 percent or more of its revenue from field crops). Beef cattle were reported on the greatest number of farms in the Blue Sky Region (462 farms, or 44.8% of all farms in the Blue Sky Region). More farms reported having horses (242, or 23.5%) and chickens (204 farms, or 19.8%) than dairy cows (120 farms, or 11.6%) even though dairy farms were the second-most common farm type in the Blue Sky Region.

Table 4.9 shows the populations of livestock in the Blue Sky Region, Northern Ontario and Ontario, for 1996. Chickens formed the greatest population of livestock in the Blue Sky Region, as they did across Northern Ontario and Ontario as a whole. In the Blue Sky Region this was followed by cattle (with more beef cows than dairy cows), and then by horses. The Blue Sky Region contained approximately 1.0% of Ontario's cattle, including about 0.9% of dairy cows and 1.6% of beef cows. Across Ontario, cattle were outnumbered by turkeys and hogs, although the populations of both of these livestock types appear to be small in the Blue Sky Region. Within the Blue Sky Region, the greatest number of cattle were found in Nipissing District (10,123 head including 2,258 dairy cows and 2,747 beef cows). Parry Sound District had the most beef cows 2,861) and chickens (35,604).

[11] Other Crops includes corn for grain, buckwheat, rye, corn for silage, canola (rapeseed) and potatoes.

Table 4.7 Field Crops and Vegetables in the Blue Sky Region, 1996 (in acres).

	Alfalfa and alfalfa mixtures			Other tame hay & fodder crops			Other Crops			Vegetables		
	Total	% of Blue Sky	% of Ontario	Total	% of Blue Sky	% of Ontario	Total	% of Blue Sky	% of Ontario	Total	% of Blue Sky	% of Ontario
Parry Sound District	1,256	14.0%	0.08%	18,629	35.7%	1.8%	81	4.6%	0.0%	102	28.1%	0.0%
Nipissing District	5,041	56.2%	0.34%	20,877	40.0%	2.0%	779	44.0%	0.0%	119	32.8%	0.0%
Sudbury District [a]	1,354	15.1%	0.09%	8,592	16.5%	0.8%	5	0.3%	0.0%	46	12.7%	0.0%
City of Greater Sudbury	1,320	14.7%	0.08%	4,088	7.8%	0.4%	905	51.1%	0.0%	96	26.4%	0.0%
Blue Sky Region	8,971	100.0%	0.60%	52,186	100.0%	5.0%	1,770	100.0%	0.1%	363	100.0%	0.0%
Northern Ontario	66,908			195,393			10,864			920		
Ontario	1,479,447			1,036,399			2,357,179			93,570		

[a] Not all Census Sub-divisions from Sudbury District, as defined in the 1996 Census of Agriculture, are included in the Blue Sky Region. As such, tables and data in this profile define Sudbury District as including: Cosby, Mason and Martland; Casimir, Jennings and Appleby; Ratter and Dunnet; and Sudbury Unorganized North Part. Townships with no active census farms have been excluded. The Spanish River is not part of the Blue Sky Region, and has therefore been excluded from the Sudbury District.

Source: Statistics Canada, 1996 Agricultural Profile of Ontario.

Table 4.8 Number of Farms Reporting Livestock in the Blue Sky Region, 1996.

	Beef	Horses	Chickens	Dairy	Other poultry	Hog	Sheep	Rabbits	Goats	Bees	Turkeys	Other Livestock	Deer	Bison	Llamas & Alpaca
Parry Sound District	194	98	106	30	41	40	34	22	24	16	18	5	0	0	0
Nipissing District	152	56	47	64	16	14	24	10	8	6	7	2	2	0	0
Sudbury District [a]	62	37	25	20	12	4	4	14	13	4	6	1	1	2	1
City of Greater Sudbury	54	51	26	6	14	12	5	11	9	13	7	2	1	1	0
Blue Sky Region	462	242	204	120	83	70	67	57	54	39	38	10	4	3	1
Northern Ontario	1,448	640	451	437	206	144	189	163	124	85	84	35	16	14	13
Ontario	19,572	11,829	8,295	10,122	3,160	6,777	3,592	1,952	2,521	1,263	1,197	835	256	46	161

[a] Not all Census Sub-divisions from Sudbury District, as defined in the 1996 Census of Agriculture, are included in the Blue Sky Region. As such, tables and data in this profile define Sudbury District as including: Cosby, Mason and Martland; Casimir, Jennings and Appleby; Ratter and Dunnet; and Sudbury Unorganized North Part. Townships with no active census farms have been excluded. The Spanish River is not part of the Blue Sky Region, and has therefore been excluded from the Sudbury District.

Source: Statistics Canada, Agricultural Profile of Ontario 1996.

Table 4.9 Livestock Populations in the Blue Sky Region, 1996 (number of animals). [a]

	Chickens	Turkeys	Other Poultry	Total Cattle	Dairy Cows	Beef Cows	Hog	Sheep	Horses	Goats	Rabbits	Bee Colonies
Parry Sound District	35,604	N/A	N/A	7,262	644	2,861	1,548	1,875	452	309	280	873
Nipissing District	2,001	76	102	10,123	2,258	2,747	N/A	1,012	205	117	166	59
Sudbury District [b]	N/A	105	413	4,084	803	1,181	N/A	N/A	258	N/A	N/A	N/A
City of Greater Sudbury	5,045	155	815	1,553	26	716	67	N/A	435	70	71	83
Blue Sky Region	N/A	N/A	N/A	23,022	3,454	7,130	N/A	N/A	1,350	N/A	N/A	N/A
Northern Ontario	283,388	1,057	3,680	124,032	18,259	37,720	7,606	10,435	3,555	1,462	4,064	1,796
Ontario	35,596,946	3,447,259	1,061,257	2,285,996	404,797	441,211	2,831,082	231,087	76,553	45,258	120,801	62,928
% of Ontario in Blue Sky Region	0.1%	0.0%	0.1%	1.0%	0.9%	1.6%	0.1%	1.2%	1.8%	1.6%	0.7%	1.6%

[a] The missing data (N/A) indicates where Statistics Canada has identified confidentially concerns regarding the level of detail and the data has been suppressed.

[b] Not all Census Sub-divisions from Sudbury District, as defined in the 1996 Census of Agriculture, are included in the Blue Sky Region. As such, tables and data in this profile define Sudbury District as including: Cosby, Mason and Martland; Casimir, Jennings and Appleby; Ratter and Dunnet; and Sudbury Unorganized North Part. Townships with no active census farms have been excluded. The Spanish River is not part of the Blue Sky Region, and has therefore been excluded from the Sudbury District.

Source: Statistics Canada, 1996 Agricultural Profile of Ontario.

4.8 Farm Operation Arrangements

Table 4.10 provides data on the types and number of farm operation arrangements in the Blue Sky Region, Northern Ontario and Ontario for the ten-year period from 1986 to 1996. Unfortunately, similar data gathered during the 1991 Census of Agriculture were not collected in a manner that allows for direct comparison to the 1986 and 1996 data. Table 4.10 uses four categories of operation arrangements. *Sole Proprietor* farms are one-person operations. *Partnership* includes farms operating with and without written agreements between the partners. *Corporation* includes Family and Non-family farms. *Other* farms include institution farms, community pastures and other types of farms that are not otherwise categorized.

Table 4.10 Farm Operation Arrangements, 1986 and 1996.

	Sole Proprietor		Partnership		Corporation		Other	
	1986	**1996**	**1986**	**1996**	**1986**	**1996**	**1986**	**1996**
Parry Sound District	363 (89.2%)	286 (67.3%)	36 (8.8%)	117 (27.5%)	8 (2.0%)	21 (4.9%)	0 (0.0%)	1 (0.2%)
Nipissing District	256 (81.3%)	187 (62.5%)	45 (14.3%)	88 (29.4%)	14 (4.4%)	24 (8.0%)	0 (0.0%)	0 (0.0%)
Sudbury District	163 (92.6%)	92 (68.1%)	11 (6.3%)	29 (21.5%)	2 (1.1%)	14 (10.4%)	0 (0.0%)	0 (0.0%)
City of Greater Sudbury	164 (85.7%)	110 (64.0%)	18 (9.4%)	43 (25.0%)	9 (4.7%)	18 (10.5%)	0 (0.0%)	1 (0.6%)
Blue Sky Region	946 (86.9%)	675 (65.5%)	110 (10.1%)	277 (26.9%)	33 (3.0%)	77 (7.5%)	0 (0.0%)	2 (0.2%)
Northern Ontario	2,584 (82.0%)	1,820 (62.4%)	436 (13.8%)	839 (28.8%)	121 (3.8%)	251 (8.6%)	0 (0.0%)	5 (0.2%)
Ontario	56,708 (78.0%)	38,465 (57.0%)	11,684 (16.1%)	21,076 (31.2%)	4,192 (5.8%)	7,909 (11.7%)	129 (0.2%)	70 (0.1%)

Source: Statistics Canada, Agricultural Profile of Ontario, 1986 and 1996.

Most of the farms in the Blue Sky Region, Northern Ontario and Ontario continue to be managed under a sole proprietor operating arrangement. However, between 1986 and 1996 the proportion of farms being operated under that arrangement has declined substantially. As farms become larger and decrease in number, an increasing proportion of farms are being operated as either a partnership or a corporation. Partnership arrangements have grown the most in terms of real numbers, as well as making up a greater share of farm operation arrangements. Other categories of operation arrangements have fallen across Ontario over the ten-year period, but established a small role in managing farms in the Blue Sky Region and Northern Ontario.

4.9 Characteristics of Farm Operators

Table 4.11 shows the age and sex of farm operators in the Blue Sky Region, Northern Ontario and Ontario, for 1996. Note that sub-totals of male/female and age columns may not add up exactly to total operators due to rounding.

Table 4.11 Age and Sex of Farm Operators in the Blue Sky Region, 1996.

	Male	Female	Under 35 years	35 to 54 years	55 years and over	Average age	Total operators
Parry Sound District	425	180	60	305	240	52	605
Nipissing District	305	140	60	250	140	48	445
Sudbury District	125	50	25	105	60	48	190
City of Greater Sudbury	175	80	20	155	75	49	255
Blue Sky Region	1,030	450	165	815	515	49	1,495
Northern Ontario	3,010	1,170	575	2,190	1,415	49	4,180
Ontario	71,050	25,895	13,835	49,000	34,105	49	96,940

Source: Statistics Canada, 1996 Agricultural Profile of Ontario.

The table shows that most of the farm operators in the three regions are males (68.9% in Blue Sky Region, 72.0% in Northern Ontario, and 73.3% in Ontario). Females play a greater role as farm operators in the Blue Sky Region than in either Northern Ontario or Ontario. Within the Blue Sky Region, females make up 29.8% of farm operators in Parry Sound District, 31.5% of farm operators in Nipissing District, 26.3% of farm operators in Sudbury District, and 31.4% of farm operators in The City of Greater Sudbury.

The table also shows that farmers in the Blue Sky region are about the same age as farmers in Northern Ontario and Ontario, with the average age of farmers in Parry Sound District being about three years older than the average and farmers in Nipissing District and Sudbury District being about a year younger than the average. The greatest proportion of farmers are between 35 and 54 years of age. There are, however, substantially more farm operators that are over 55 years of age than under 35 years of age, indicating that the population of farmers is aging in the Blue Sky Region, and across Ontario, and recruitment of younger farm operators to succeed them is declining.

4.10 Work Characteristics

Table 4.12 shows the on-farm and off-farm work characteristics of farm operators in the Blue Sky Region, Northern Ontario, and Ontario for 1996. While all farm operators had on-farm employment in 1996, about 33.4% of farm operators in the Blue Sky Region also had off-farm employment. Most of these conducted a single non-farm business providing some sort of service, sales or construction. Within Northern Ontario, approximately 36.2% of farm operators had off-farm employment in 1996, compared with 31.8% of farm operators across Ontario. As such, it would appear that farmers in Northern Ontario and the Blue Sky Region are more dependent on off-farm work to supplement their farming activities. This may be the result of a combination of less productive farms combined with shorter growing seasons in these areas compared with farms in southern Ontario.

Table 4.12 On-Farm and Off-Farm Work Characteristics of Farm Operators in the Blue Sky Region, 1996.

	Type of Work		# of Non-farm Businesses		Type of Business Operated in 1996				
	On Farm	Off Farm	1	2+	Sales	Service	Const.	Manuf.	Other
Parry Sound District	605	200	135	5	25	60	35	20	10
Nipissing District	445	150	70	5	20	35	10	5	5
Sudbury District	190	55	15	5	5	0	5	0	10
Sudbury Regional Municipality	255	95	50	5	20	20	10	0	10
Blue Sky Region	1,495	500	270	20	70	115	60	25	35
Northern Ontario	4,180	1,515	645	60	175	315	115	55	110
Ontario	96,940	30,835	14,070	905	4,145	7,205	2,765	1,435	445

Source: Statistics Canada, 1996 Agricultural Profile of Ontario.

4.11 Summary

The area of farmland in the Blue Sky Region accounts for approximately 2% of all farmland in Ontario. Farmland in the Blue Sky Region has declined by 24% between 1976 and 1996, with the greatest decline occurring between 1986 and 1996 (22.8%). The greatest proportion of farmland use in the region was classified as Other (43.6%), followed by land Under Crops (30.4%).

Approximately 1.5% of Ontario's farms are located in the Blue Sky Region. In 1996, Parry Sound District had the greatest number of farms followed by Nipissing District (425 and 299 respectively). The number of farms across Ontario, Northern Ontario and the Blue Sky Region have been in decline between 1971 and 1996.

In 1996, approximately half of the farms in the Blue Sky Region were between 180 and 759 acres in size. There is a noticeable increase in mid sized farms (between 0 and 179 acres) making up 48.3% of farms and a decrease in larger farms (over 760 acres). This trend contradicts the overall trend in Ontario that indicates that farms are becoming larger, due to the amalgamation of smaller and mid-size farms into larger ones.

In 1996, beef farms were the dominant farm type in the Blue Sky Region, followed by Dairy farms and Miscellaneous Specialty Farms. Approximately 2% of Ontario's Beef farms and Miscellaneous Specialty farms are located in the Blue Sky Region. Parry Sound District has the greatest number of Beef Farms and Miscellaneous Specialty farms (165 farms and 34 farms, respectively, in 1996).

Vegetables comprise a small portion of field crops in the Blue Sky Region. Other tame hay and fodder crops made up the greatest area of (52,186 acres, or 21.1% of all farmland in the Blue Sky Region) making up about 5.0% of Ontario's total. Nipissing District had the greatest proportion of Blue Sky Region's acreage of other tame hay and fodder crops in 1996. Acreages of other field crop categories in the Blue Sky Region, which include Alfalfa and Alfalfa Mixtures, Other Crops, and Vegetables are small, comprising less than 9,000 acres.

Most of the farms in the Blue Sky Region, Northern Ontario and Ontario continue to be managed under a sole proprietor operating arrangement. However, an increasing proportion of farms are being operated as either a partnership or a corporation. In terms of farm operators, the majority are male throughout the three regions, however, females play a greater role as farm operators in the Blue Sky Region than in either Northern Ontario or Ontario. The greatest proportion of farmer operators are between 35 and 54 years of age. There are, however, substantially more farm operators that are over 55 years of age than under 35 years of age, indicating that the population of farmers is aging in the Blue Sky Region, and across Ontario, and recruitment of younger farm operators to succeed them is declining. Approximately 33.4% of the farm operators in the Blue Sky Region had off-farm employment. Most conducted a single non-farm business providing some sort of service, sales or construction.

5.0 Direct Economic Impact of Agriculture

This and the following sections focus on the economics of agriculture and more particularly, one of the most important indicators- farm gate sales. In addition, we look at expenditures and capital investments as additional measures of the impact. For a more detailed discussion of economic impact analysis see section 6.0 following.

5.1 Farm Gate Sales

Farm gate sales have increased in each of the municipalities in the Blue Sky Region, Northern Ontario and Ontario in each of the most recent census periods (Table 5.1). Farm gate sales in the Blue Sky Region increased by 34.4% between 1985 and 1990, and a further 13.9% between 1990 and 1995. In comparison, farm gate sales in Northern Ontario increased by 23.0% between 1985 and 1990 and by 9.5% between 1990 and 1995. Farm gate sales in Ontario as a whole increased by 21.0% between 1985 and 1990 and by 16.6% between 1990 and 1995.

Table 5.1 Farm Gate Sales (000) in Blue Sky Region, Northern Ontario and Ontario, 1985,1990 and 1995.

	1985	% change 1985 - 1990	1990	% change 1990 - 1995	1995	% change 1985 - 1995
Parry Sound District	$5,348	55.33%	$8,307	23.23%	$10,237	91.42%
Nipissing District	$11,714	4.40%	$12,230	13.96%	$13,937	18.98%
Sudbury District	$4,280	22.24%	$5,232	11.05%	$5,810	35.75%
City of Greater Sudbury	$2,886	135.52%	$6,797	4.80%	$7,123	146.81%
Blue Sky Region	$24,229	34.41%	$32,567	13.95%	$37,109	53.16%
Northern Ontario	$112,651	23.04%	$138,602	9.51%	$151,786	34.74%
Ontario	$5,511,666	21.04%	$6,671,452	16.59%	$7,778,476	41.13%

Source: Statistics Canada Census of Agriculture, 1986, 1991 and 1996.

In 1995, farm gate sales in the Blue Sky Region totaled over $37.1 million, representing 0.5% of the province's total output in that year. Within the Blue Sky Region, Nipissing District has the greatest amount of farm gate sales with over $13.9 million in 1995, followed by Parry Sound District ($10.2 million), The City of Greater Sudbury ($7.1 million) and Sudbury District ($5.8 million).

In comparison to other agricultural counties and municipalities in Ontario, farm gate sales in the Blue Sky Region are low. Table 5.2 provides farm gate sales for the leading agriculture-producing municipalities in Ontario for the past two census periods.

Table 5.2 Municipalities with the Highest Farm Gate Sales in Ontario, 1990 and 1995.

County/Regional Municipality	1990 Sales ($ millions)	1995 Sales ($ millions)	% Change
Huron	436.9	511.9	17.2%
Haldimand Norfolk R.M.	378.3	453.1	19.8%
Middlesex	417.3	450.4	7.9%
Kent	295.0	444.4	50.6%
Perth	366.2	430.3	17.5%
Oxford	341.5	418.6	22.6%
Niagara R.M.	318.9	408.3	28.0%
Wellington	320.1	373.1	16.6%
Essex	218.5	315.7	44.5%
Lambton	258.0	301.4	16.8%
Waterloo R.M.	257.8	301.4	16.9%

Source: Statistics Canada, Catalogue No. 95-356, Table 28.1, pp. 29-30; Catalogue No. 95-117-XPB, Table 28.1, pp. 184-185

Average farm gate sales per farm are presented in Table 5.3. Sales per farm in the Blue Sky Region are, on average, substantially less than Northern Ontario and Ontario. Blue Sky Region farms averaged $35,994 in gross farm gate sales in 1995, compared with $52,071 in average sales per farm in Northern Ontario and $115,203 in Ontario. Within the Blue Sky Region, farms in Nipissing District had the highest average sales per farm ($46,614). Farms in the Parry Sound District had the lowest average sales per farm ($24,089). At the census subdivision level, average sales per farm ranged from $7,042 in Machar Township (Parry Sound District) to $92,150 in Caldwell Township (Nipissing District).

Average farm gate sales per acre of farmland are also presented in Table 5.3. Sales per acre in the Blue Sky Region are, on average, slightly higher than those in Northern Ontario, but still much lower than the Ontario average. Sales in the Blue Sky Region averaged $150 per acre in 1995, compared with $148 in average sales per acre in Northern Ontario and $560 in Ontario. Within the Blue Sky Region, farms in The City of Greater Sudbury had the highest average sales per acre of farmland ($280). Farms in the Parry Sound District had the lowest average sales per acre of farmland ($107). At the census subdivision level, average sales per acre of farmland ranged from $35 in Ryerson Township (Parry Sound District) to $379 in Valley East Township (City of Greater Sudbury).

Table 5.3 Average Farm Gate Sales per Farm and per Acre in Blue Sky Region, 1995.

	Farm Gate Sales	# of Farms	Sales per Farm	# of Acres	Sales / Acre
Parry Sound District	**$10,237,983**	**425**	**$24,089**	**95,496**	**$107**
Perry	$254,861	28	$9,102	3,293	$77
Armour	$917,311	25	$36,692	4,164	$220
Ryerson	$324,295	35	$9,266	9,381	$35
McKellar	$350,019	30	$11,667	6,393	$55
McDougall	$881,159	43	$20,492	8,473	$104
Chapman	$493,148	26	$18,967	6,853	$72
Strong	$562,429	46	$12,227	7,604	$74
Machar	$140,843	20	$7,042	2,779	$51
South Himsworth	$2,804,483	62	$45,234	15,381	$182
North Himsworth	$275,379	17	$16,199	2,676	$103
Nipissing	$2,079,441	36	$57,762	10,318	$202
Unorganized, Centre Part	$1,154,615	57	$20,256	18,181	$64
Nipissing District	**$13,937,713**	**299**	**$46,614**	**87,657**	**$159**
Papineau-Cameron	$314,552	22	$14,298	6,532	$48
Calvin	$469,096	28	$16,753	8,383	$56
Bonfield	$715,511	45	$15,900	11,370	$63
Chisholm	$2,407,342	52	$46,295	13,268	$181
Springer	$1,805,092	27	$66,855	6,068	$297
Caldwell	$4,515,364	49	$92,150	17,644	$256
Unorganized, North Part	$3,710,756	76	$48,826	24,392	$152
Sudbury District	**$5,810,913**	**135**	**$43,044**	**38,615**	**$150**
Cosby, Mason and Martland	$1,749,190	29	$60,317	10,746	$163
Casimir, Jennings and Appleby	$1,036,752	41	$25,287	12,705	$82
Ratter and Dunnet	$1,748,938	32	$54,654	9,680	$181
Unorganized, North Part	$1,276,033	33	$38,668	5,484	$233
City of Greater Sudbury	**$7,123,006**	**172**	**$41,413**	**25,457**	**$280**
Walden	$978,375	47	$20,816	8,572	$114
Rayside-Balfour	$3,645,645	75	$48,609	10,296	$354
Valley East	$2,498,986	50	$49,980	6,589	$379
Blue Sky Region	**$37,109,615**	**1,031**	**$35,994**	**247,225**	**$150**
Northern Ontario	**$151,786,040**	**2,915**	**$52,071**	**1,025,190**	**$148**
Ontario	**$7,778,476,4**	**67,520**	**$115,203**	**13,879,565**	**$560**

Source: Statistics Canada Census of Agriculture, 1996.

5.2 Operating Expenditures

Table 5.4 compares operating expenditures in the Blue Sky region, Northern Ontario and Ontario in 1985, 1990 and 1995. Operating expenditures have increased in each of the regions during the three census periods.

Table 5.4 Operating Expenditures in Blue Sky Region, Northern Ontario and Ontario, 1985,1990 and 1995.

	1985	1990	1995
Parry Sound District	$5,828,349	$7,612,275	$10,388,595
Nipissing District	$10,057,883	$10,517,717	$12,290,416
Sudbury District	$4,559,878	$4,661,805	$5,043,093
City of Greater Sudbury	$3,686,919	$5,778,863	$6,800,190
Blue Sky Region	$24,133,029	$28,570,660	$34,522,294
Northern Ontario	$101,048,005	$116,211,580	$133,749,010
Ontario	$4,711,942,124	$5,462,588,275	$6,545,516,325

Source: Statistics Canada Census of Agriculture, 1986, 1991 and 1996.

Average operating expenditures per farm are presented in Table 5.5. Expenses per farm in the Blue Sky Region are, on average, lower than Northern Ontario, and substantially lower than Ontario as a whole. Blue Sky Region farms averaged $33,484 in expenditures in 1995, compared with $45,883 in average expenses per farm in Northern Ontario, and $96,942 in Ontario. Within the Blue Sky Region, farms in Nipissing District had the highest average expenses per farm ($41,105). Farms in the Parry Sound District had the lowest average expenses per farm ($24,444). At the census subdivision level, average expenses per farm ranged from $11,627 in Machar Township (Parry Sound District) to $70,405 in Caldwell Township (Nipissing District).

Average operating expenditures per acre of farmland are also presented in Table 5.5. Expenses per acre in the Blue Sky Region are, on average, higher than those in Northern Ontario, but still much lower than the Ontario average. Expenses in the Blue Sky Region averaged $140 per acre in 1995, compared with $130 in average expenses per acre in Northern Ontario, and $472 in Ontario. Within the Blue Sky Region, farms in The City of Greater Sudbury had the highest average expenses per acre of farmland ($267). Farms in the Parry Sound District had the lowest average expenses per acre of farmland ($109). At the census subdivision level, average sales per acre of farmland ranged from $54 in Ryerson Township (Parry Sound District) to $390 in Valley East Township (City of Greater Sudbury).

Table 5.5 Average Operating Expenditures per Farm and per Acre in Blue Sky Region, 1995.

	Operating Expenditures	# of Farms	Cost per Farm	# of Acres	Cost per Acre
Parry Sound District	**$10,388,595**	**425**	**$24,444**	**95,496**	**$109**
Perry	$341,007	28	$12,179	3,293	$104
Armour	$862,454	25	$34,498	4,164	$207
Ryerson	$508,883	35	$14,540	9,381	$54
McKellar	$438,703	30	$14,623	6,393	$69
McDougall	$1,118,157	43	$26,004	8,473	$132
Chapman	$540,140	26	$20,775	6,853	$79
Strong	$752,608	46	$16,361	7,604	$99
Machar	$232,531	20	$11,627	2,779	$84
South Himsworth	$2,549,955	62	$41,128	15,381	$166
North Himsworth	$303,408	17	$17,848	2,676	$113
Nipissing	$1,641,534	36	$45,598	10,318	$159
Unorganized, Centre Part	$1,099,215	57	$19,284	18,181	$60
Nipissing District	**$12,290,416**	**299**	**$41,105**	**87,657**	**$140**
Papineau-Cameron	$506,948	22	$23,043	6,532	$78
Calvin	$596,391	28	$21,300	8,383	$71
Bonfield	$828,394	45	$18,409	11,370	$73
Chisholm	$2,203,681	52	$42,378	13,268	$166
Springer	$1,624,276	27	$60,158	6,068	$268
Caldwell	$3,449,868	49	$70,405	17,644	$196
Unorganized, North Part	$3,080,858	76	$40,538	24,392	$126
Sudbury District	**$5,043,093**	**135**	**$37,356**	**38,615**	**$131**
Cosby, Mason and Martland	$1,602,177	29	$55,247	10,746	$149
Casimir, Jennings and Appleby	$1,050,779	41	$25,629	12,705	$83
Ratter and Dunnet	$1,195,144	32	$37,348	9,680	$123
Unorganized, North Part	$1,194,993	33	$36,212	5,484	$218
City of Greater Sudbury	**$6,800,190**	**172**	**$39,536**	**25,457**	**$267**
Walden	$1,123,798	47	$23,911	8,572	$131
Rayside-Balfour	$3,106,140	75	$41,415	10,296	$302
Valley East	$2,570,252	50	$51,405	6,589	$390
Blue Sky Region	**$34,522,294**	**1,031**	**$33,484**	**247,225**	**$140**
Northern Ontario	**$133,749,010**	**2,915**	**$45,883**	**1,025,190**	**$130**
Ontario	**$6,545,516,325**	**67,520**	**$96,942**	**13,879,565**	**$472**

Source: Statistics Canada Census of Agriculture, 1996.

5.3 Net Revenue

Table 5.6 compares net revenue in the Blue Sky Region, Northern Ontario and Ontario in 1985, 1990 and 1995. Net revenue increased throughout Ontario during each of the census periods, but has fluctuated within the Blue Sky Region and Northern Ontario. Of particular note are years of negative net revenue in Parry Sound District (1985 and 1995), Sudbury District (1985) and The City of Greater Sudbury (1985).

Table 5.6 Net Revenue in Blue Sky Region, Northern Ontario and Ontario, 1985,1990 and 1995.

	1985	1990	1995
Parry Sound District	$-479,876	$695,593	$-150,612
Nipissing District	$1,656,903	$1,712,325	$1,647,297
Sudbury District	$-279,569	$570,226	$767,820
City of Greater Sudbury	$-800,760	$1,018,480	$322,816
Blue Sky Region	$96,698	$3,996,624	$2,587,321
Northern Ontario	$11,603,003	$22,390,598	$18,037,030
Ontario	$799,724,637	$1,208,864,107	$1,232,960,158

Source: Statistics Canada Census of Agriculture, 1986, 1991 and 1996.

Average net revenue per farm is presented in Table 5.7. Net revenue per farm in the Blue Sky Region is, on average, lower than Northern Ontario, and substantially lower than Ontario as a whole. Blue Sky Region farms averaged $2,510 in net revenue in 1995, compared with $6,188 in average net revenue per farm in Northern Ontario, and $18,261 in Ontario. Within the Blue Sky Region, farms in Sudbury District had the highest average net revenue per farm ($5,688). Farms in the Parry Sound District had the lowest average net revenue per farm ($-355). At the census subdivision level, average net revenue per farm ranged from $-8,745 in Papineau-Cameron Township (Nipissing District) to $21,745 in Caldwell Township (Nipissing District).

Average net revenue per acre of farmland are also presented in Table 5.7. Net revenue per acre in the Blue Sky Region is, on average, lower than that in Northern Ontario, but still much lower than the Ontario average. Net revenue in the Blue Sky Region averaged $10 per acre in 1995, compared with $18 in average net revenue per acre in Northern Ontario, and $88 in Ontario. Within the Blue Sky Region, farms in Nipissing District and Sudbury District had the highest average net revenue per acre of farmland ($19). Farms in the Parry Sound District had the lowest average net revenue per acre of farmland ($-2). At the census subdivision level, average net revenue per acre of farmland ranged from $-33 in Machar Township (Parry Sound District) to $60 in Caldwell Township (Nipissing District).

Table 5.7 Average Net Revenue per Farm and per Acre in the Blue Sky Region, 1995.

	Sales per Farm	Costs per Farm	Net Revenue per Farm	Sales per Acre	Costs per Acre	Net Revenue per Acre
Parry Sound District	**$24,089**	**$24,444**	**$-355**	**$107**	**$109**	**$-2**
Perry	$9,102	$12,179	$-3,077	$77	$104	$-27
Armour	$36,692	$34,498	$2,194	$220	$207	$13
Ryerson	$9,266	$14,540	$-5,274	$35	$54	$-19
McKellar	$11,667	$14,623	$-2,956	$55	$69	$-14
McDougall	$20,492	$26,004	$-5,512	$104	$132	$-28
Chapman	$18,967	$20,775	$-1,808	$72	$79	$-7
Strong	$12,227	$16,361	$-4,134	$74	$99	$-25
Machar	$7,042	$11,627	$-4,585	$51	$84	$-33
South Himsworth	$45,234	$41,128	$4,106	$182	$166	$16
North Himsworth	$16,199	$17,848	$-1,649	$103	$113	$-10
Nipissing	$57,762	$45,598	$12,164	$202	$159	$43
Unorganized, Centre Part	$20,256	$19,284	$972	$64	$60	$4
Nipissing District	**$46,614**	**$41,105**	**$5,509**	**$159**	**$140**	**$19**
Papineau-Cameron	$14,298	$23,043	$-8,745	$48	$78	$-30
Calvin	$16,753	$21,300	$-4,547	$56	$71	$-15
Bonfield	$15,900	$18,409	$-2,509	$63	$73	$-10
Chisholm	$46,295	$42,378	$3,917	$181	$166	$15
Springer	$66,855	$60,158	$6,697	$297	$268	$29
Caldwell	$92,150	$70,405	$21,745	$256	$196	$60
Unorganized, North Part	$48,826	$40,538	$8,288	$152	$126	$26
Sudbury District	**$43,044**	**$37,356**	**$5,688**	**$150**	**$131**	**$19**
Cosby, Mason and Martland	$60,317	$55,247	$5,070	$163	$149	$14
Casimir, Jennings and Appleby	$25,287	$25,629	$-342	$82	$83	$-1
Ratter and Dunnet	$54,654	$37,348	$17,306	$181	$123	$58
Unorganized, North Part	$38,668	$36,212	$2,456	$233	$218	$15
City of Greater Sudbury	**$41,413**	**$39,536**	**$1,877**	**$280**	**$267**	**$13**
Walden	$20,816	$23,911	$-3,095	$114	$131	$-17
Rayside-Balfour	$48,609	$41,415	$7,194	$354	$302	$52
Valley East	$49,980	$51,405	$-1,425	$379	$390	$-11
Blue Sky Region	**$35,994**	**$33,484**	**$2,510**	**$150**	**$140**	**$10**
Northern Ontario	**$52,071**	**$45,883**	**$6,188**	**$148**	**$130**	**$18**
Ontario	**$115,203**	**$96,942**	**$18,261**	**$560**	**$472**	**$88**

Source: Statistics Canada Census of Agriculture, 1996.

5.4 Farm Capital

Table 5.8 compares farm capital in the Blue Sky Region, Northern Ontario and Ontario in 1985, 1990 and 1995. Investment in farm capital increased throughout each of the regions during each of the census periods.

Table 5.8 Farm Capital in Blue Sky Region, Northern Ontario and Ontario, 1985, 1990 and 1995.

	1985	1990	1995
Parry Sound District	$61,459,877	$101,691,579	$115,423,025
Nipissing District	$65,558,183	$73,671,401	$96,886,078
Sudbury District	$27,678,820	$35,786,499	$37,441,674
City of Greater Sudbury	$24,532,181	$39,431,127	$49,239,505
Blue Sky Region	$179,229,061	$250,580,606	$298,990,282
Northern Ontario	$651,579,407	$825,804,807	$1,022,746,952
Ontario	$23,737,179,535	$40,702,680,717	$40,860,936,035

Source: Statistics Canada Census of Agriculture, 1986, 1991 and 1996.

Average capital per farm is presented in Table 5.9. Capital investment per farm in the Blue Sky Region is, on average, lower than both Northern Ontario and Ontario. Blue Sky Region farms averaged $290,000 in farm capital in 1995, compared with $350,857 in farm capital per farm in Northern Ontario, and $605,168 in Ontario. Within the Blue Sky Region, farms in Nipissing District had the highest average capital per farm ($324,034). Farms in the Parry Sound District had the lowest average capital per farm ($271,584). At the census subdivision level, average capital per farm ranged from $161,744 in Machar Township (Parry Sound District) to $412,907 in Chisholm Township (Nipissing District).

Average farm capital per acre of farmland is also presented in Table 5.6. Capital investment per acre in the Blue Sky Region is, on average, higher than that in Northern Ontario, but still much lower than Ontario. Farm capital in the Blue Sky Region averaged $1,209 per acre in 1995, compared with $998 in farm capital per acre in Northern Ontario, and $2,944 in Ontario. Within the Blue Sky Region, farms in The City of Greater Sudbury had the highest average farm capital per acre of farmland ($1,934). Farms in Sudbury District had the lowest average farm capital per acre of farmland ($970). At the census subdivision level, average farm capital per acre of farmland ranged from $791 in Casimir, Jennings and Appleby Township (Sudbury District) to $2,407 in Rayside-Balfour Township (City of Greater Sudbury).

Table 5.9 Average Farm Capital per Farm and per Acre in Blue Sky Region, 1996.

	Farm Capital	# of Farms	Capital per Farm	# of Acres	Capital per Acre
Parry Sound District	**$115,423,025**	**425**	**$271,584**	**95,496**	**$1,209**
Perry	$5,148,094	28	$183,861	3,293	$1,563
Armour	$4,826,303	25	$193,052	4,164	$1,159
Ryerson	$7,690,213	35	$219,720	9,381	$820
McKellar	$7,251,425	30	$241,714	6,393	$1,134
McDougall	$14,632,874	43	$340,299	8,473	$1,727
Chapman	$7,757,262	26	$298,356	6,853	$1,132
Strong	$10,622,792	46	$230,930	7,604	$1,397
Machar	$3,234,887	20	$161,744	2,779	$1,164
South Himsworth	$22,022,011	62	$355,194	15,381	$1,432
North Himsworth	$4,378,443	17	$257,555	2,676	$1,636
Nipissing	$11,924,656	36	$331,240	10,318	$1,156
Unorganized, Centre Part	$15,934,065	57	$279,545	18,181	$876
Nipissing District	**$96,886,078**	**299**	**$324,034**	**87,657**	**$1,105**
Papineau-Cameron	$7,081,450	22	$321,884	6,532	$1,084
Calvin	$7,607,412	28	$271,693	8,383	$907
Bonfield	$11,775,372	45	$261,675	11,370	$1,036
Chisholm	$21,471,162	52	$412,907	13,268	$1,618
Springer	$8,705,492	27	$322,426	6,068	$1,435
Caldwell	$16,782,021	49	$342,490	17,644	$951
Unorganized, North Part	$23,463,169	76	$308,726	24,392	$962
Sudbury District	**$37,441,674**	**135**	**$277,346**	**38,615**	**$970**
Cosby, Mason and Martland	$8,826,925	29	$304,377	10,746	$821
Casimir, Jennings and Appleby	$10,053,295	41	$245,202	12,705	$791
Ratter and Dunnet	$8,897,714	32	$278,054	9,680	$919
Unorganized, North Part	$9,663,740	33	$292,841	5,484	$1,762
City of Greater Sudbury	**$49,239,505**	**172**	**$286,276**	**25,457**	**$1,934**
Walden	$10,028,972	47	$213,382	8,572	$1,170
Rayside-Balfour	$24,777,364	75	$330,365	10,296	$2,407
Valley East	$14,433,169	50	$288,663	6,589	$2,190
Blue Sky Region	**$298,990,282**	**1,031**	**$290,000**	**247,225**	**$1,209**
Northern Ontario	**$1,022,746,952**	**2,915**	**$350,857**	**1,025,190**	**$998**
Ontario	**$40,860,936,035**	**67,520**	**$605,168**	**13,879,565**	**$2,944**

Source: Statistics Canada Census of Agriculture, 1996.

As part of the analysis of the direct impacts of agriculture on the local economy, the Consultant reviewed estimates of farm revenue and operating expenses from the Whole Farm Data Base (WFDB). The WFDB is produced by the Agriculture Division of Statistics Canada and Agriculture and Agri-Food Canada and utilizes tax filer data to produce disaggregated statistics.

Similar to the Agriculture Census, the WFDB Tax Data Program (TDP) contains data on farm revenue and operating expenses. However, there are significant differences between the two data sets as the TDP draws from a smaller population of farm operators. As described by Sheila Young, Analytical Officer / Agriculture Division / Statistics Canada, the population of farm tax filers is composed of corporations who file T2 tax forms and all individuals who claim either positive gross farm income or non-zero net farm income from self-employment on their T1 General Tax Return. For the incorporations, by and large, only those agricultural farm tax filers who claim 51% or more of their revenues from agricultural activity are included in the TDP. Another feature of the TDP is that it only provides data for farms with reported revenues of $10,000 and more. Finally, the TDP is limited to farm tax filers who have filed on time. Late filers are not included.

Our review of the tax filer data also experienced problems in retrieving a complete data set for the study area. The small population of farm tax filers in certain areas of the study area resulted in data being suppressed by Statistics Canada for reasons of confidentiality. As a result, we were unable to retrieve data for many of the census subdivisions in the study area.

Problems were also found with the reliability of the tax filer data for the study area. As noted in the WFDB Reference Manual (January 2001), all of the estimates produced by the WFDB are derived from samples, making them subject to sampling errors. In sample surveys, inference is made about the entire population based on data obtained from part of the population, therefore the results are likely to be different than if a complete census was taken under the same survey conditions. At the level of the larger geographic area (i.e. Northern Ontario) the estimates were found to be very good. However, the data sets for individual Census Divisions (Parry Sound, Nipissing, Sudbury, City of Greater Sudbury) were found to be unreliable and were released with the advisory to use with caution unless independent data sources concur with the estimate.

Table 5.10 presents the estimated total farm revenue and operating expenses reported in the WFDB Tax Data Program for 1995 with a comparison to the 1995 figures reported in the 1996 Agriculture Census. While the TDP data appears to be consistent with the Census data in some areas (Parry Sound and Sudbury District), there is considerable deviation in other areas (Nipissing and the City of Greater Sudbury). Furthermore, the TDP data for 1999 appears to be very irregular in light of 1998 projections (Table 5.11).

Table 5.10 Comparison of Total Farm Revenue and Operating Expenses using Tax Data Program and Agriculture Census Data, 1995.

Region	1995 Tax Data Program [a]		1996 Agriculture Census	
	Total Revenue	Total Operating Expenses	Total Revenue (1995)	Total Operating Expenses (1995)
Parry Sound District	$11,254,516	$10,018,453	$10,237,983	$10,388,595
Nipissing District	$10,338,657	$8,551,619	$13,937,713	$12,290,416
Sudbury District	$5,067,832	$3,918,470	$5,810,913	$5,043,093
City of Greater Sudbury	$5,811,579	$5,777,572	$7,123,006	$6,800,190

[a] Data for Sudbury District reflects the total for all of the municipalities in the District.
Source: Whole Farm Data Base - Tax Data Program 2001; Statistics Canada, Agricultural Profile of Ontario 1996.

Table 5.11 Comparison of Total Farm Revenue and Operating Expenses using Tax Data Program (1999) and Projections (1998).

Region	1999 Tax Data Program [a]		1998 Projections [b]	
	Total Revenue	Total Operating Expenses	Total Revenue	Total Operating Expenses
Parry Sound District	$3,950,426	$4,436,984	$8,143,000	N/A
Nipissing District	$8,545,630	$7,971,222	$12,313,000	N/A
Sudbury District	$6,046,719	$4,641,073	$15,201,000	N/A
City of Greater Sudbury	$5,090,022	$4,811,625		

[a] Data for Sudbury District reflects the total for all of the municipalities in the District.
[b] Data for Sudbury District and the City of Greater Sudbury is combined.
Source: Whole Farm Data Base - Tax Data Program 2001; Projections adapted by HCA from OMAFRA, 2000.

The low number of farms in Northern Ontario (relative to farm numbers in Southern Ontario) clearly creates problems for using the TDP data to provide a more current estimate of farm gate sales and operating expenses. Our review of the TDP suggests that the tax filer data tends to under represent the size the agriculture sector as it draws from a smaller population of farm operators. Given that the data for the 2001 Agriculture Census will not be available for approximately two more years, other methods should be considered for acquiring a more current estimate of farm gate sales. One approach could involve a primary producer survey with a representative sample of producers in the study area.

5.5 Summary

Farm gate sales in the Blue Sky Region have experienced steady growth since 1985 with a rate of increase that is fairly consistent with the provincial average. In 1995, farm gate sales in the Region amounted to just over $37 million. While farm gate sales in the Blue Sky Region are not as substantial as regions of Southern Ontario, the figure is impressive considering the adverse growing conditions and limited availability of arable farmland.

Sales per farm in the Blue Sky Region are considerably lower than the provincial average but operating expenses per farm are also much lower. Farm operators in the Blue Sky Region are making substantial capital investments in the industry. While the province as a whole experienced less than one percent growth in farm capital between 1991 and 1996, the value of farm capital in the Blue Sky Region increased by 19% or close to $50 million.