Blue Sky Region
Agricultural Economic Sector Profile

December 2009

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Prepared by:

Harry Cummings and Associates Inc.
96 Kathleen Street, Guelph Ontario. N1H 4Y3
Phone: (519) 823-1647 / Fax: (519) 821-0202
URL: www.hcaconsulting.ca
Email: hca@web.ca

Executive Summary

The purpose of this report is to provide a profile of agriculture in the Blue Sky Region and an update on the economic impact of agriculture on the wider economy. The report is intended to help the broader community better understand the nature and economic significance of the agricultural economy in terms of dollars and jobs. The findings are also intended to inform program and policy development work within northern Ontario. Only by better understanding the important role played by food related activities can the various participants in the agri-food economy work together to make decisions which are economically sound, environmentally sustainable and socially responsible.

The research in this report relies on data from the Population and Agricultural Census (1996-2006), a review of the findings from the previous agri-economic impact study conducted for the Blue Sky Region in 2002, and a focus group with primary producers from the region. The study was completed as part of a larger collaborative partnership between stakeholder groups in Thunder Bay District, Rainy River District, Kenora District and Cochrane District. The focus of this report is on the Blue Sky Region.

The value of agricultural production in the Blue Sky Region is substantial. In 2005, farmers in the Region reported a total of $43.9 million in gross farm receipts. With respect to jobs, the local agriculture sector directly supports about 860 on-farm jobs.

It is important to note that the above job figures for agriculture do not include all part-time positions. Indeed, the employment profile of the agriculture sector is undergoing a transformation as farmers increasingly work more hours off the farm to supplement their farm income. Between 1995 and 2005, the proportion of Blue Sky Region farmers working off the farm increased from 33% to 55%. Producers often link the need for a second income to a combination of factors including stagnant or shrinking commodity prices and rising production costs. The increase in off-farm work is also having a negative effect on the amount of time that farm leaders are able to volunteer for organizations and activities that have traditionally helped to promote agriculture in the region.

It is also important to emphasize that the decline in agriculture employment does not reflect trends in farm productivity. Agriculture in the Blue Sky Region continues to have competitive advantages and economic opportunities including a substantial farmland base that supports the growth of a variety of crops; lower land prices relative to land prices in southern Ontario, its isolation from the threat of contaminants from industrial farms; and its access to a regional market (northeastern Ontario).

Blue Sky Region reported almost 222,000 acres of farmland from 864 farms in 2006. Historically, the Region reported a much larger area of farmland. For example, in 1961 Nipissing District and Parry Sound District reported about 200,000 and 250,000 acres of farmland respectively which indicates the great potential for expanding local agriculture production.

With respect to crop production, the climate and soil conditions in the Region allow for the production of a variety of field crops including barley, wheat, oats, corn, mixed grains, soybeans, canola and hay crops. Approximately 79,500 acres or 36% of the total farmland base in the Region was used for crop production in 2006. Based on projections from climate change models, the growing season in the Region is expected to gradually increase over the next 100 years which will result in further crop production opportunities for the region.

The Blue Sky Region features a variety of farm types and sizes. Major farm production activities in the Region include hay production, beef production, dairy production, greenhouse, nursery and floriculture production, as well as a range of other animal production activities including sheep, goats, and horses.

The average farm size in the Region is 257 acres but there is considerable variation in farm sizes across the Region. On average, farms in Sudbury District are the largest at 345 acres while farms in Greater Sudbury are the smallest at 143 acres.

The agri-related business community plays an important role in supporting agriculture in the Blue Sky Region. These businesses represent a variety of industry sectors including retail and wholesale trade, manufacturing, construction, transportation and business services. Agri-related businesses provide the support infrastructure for the agriculture sector and through their linkages to farm based activities, generate substantial economic benefits for the Region.

A review of the findings from the 2002 agri-economic impact study for the Blue Sky Region in the context of more recent economic activity reveals that agriculture continues to make a significant contribution to the wider economy beyond the farm gate.

Allowing for a ±10% change in agri-related business activity since the 2002 study, we estimate that agriculture in the Region currently generates between $38 million and $47 million in indirect sales (agri-related business sales) and sustains between 364 and 444 indirect jobs. With respect to induced impacts, we estimate that agriculture in the Region sustains between 1,836 and 1,956 jobs in the public service sectors (i.e. health services, education services, public administration).

Overall, the total economic impact of agriculture in the Blue Sky Region amounts to between $82 million and $91 million in sales (direct and indirect) and between 3,060 and 3,260 jobs (direct, indirect and induced). The associated sales expenditure multiplier indicates that for every dollar generated in direct agricultural sales (farm gate sales), an additional $0.90 to $1.10 in sales related to agriculture is generated in the wider economy. The associated employment multiplier indicates that for every job in the agriculture sector an additional 2 to 3 jobs are supported in the wider economy.

With respect to opportunities, agri-sector stakeholders from the Region identified significant opportunities for promoting greater local food production and marketing, particularly in the areas around the major urban centres of Greater Sudbury and North

Bay. Producers and organizations in the Greater Sudbury area have been actively promoting the development of a formal local food production and distribution system for several years now and agri-sector stakeholders would like to see a similar type of initiative established around North Bay. A key element of a local food initiative for the North Bay area would be the establishment of a coordinating body to bring the different stakeholders together (e.g. producers, distributors/retailers, consumer representatives, relevant local government officials and organizations) and develop a local food system plan with goals and objectives.

Agri-sector stakeholders from the Region also identified the potential for biomass crops to be grown on some of the more marginal farmland in the Region.

A common concern expressed by agri-sector stakeholders in the Region is that many of the government polices and support programs for agriculture are directed at models of agri-food production that are based on larger scale operations and southern Ontario market realities. Agri-sector stakeholders see the need for more northern oriented incentive programs that encourage projects that will establish and enhance the capacity of local agri-food production and product processing.

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HCA also acknowledges the support provided by Bob Norris, Ontario Federation of Agriculture Member Service Representative, for coordinating the agri-sector stakeholder focus group.

It is hoped that readers find the report informative and through it gain a better understanding of the important role played by agriculture and food-related activities in the Blue Sky Region.

Harry Cummings and Associates
December 2009

Cover photo provided by Don Murray, Harry Cummings and Assoc.

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1.0 Introduction

Agriculture is an important industry in northeastern Ontario. Unfortunately, the decline of on-farm employment across Ontario is often interpreted as a sign that the sector has limited or no growth potential. In reality, farm productivity is increasing across Ontario. Furthermore, research on the broader impacts of agriculture has shown that the sector has important linkages with other industry sectors and can play an important role in contributing to economic diversification and making communities less vulnerable to economic variability (Cummings, 2005).

One of the notable characteristics of the agriculture sector in northeastern Ontario is the diversity of the production which provides residents in the area with a range of local food options. The development of local food systems is a growing area of interest in North America and elsewhere and is viewed as a logical strategy to improve community economic vitality (Feenstra, 2007).

An agri-economic impact study was completed for the Blue Sky Region in 2001-2002 and updated in 2004.[1] The Blue Sky Region overlays four Districts in northern Ontario: Parry Sound, Nipissing, Sudbury and the City of Greater Sudbury.[2] The study determined that the local agriculture sector generated approximately $43.6 million in direct sales and $42.7 million in indirect sales. The related sales expenditure multiplier (2.0) indicates that approximately every dollar generated by direct agricultural sales produced an additional dollar in sales related to agriculture in the wider economy. With respect to jobs, the earlier study found that the agriculture sector in the Blue Sky Region supported a total of 4,797 direct, indirect and induced jobs. The related employment multiplier (3.8) indicates that approximately every job in the agriculture sector supports/generates an additional 2.8 jobs in the wider economy (Cummings and Associates. 2004).

The purpose of this report is to provide an update of the 2004 report including an overview of the agriculture sector based on the 2006 Census of Agriculture and a general overview of the wider economy in the region to provide context.

The report is intended to help the broader community better understand the nature and economic significance of the agricultural economy in terms of dollars and jobs. The findings are also intended to inform program and policy development work within northern Ontario. Only by better understanding the important role played by food related activities can the various participants in the agri-food economy work together to make

[1] At the time the Blue Sky Region 2002 study was completed data from the 2001 Population and Agriculture Census was not available. In 2004, the 2002 report was updated by HCA with 2001 Census data.

[2] Not all Census Sub-divisions in Sudbury District are included in the Blue Sky Region. The municipality of Sables-Spanish Rivers is not part of the Blue Sky Region and the agriculture Census data for this municipality is not included in the agricultural profile presented in Chapter 5.

decisions which are economically sound, environmentally sustainable and socially responsible.

The first chapter of the report introduces the scope of the research and the collaborative approach used in completing the study.

Chapter 2 of the report presents a profile of population and employment indicators in northern Ontario with a special focus on the Blue Sky Region. This includes general background information on the population such as population changes experienced in the region as compared to northern Ontario, and Ontario. This chapter also examines the employment associated with the different industry groups.

Chapter 3 of the report provides information on the land base resources in the Region including agricultural soils. It also features information on the local climate and growing conditions and the implications of climate change on future weather patterns.

Chapter 4 of the report provides an overview of some the key local organizations and institutions that promote and support agriculture in the Region.

Chapter 5 provides a detailed picture of the agriculture sector in the Blue Sky Region including a trend analysis of production activities between 1996 and 2006.
Data was drawn from the Agricultural Census, to describe the farmland area, land use, number of farms, farm size, farm type, farm receipts, farm operating expenses, and characteristics of agricultural operators in the region. Comparisons are made between the Blue Sky Region and the agriculture sector profile for northern Ontario and Ontario.

Chapter 6 of the report examines the role and growing importance of agri-tourism and educational related activities in the Region including on-farm retail activities, agricultural fairs, and farmers markets.

Chapter 7 provides a brief review of the agriculture economic impact assessment that was conducted in the Blue Sky Region in 2002 and provides an estimate of the current total economic impacts of the sector.

Chapter 8 examines some of the challenges and opportunities associated with the agriculture sector in the Blue Sky Region.

Chapter 9 presents the study conclusions.

1.1 Background to the Study Methodology

The study focuses on the dollars and jobs created by agriculture in the Blue Sky Region.

The methodology uses an input-output like analysis as a tool for assessing the total economic impact of agriculture in the Blue Sky Region. 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; the sales to other sectors by a sector are the outputs.

Three measures are associated with the notion of economic impact:

- Direct impact (spending on goods and services by businesses involved in primary production/farming);
- Indirect impact (spending on goods and services by those businesses supplying the businesses involved in primary production); and
- Induced impact (spending of wages earned by employees of businesses involved in primary production or in businesses supplying goods and services to these businesses)

The research in this report relies on data from the Population and Agricultural Census (1996-2006), a focus group with primary producers from the Blue Sky Region, and a review of the results from the agri-economic impact study that was conducted for the Blue Sky Region in 2002 and updated in 2004. Additional details on the methods used are provided in Chapter 7 and 8.[3]

[3] The research strategy for the agri-economic impact study originated in Huron County through research undertaken by Harry Cummings and colleagues in 1998. Since that time, Cummings and colleagues have applied the same basic methodology to agri-economic impacts studies in counties across Ontario including Perth, Lambton, Simcoe, Elgin, Middlesex, Oxford, Prescott, Russell, Stormont, Dundas and Glengarry, Frontenac, Lennox and Addington, Leeds and Grenville, Ottawa, Lanark and Renfrew, and Waterloo. Cummings has also completed several agri-economic impact studies in northeastern Ontario including the Blue Sky Region (Nipissing, Parry Sound, East Sudbury District, and the City of Greater Sudbury), Algoma and Manitoulin, and Temiskaming.

1.2 The Study Area and Physical Infrastructure

Northern Ontario is comprised of 11 districts in total and has a land area of 802,000 km^2 which constitutes about 87% of the land area of Ontario (Map 1.1).[4] The three westernmost districts in northern Ontario (Thunder Bay, Kenora and Rainy River) constitute northwestern Ontario and the remaining districts including the four districts that form the Blue Sky Region constitute northeastern Ontario.

Map 1.1: Districts of Northern Ontario

Source: Modified from: Brock University Map Library. Ontario-Regional Municipalities, Counties & Districts. St. Catharines, Ontario: Brock University Map Library. 2004.

The western boundary of the Blue Sky Region 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 Region is marked by the southern boundary of Parry Sound District. The eastern boundary of the Region extends north

[4] The districts of Parry Sound and Muskoka are included here as part of Northern Ontario even though they are geographically in Central Ontario. In 2004, the provincial government removed Muskoka from its definition of Northern Ontario for development funding purposes, but continues to treat Parry Sound as a Northern Ontario division. The federal government retained both of these districts in the service area of its development agency FedNor. The City of Greater Sudbury is located in the District of Sudbury but is not politically part of the District of Sudbury.

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 (Map 1.2).

The City of Greater Sudbury is the largest urban centre in the Blue Sky Region with a population of approximately 157,857 in 2006. The City of North Bay is another major urban centre in the Region with a population of 53,966 in 2006.

Map 1.2 provides an overview of the Districts in northeastern Ontario including select communities and major highways.

Physical Infrastructure in Blue Sky Region

Blue Sky Region 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 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.

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.

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.

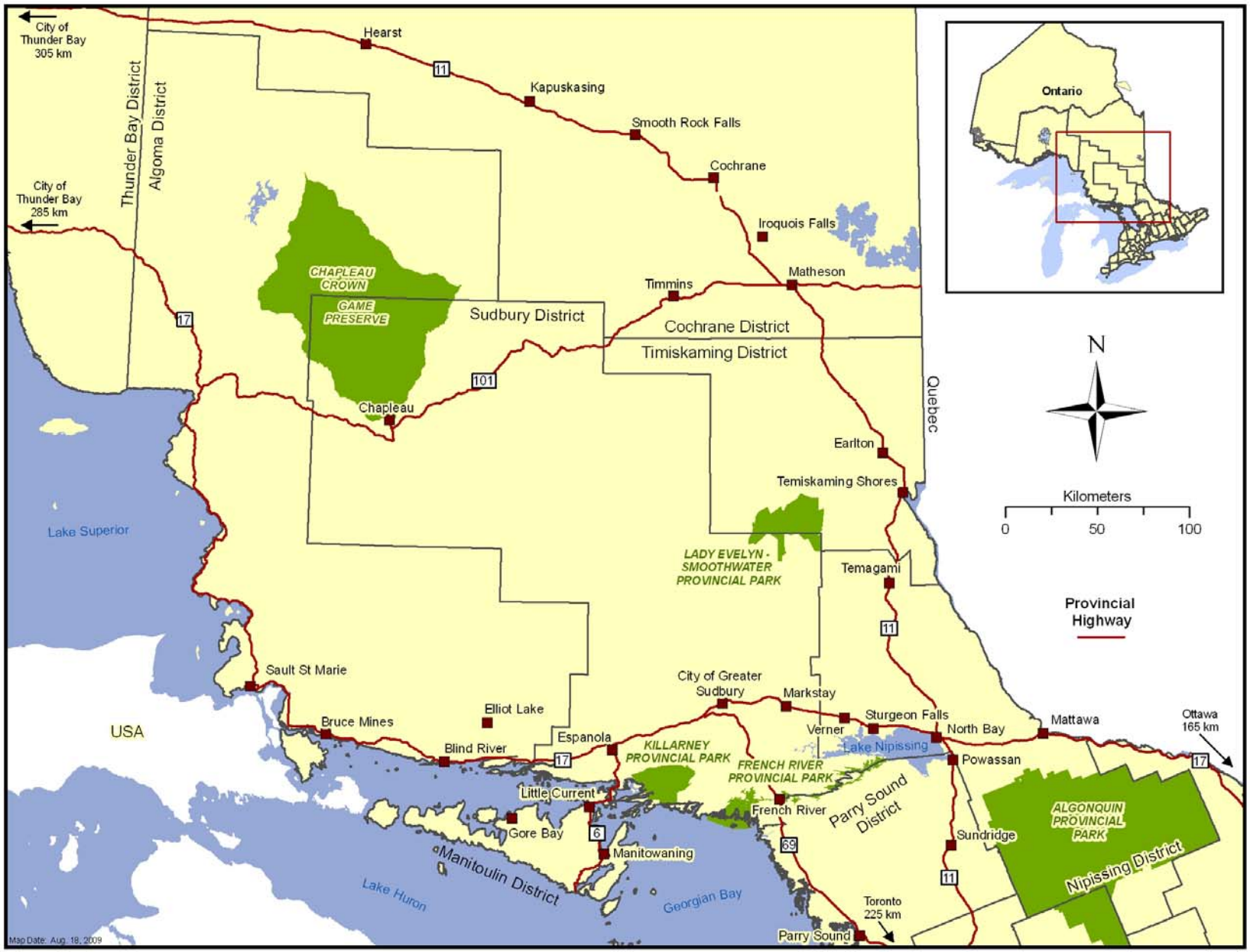
Airports

The Study Area features two major airport terminals located in Sudbury and North Bay (Jack Garland Airport). The Sudbury Airport is one of northern Ontario's busiest. North Bay has the largest airport north of Toronto and serves over 100,000 people in the City of North Bay, and the surrounding districts of Nipissing, Parry Sound and Temiskaming.

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.

Map 1.2: Communities and Major Highways in Northeastern Ontario



2.0 Socio-Economic Profile of Blue Sky Region

2.1 Introduction

This section of the report provides a socio-economic profile of Blue Sky Region. Data for the profile was drawn from the Population Census which is conducted by Statistics Canada every five years. The most recent census was conducted in 2006. Data for Blue Sky Region are compared to data for the northern Ontario region as a whole and the province as a whole in order to provide detailed insights into the relative importance of the Region's contribution to these economies. Socio-economic characteristics are important to the viability and resiliency of agriculture – the general characteristics of the area which surrounds a particular farming community can impact agricultural diversity and profitability.

2.2 Population and Population Change

Between 1996 and 2006 the total population of the four Districts that make up the Blue Sky Region declined from 313,910 to 304,907 or 3%. As shown in Table 2.1, the City of Greater Sudbury, Nipissing District and Parry Sound all experienced a drop in population between 1996 and 2001 and an increase in population 2001 and 2006 while Sudbury District experienced a continuous decline in population between 1996 and 2006. During the 1996 to 2006 period the population for northern Ontario declined by 5% while the population for the province increased by 13%.

A notable difference between northeastern Ontario and northwestern Ontario is the size of the Franco-Ontarian population. In northeastern Ontario approximately 25% of the population speaks French as a first language, compared to just 3% in northwestern Ontario.

Table 2.1: Population 1991 to 2006 – Districts Ranked by 2006 Population

	1996	2001	2006	Percent change 1991to 2006
Ontario	10,753,573	11,410,046	12,160,282	13%
Northern Ontario Region	786,391	746,778	745,372	-5%
City of Greater Sudbury *	**165,362**	**155,268**	**157,909**	**-5%**
Thunder Bay District	157,619	150,860	149,063	-5%
Algoma District *	125,455	118,567	117,461	-6%
Nipissing District *	**84,832**	**82,910**	**84,688**	**0%**
Cochrane District *	93,240	85,247	82,503	-12%
Kenora District	63,360	61,802	64,419	2%
Parry Sound *	**39,885**	**39,665**	**40,918**	**3%**
Temiskaming District *	37,807	34,442	33,283	-12%
Rainy River District	23,138	22,109	21,564	-7%
Sudbury District *	**23,831**	**22,894**	**21,392**	**-10%**
Manitoulin District *	11,747	12,679	13,090	11%

* Northeastern Ontario Districts
Source: Statistics Canada 1991, 2001, 2006.

Although the overall population in northeastern Ontario declined by almost 6% between 1996 and 2006, the Aboriginal population increased from 28,105 to 49,265 or 75%. The Aboriginal population currently represents about 10% of the total population in northeastern Ontario. In comparison, the Aboriginal population represents approximately 2% of the provincial population (Statistics Canada, 2006).[5]

2.3 Economic Profile

Employment by Industry Sector

The North American Industry Classification System (NAICS) is an industry classification system developed by the Statistical agencies of Canada, Mexico and the United States. The classification system was created against the background of the North American Free Trade Agreement and was designed to provide common definitions of the industrial structure of the three countries and a common statistical framework to facilitate analysis of the three economies. NAICS organizes Canadian industries into distinguishable categories, or classifications. At the greatest level of aggregation, these industries are divided into 20 separate categories as shown in Table 2.2.

In 2006, retail trade was the largest employment sector in the Blue Sky Region with 18,930 jobs or 13% of the total jobs in the Region (Table 2.2). The other top ranking sectors in the Region in terms of total jobs include health care and social assistance with 17,990 jobs (12%), educational services with 12,015 jobs (8%), accommodation and food services with 11,330 jobs (8%), public administration with 10,930 jobs (7.5%), construction with 10,375 jobs (7%), and manufacturing with 10,240 jobs (7%). Agriculture directly employed a total of 860 people (i.e. on farm jobs) or almost 1% of the total jobs in the Region in 2006.

The employment profile for the Blue Sky Region is fairly comparable to northern Ontario as whole with respect to the distribution of the workforce across the 20 industry sectors. Compared to the province as a whole, the Blue Sky Region has a higher proportion of jobs in mining and government service sectors and a lower proportion of jobs in manufacturing and professional services.

Within Blue Sky Region, the local economies vary somewhat with respect to the leading industry sectors by jobs. Retail trade is the number one sector in terms of jobs in Greater Sudbury, Nipissing District and Parry Sound District while manufacturing is the number one sector in Sudbury District and retail trade is the number two sector in Sudbury District. Health care and social services is the number two sector in Greater Sudbury, Nipissing District and Parry Sound District and the number three sector in

[5] The Aboriginal population represents about 5.5% of the total population in Parry Sound and Temiskaming Districts, 6% of the population in the City of Greater Sudbury, 9% of the population in Nipissing District, 11% of the population in Algoma District, 12% of the population in Cochrane District, 14% of the population in Sudbury District, and 39% of the population in Manitoulin District. The Aboriginal population represents about 13% of the total northern Ontario population (Statistics Canada, 2006).

Sudbury District. Accommodation and food services is the number three sector in Nipissing District and the number five sector in Parry Sound District. The number three sector in Greater Sudbury is educational services while the number three sector in Parry Sound District is construction. Additional details are presented in Table 2.2.

With respect to the change in job numbers between 2001 and 2006, the total number of jobs in the Blue Sky Region increased from 138,295 jobs in 2001 to 145,165 in 2006 (Table 2.3). The industry sectors that experienced the greatest job growth in the Region between 2001 and 2006 include health care and social services (+1,870 jobs or 12% growth), educational services (+1,535 jobs, 15%), mining (+1,100 jobs, 20%), professional services (+1,065 jobs, 22%), and wholesale trade (+965 jobs, 24%).

The industry sectors that experienced the greatest job losses in the Blue Sky Region between 2001 and 2006 include manufacturing (-425 jobs or 4% decline), agriculture (-395 jobs, 31%), transportation and warehousing (-205 jobs, 2.5%), and information and cultural industries (-195 jobs, 8% decline).

Although the number of full-time jobs in agriculture in the Blue Sky Region declined by almost 400 between 2001 and 2006, it is important to recognize that the decline in job numbers does not reflect trends in farm productivity which is increasing. It is also important to recognize the growing part-time employment activity associated with agriculture. Farm productivity in the Blue Sky Region is profiled in Section 5 of this report.

Recent Labour Market Developments

In the fall of 2008, Canada began to experience a labour market decline as the economy became caught in the global economic recession. Since October 2008, total employment in Canada has fallen by 2.4% (approximately 436,000 full time jobs). Employment has fallen the most for youths aged 15 to 24 (particularly students) and men aged 25 to 54.[6]

The majority of job losses have occurred in manufacturing, construction, and transportation and warehousing. Employment in manufacturing at the national level has dropped by 11% (218,000 jobs) since October 2008 (Statistics Canada, Aug. 7, 2009).

Job losses in Ontario have been particularly high given the concentration of manufacturing activities in the province. Total job losses in Ontario between October 2008 and June 2009 amounted to approximately 232,000 of which 126,000 were in manufacturing (Statistics Canada, July 10, 2009).

Between June 2008 and June 2009, northeastern Ontario recorded a net loss of approximately 12,700 full time and part time jobs. The labour force contracted by 3,500

[6] The national unemployment rate in July 2009 was 8.6%, the highest rate since 1989. The national unemployment rate for students aged 15 to 24 in July 2009 was almost 21% which is the highest July unemployment rate for students since comparable data was collected in 1977.

due to workers leaving the labour force. The unemployment rate in northeastern Ontario increased from 5.7% in June 2008 to 9.1% in June 2009. During the same period the provincial unemployment rate increased from 6.5% to 9.4%.

The labour market in northeastern Ontario is continuing to contract as both the labour force and the population declines (Statistics Canada, June 2009).[7]

[7] One of the sectors particularly hard hit in the region in recent years is the forest product industry. Since 2006, a number of firms in northern Ontario have experienced contraction and/or closure. The primary reasons associated with the downturn include weak demand/poor market conditions (e.g. declining demand for newsprint, downturn in the U.S. housing market), and the rapid rise and appreciation of the Canadian dollar (Statistics Canada, June 2009; Statistics Canada, January 2009). Despite the downturn in the forestry sector, the industry remains an important element of the regional economy and experts suggest that the future potential of the sector may be linked to capitalizing on opportunities such as promoting value-added opportunities and working more closely with Aboriginal populations (Moazzami, 2006).

Table 2.2: Employment by NAICS Industrial Sector, 2006.

NAICS Industrial Sector [a]	Ontario		Northern Ontario Region		Blue Sky Region		Sudbury District		Greater Sudbury		Nipissing District		Parry Sound District	
	# jobs	%	# jobs	%	# jobs	%	# jobs	%	# jobs	%	# jobs	%	# jobs	%
All industries	6,473,735	100%	366,020	100%	145,165	100%	4,555	100%	79,830	100%	41,090	100%	19,690	100%
Agriculture	101,210	1.6%	3,070	0.8%	860	0.6%	120	2.6%	160	0.2%	315	0.8%	265	1.3%
Fishing, hunting and trapping	1,355	0.02%	375	0.1%	45	0.0%	0	0.0%	20	0.0%	15	0.0%	10	0.1%
Forestry and logging	11,780	0.2%	6,955	1.9%	790	0.5%	150	3.3%	110	0.1%	400	1.0%	130	0.7%
Mining and oil and gas extraction	25,445	0.4%	13,395	3.7%	6,500	4.5%	175	3.8%	5,725	7.2%	530	1.3%	70	0.4%
Utilities	50,215	0.8%	3,510	1.0%	1,135	0.8%	40	0.9%	510	0.6%	395	1.0%	190	1.0%
Construction	384,780	5.9%	22,275	6.1%	10,375	7.1%	365	8.0%	5,145	6.4%	2,605	6.3%	2,260	11.5%
Manufacturing	899,670	13.9%	32,525	8.9%	10,240	7.1%	605	13.3%	4,775	6.0%	2,955	7.2%	1,905	9.7%
Wholesale trade	307,465	4.7%	9,575	2.6%	4,965	3.4%	100	2.2%	3,020	3.8%	1,265	3.1%	580	2.9%
Retail trade	720,235	11.1%	46,135	12.6%	18,930	13.0%	560	12.3%	10,270	12.9%	5,430	13.2%	2,670	13.6%
Transportation and warehousing	307,475	4.7%	20,765	5.7%	7,880	5.4%	415	9.1%	3,650	4.6%	2,700	6.6%	1,115	5.7%
Information and cultural industries	172,800	2.7%	5,335	1.5%	2,240	1.5%	40	0.9%	1,220	1.5%	640	1.6%	340	1.7%
Finance and insurance	316,170	4.9%	8,355	2.3%	3,575	2.5%	75	1.6%	2,195	2.7%	990	2.4%	315	1.6%
Real estate and rental and leasing	126,440	2.0%	4,795	1.3%	2,320	1.6%	10	0.2%	1,140	1.4%	705	1.7%	465	2.4%
Professional, scientific and technical services	471,620	7.3%	12,715	3.5%	5,890	4.1%	110	2.4%	3,530	4.4%	1,650	4.0%	600	3.0%
Management of companies and enterprises	8,440	0.1%	105	0.03%	40	0.0%	0	0.0%	15	0.0%	10	0.0%	15	0.1%
Administrative and support services	314,005	4.9%	16,410	4.5%	6,975	4.8%	190	4.2%	3,800	4.8%	2,165	5.3%	820	4.2%
Educational services	433,485	6.7%	30,030	8.2%	12,015	8.3%	300	6.6%	7,045	8.8%	3,345	8.1%	1,325	6.7%
Health care and social assistance	611,745	9.4%	47,650	13.0%	17,990	12.4%	420	9.2%	9,915	12.4%	5,335	13.0%	2,320	11.8%
Arts, entertainment and recreation	140,830	2.2%	6,945	1.9%	2,850	2.0%	10	0.2%	1,555	1.9%	615	1.5%	670	3.4%
Accommodation and food services	414,975	6.4%	28,830	7.9%	11,330	7.8%	310	6.8%	5,610	7.0%	3,645	8.9%	1,765	9.0%
Other services (except public administration)	303,510	4.7%	18,135	5.0%	7,290	5.0%	185	4.1%	4,230	5.3%	2,030	4.9%	845	4.3%
Public administration	350,070	5.4%	28,185	7.7%	10,930	7.5%	380	8.3%	6,190	7.8%	3,340	8.1%	1,020	5.2%

[a] The North American Industry Classification System (NAICS) is an industry classification system developed by the Statistical agencies of Canada, Mexico and the United States. The NAICS classification system replaces the Standard Industrial Classification system which was used by Statistics Canada prior to the 2001 Census. The industry classification refers to the general nature of the business carried out in the establishment where the person worked. If the person did not have a job during the week (Sunday to Saturday) prior to enumeration (May 2006), the data relate to the job of longest duration since January 1, 2005. Persons with two or more jobs were required to report the information for the job at which they worked the most hours. Source: Statistics Canada, 2006.

Table 2.3: Employment by Industrial Sectors for Blue Sky Region, 2001-2006

NAICS Industrial Sector	2001		2006		Change 2001 to 2006	
	# jobs	%	# jobs	%	Change in jobs by #	Change in jobs by %
All industries	138,295	100%	145,165	100%	6,870	5.0%
Agriculture	1,255	1%	860	1%	-395	-31.5%
Fishing, hunting and trapping	70	0%	45	0.03%	-25	-35.7%
Forestry and logging	920	1%	790	1%	-130	-14.1%
Mining and oil and gas extraction	5,400	4%	6,500	4%	1,100	20.4%
Utilities	1,185	1%	1,135	1%	-50	-4.2%
Construction	9,410	7%	10,375	7%	965	10.3%
Manufacturing	10,665	8%	10,240	7%	-425	-4.0%
Wholesale trade	4,000	3%	4,965	3%	965	24.1%
Retail trade	18,910	14%	18,930	13%	20	0.1%
Transportation and warehousing	8,085	6%	7,880	5%	-205	-2.5%
Information and cultural industries	2,435	2%	2,240	2%	-195	-8.0%
Finance and insurance	3,660	3%	3,575	2%	-85	-2.3%
Real estate and rental and leasing	2,000	1%	2,320	2%	320	16.0%
Professional, scientific and technical services	4,825	3%	5,890	4%	1,065	22.1%
Management of companies and enterprises	70	0.1%	40	0.03%	-30	-42.9%
Administrative and support, waste management and remediation services	7,145	5%	6,975	5%	-170	-2.4%
Educational services	10,480	8%	12,015	8%	1,535	14.6%
Health care and social assistance	16,120	12%	17,990	12%	1,870	11.6%
Arts, entertainment and recreation	2,735	2%	2,850	2%	115	4.2%
Accommodation and food services	11,240	8%	11,330	8%	90	0.8%
Other services (except public administration)	6,760	5%	7,290	5%	530	7.8%
Public administration	10,935	8%	10,930	8%	-5	0.0%

Source: Statistics Canada, 2001, 2006.

Educational Attainment

In 2005, approximately 15% of the population (25 to 64 years of age) in the Blue Sky Region had a university certificate or degree while a further 27% had a college or other non-university certificate/diploma. Approximately 25% of the population reported that their highest educational attainment was a high school certificate while 17% of the population reported that they did not have a certificate/diploma/degree (Table 2.4).

A slightly higher proportion of the population in the Region has a university certificate or degree compared to northern Ontario as whole (15% vs. 14%) and a much lower proportion compared to the province (26%).

Table 2.4: Total Population 25 to 64 Years of Age by Highest Education Certificate, 2005

	Ontario		Northern Ontario Region		Blue Sky Region		Sudbury District		Greater Sudbury		Nipissing District		Parry Sound District	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Total population	6,638,330	100%	400,705	100%	166,035	100%	12,245	100%	86,485	100%	45,320	100%	21,985	100%
No certificate, diploma or degree	899,530	14%	76,170	19%	28,320	17%	3,140	26%	13,475	16%	7,585	17%	4,120	19%
Certificate, diploma or degree	5,738,800	86%	324,525	81%	137,720	83%	9,105	74%	73,010	84%	37,735	83%	17,870	81%
High school certificate or equivalent	1,660,665	25%	101,075	25%	42,305	25%	3,255	27%	21,200	25%	11,175	25%	6,675	30%
Apprenticeship or trades certificate or Diploma	581,125	9%	51,405	13%	21,110	13%	1,940	16%	10,545	12%	5,720	13%	2,905	13%
College, CEGEP or other non-university certificate or diploma	1,461,630	22%	102,635	26%	45,395	27%	2,710	22%	24,845	29%	12,710	28%	5,130	23%
University certificate, diploma or degree	2,035,370	31%	69,395	17%	28,895	17%	1,200	10%	16,420	19%	8,130	18%	3,145	14%
University certificate or diploma below bachelor level	309,945	5%	11,300	3%	4,105	2%	205	2%	2,185	3%	1,250	3%	465	2%
University certificate or degree	1,725,425	26%	58,095	14%	24,800	15%	995	8%	14,240	16%	6,880	15%	2,685	12%
Bachelor's degree	1,057,200	16%	36,230	9%	15,095	9%	635	5%	8,610	10%	4,275	9%	1,575	7%
University certificate or diploma above bachelor level	209,345	3%	10,615	3%	4,435	3%	150	1%	2,435	3%	1,280	3%	570	3%
Degree in medicine, dentistry, veterinary medicine or optometry	47,815	1%	1,650	0.4%	780	0.5%	45	0.4%	420	0.5%	240	0.5%	75	0.3%
Master's degree	351,925	5%	8,000	2%	3,675	2%	155	1%	2,205	3%	915	2%	400	2%
Earned doctorate	59,140	1%	1,560	0.4%	805	0.5%	10	0.1%	565	0.7%	170	0.4%	60	0.3%

Source: Statistics Canada, 2006.

Household Income

Table 2.5 shows the distribution of households by household income categories for the Blue Sky Region, northern Ontario and Ontario in 2005. The distribution is organized according to 11 different income categories, ranging from less than $10,000 to $100,000 or more.

In 2005, the Blue Sky Region was very comparable to the profile of households by household income categories for northern Ontario as a whole. However, compared to the province the Region has a lower proportion of households with incomes of $100,000 or more (17% vs. 24%). In 2005, the average household income in Ontario was almost $78,000 compared to $68,117 in Greater Sudbury, $60,267 in Parry Sound District, $58,240 in Sudbury District, and $58,119 in Nipissing District.

Table 2.5: Household Income in 2005 of Private Households

Household income in 2005 of private households	Ontario		Northern Ontario Region		Blue Sky Region		Sudbury District		Greater Sudbury		Nipissing District		Parry Sound District	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
All households	4,555,025	100%	305,465	100%	126,150	100%	8,855	100%	64,960	100%	35,140	100%	17,195	100%
Under $10,000	198,235	4%	14,175	5%	5,615	4%	395	4%	2,965	5%	1,615	5%	640	4%
$10,000 to $19,999	398,830	9%	37,580	12%	15,135	12%	1,055	12%	7,040	11%	4,810	14%	2,230	13%
$20,000 to $29,999	408,130	9%	32,785	11%	13,750	11%	1,010	11%	6,335	10%	4,275	12%	2,130	12%
$30,000 to $39,999	447,475	10%	34,085	11%	14,760	12%	1,140	13%	6,825	11%	4,430	13%	2,365	14%
$40,000 to $49,999	419,525	9%	30,870	10%	13,105	10%	985	11%	6,505	10%	3,635	10%	1,980	12%
$50,000 to $59,999	385,555	8%	25,835	8%	10,925	9%	850	10%	5,340	8%	3,120	9%	1,615	9%
$60,000 to $69,999	356,990	8%	23,800	8%	9,870	8%	725	8%	5,035	8%	2,690	8%	1,420	8%
$70,000 to $79,999	324,835	7%	20,695	7%	8,220	7%	555	6%	4,205	6%	2,280	6%	1,180	7%
$80,000 to $89,999	282,910	6%	18,440	6%	7,345	6%	545	6%	4,150	6%	1,760	5%	890	5%
$90,000 to $99,999	238,720	5%	14,585	5%	6,070	5%	465	5%	3,200	5%	1,730	5%	675	4%
$100,000 and over	1,093,810	24%	52,590	17%	21,345	17%	1,135	13%	13,350	21%	4,780	14%	2,080	12%
Median household income	$60,455		NA		NA		$48,092		$55,008		$46,788		$46,180	
Average household income	$77,967		NA		NA		$58,240		$68,117		$58,119		$60,267	

Source: Statistics Canada, 2006.

3.0 Land Base Resources in Northeastern Ontario

This chapter of the report provides an overview of the different land base and agricultural community resources in northeastern Ontario. Land base resources include soil resources and climate conditions while community resources refer to the organizations and institutions that support agriculture in the region.

3.1 Physical Geography and Agricultural Soils

The topography of northeastern Ontario is characterized by the Canadian Shield which underlies much of the area. The region features bedrock outcropping, large areas of poorly drained, swampy conditions and substantial accumulations of glacial-fluvial deposits. Deposits laid down by glacial streams and lakes have strongly influenced soil development in the region including the composition of present day forests which continue to be an important element of the local economy (Baldwin et al., 2000).[8]

Despite the limitations on agricultural capacity, there are pockets of good agricultural soil in northern parts of Ontario. Under the Canadian agricultural land use classification system, Class 1 soils are of prime suitability for crop production while Class 2 and 3 soils are considered suitable for sustained production of common field crops if specified management practices are observed. Soils of Classes 1, 2, and 3 that are free from severe constrains and can support economically viable agricultural production are referred to as 'dependable agricultural land'. Marginal lands with Class 4 soils are also used for agricultural activity including limited crop production and permanent pasture. Although northern Ontario does not possess any Class 1 soils it does feature areas with Class 2 to 4 soils.

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.

Parry Sound District

Agriculture in Parry Sound District 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

[8] Historically, the economy of northwestern Ontario has been largely dependent on the forestry sector in contrast to northeastern Ontario which has strong linkages to both the forestry and mining sectors. Northeastern Ontario also has a significantly larger population base (five times greater in density and proximity to large urban markets) which helps sustain a more diverse economy than northwestern Ontario (Rosehart, 2008. p. 8).

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.

Nipissing District

Agriculture in Nipissing District 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.

Summary descriptions of soil classes 2 to 4 are as follows (Environment Canada, 1980):

Class 2: ***Moderate limitations that restrict the range of crops or require moderate conservation practices.*** The soils are deep and hold moisture well. The limitations are moderate and the soils can be managed and cropped with little difficulty. Under good management they are moderately high to high in productivity for a fairly wide range of cops.

Class 3: ***Moderately severe limitations that restrict the range of crops or require special conservation practices.*** The limitations are more severe than Class 2 soils. They affect one or more of the following practices: timing and ease of tillage; planting and harvesting; choice of crops; and methods of conservation. Under good management they are fair to moderately high in productivity for a fair range of crops.

Class 4: ***Severe limitations that restrict the range of crops or require special conservation practices, or both.*** The limitations seriously affect one or more of the following practices: timing and ease of tillage; planting and harvesting; choice of crops; and methods of conservation. The soils are low to fair in productivity for a fair range of crops but may have high productivity for a specially adapted crop.

Maps of the soil capability for agriculture in Blue Sky Region are presented in Appendix A.

3.2 Climate and Crop Heat Units

Climate conditions coupled with soil conditions play a significant role in determining the type of agricultural activity in northeastern Ontario.

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 precipitation for the City of Greater Sudbury is approximately 899 mm of which 274 mm falls as snow (Table 3.1).

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 precipitation for the Town of Powassan is approximately 937 mm of which 199 mm falls as snow (Table 3.1).

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). The annual precipitation for North Bay is approximately 1008 mm of which 273 mm falls as snow (Table 3.1).

The following table shows the climate normals for several locations in the Blue Sky Region. The climate normals are based on Canadian climate stations with at least 15 years of data between 1971 and 2000 (Environment Canada, 2008).

Table 3.1: Climate Normals for Select Areas in Blue Sky Region (1971-2000).

Weather Station	Month or Year	Temperature				Precipitation		
		Daily Average (°C)	Standard Deviation	Daily Maximum (°C)	Daily Minimum (°C)	Rainfall (mm)	Snowfall (cm)	Total Precipitation (mm)
North Bay A [a]	January	-13	3	-8	-18	16.9	63	67.6
	July	18.6	1.1	23.8	13.3	100.1	0	100.1
	Year	3.8	0.9	8.6	-1.1	774.6	273.4	1007.7
Powassan [b]	January	-12.6	3.4	-7.1	-18.1	13.5	45.4	58.9
	July	18.7	1.1	25.1	12.3	101.8	0	101.8
	Year	4.2	1.9	9.8	-1.3	737.1	198.7	935.7
Sudbury A [c]	January	-13.6	3	-8.4	-18.6	12.5	63.8	68.6
	July	19	1.3	24.8	13.3	76.6	0	76.6
	Year	3.7	0.9	8.8	-1.4	656.5	274.4	899.3

[a] North Bay A: Latitude = 46° 21' N; Longitude = 79° 25' W; Elevation = 370 m.
[b] Powassan: Latitude = 46° 7' N; Longitude = 79° 15' W; Elevation = 274 m.
[c] Sudbury A: Latitude = 46° 37' N; Longitude = 80° 48' W; Elevation = 347 m.
Source: Environment Canada, 2008

The Crop Heat Unit (CHU) system 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.[9]

Crop Heat Units can fluctuate from year to year depending on weather patterns and some areas can experience higher CHU zones. 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.

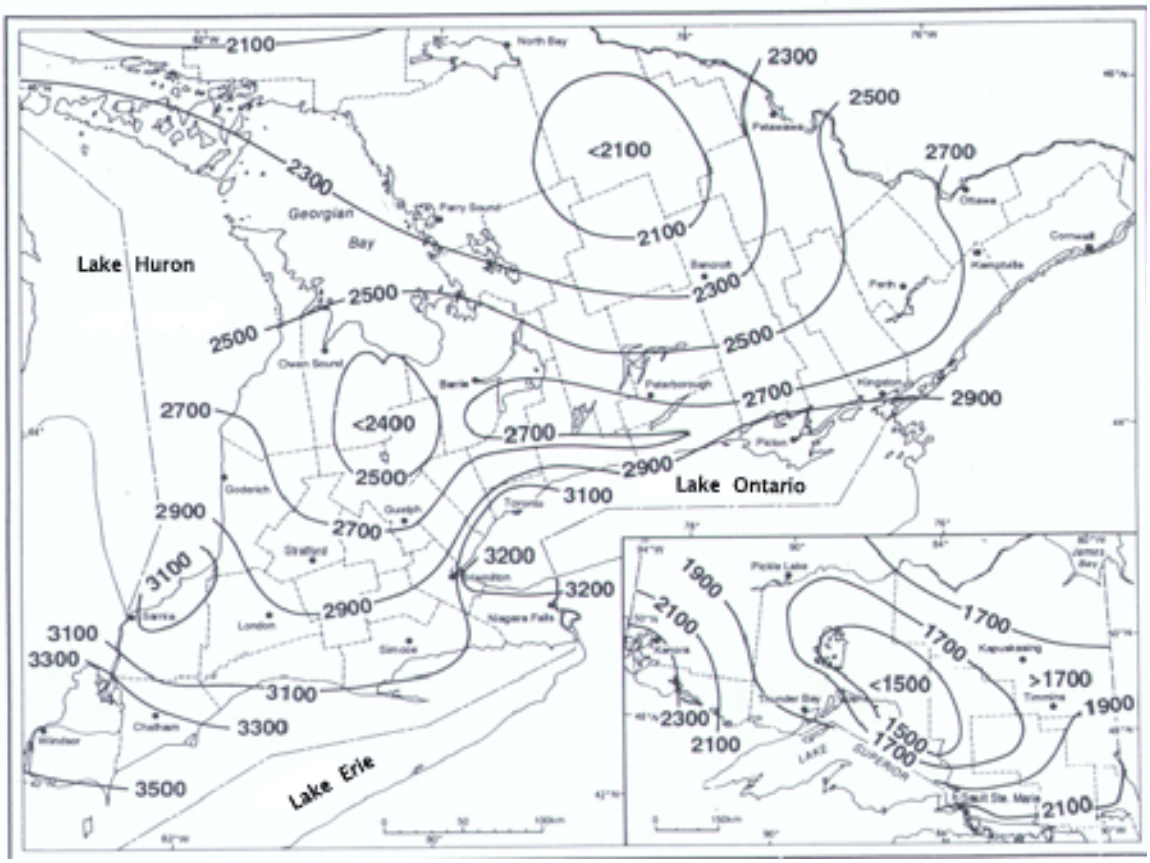
The slope and soil type in an area or site can also influence temperature. For example, south-facing slopes receive more heat than north-facing slopes, and sandy soils warm up faster than loam or clay soils. Microclimates also influence specific land situations. This makes it impossible to estimate the CHU rating closer than 50 heat units for any location.

[9] 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°C (50°F) as the base temperature and 30°C (86°F) as the optimum, because warm-season crops do not develop when daytime temperatures fall below 10°C and they develop fastest at about 30 degrees. The nighttime relationship uses 4.4°C (40°F) as the base temperature and does not specify an optimum temperature because nighttime temperatures very seldom exceed 25°C in Ontario. Daily CHU are calculated by using the average of the two daily values.

The accumulated CHU available for crops such as corn and soybeans across Ontario are shown in Map 3.1. 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. 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).

Additional details on crop production activity in the region are provided in section 5.6.

Map 3.1: Average Accumulated Crop Heat Units (CHU) Available for Warm-Season Crops in Ontario.



Source: Agriculture and Agri-Food Canada. http://res2.agr.ca/ecorc/clim3/resu-ana_e.htm

3.3 Climate Change

Climate change including global warming is now widely recognized as a major environmental issue with economic, health and safety, security, and other dimensions (United Nations Environment Programme, 2009).[10] Agri-food is an economic sector which could be especially sensitive to long-term climatic change.

In a climate change model used by Colombo et al. (2007) the average summer temperature in most of northeastern Ontario is expected to increase by 1 to 2^{o}C by 2011.[11] The same scenario predicts that average summer temperatures in the southern part of northeastern Ontario will increase by 3 to 4^{o}C starting around 2071. With respect to precipitation, between 2011 and 2040, warm season precipitation will decrease by up to 10% in the area north of Hearst and Kapuskasing. However, beginning 2041, most of northeastern Ontario will receive the same or slightly more precipitation as it did from 1971-2000 (p.15).

With respect to the cold season, the same climate change scenario noted above predicts that the average winter temperature in the southern part of northeastern Ontario will be 4 to 5^{o}C warmer by 2071. With respect to precipitation, snowfall in northeastern Ontario has historically been greatest in the snowbelt to the lee of Lake Superior, between Wawa and Sault Ste. Marie. Cold season precipitation by in this area is projected to increase by up to 20% by 2071. While snowfall in Montreal River and areas near White River, Hearst, and James Bay will increase, large parts of the northeast will receive significantly less snow than has been the historical norm. For example, the corridor running north from Espanola and Mattawa to Moosonee will get up to 20% less cold season precipitation by 2011 (p.15).

Climate change is expected to have major implications for the length of the growing season, the variety of crops grown, as well as grain yields in northern Ontario. In examining climate change scenarios for Canada, Qian et al. (2005) predict that the number of frost-free days is expected to increase by 30-45 days in northern Ontario by the middle of the century. The predicted changes for the frost dates indicate an earlier ending of frosts in spring and a later starting of frosts and killing frosts in the fall.

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[10] 'Climate change' refers to a change in the state of the climate that can be identified (e.g., using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to internal processes and/or external forcings. Some external influences, such as changes in solar radiation and volcanism, occur naturally and contribute to the total natural variability of the climate system. Other external changes, such as the change in composition of the atmosphere that began with the industrial revolution, are the result of human activity (Hegerl et al., 2007).

[11] Climate models predict the effect of higher greenhouse gases based on increasing amounts of heat trapped in the atmosphere. Increased heat affects virtually all aspects of weather, including precipitation, winds, air pressure, and humidity. Many global climate models have been developed. Each climate model is unique, based on different assumptions, and produces somewhat different projections of future climate when provided the same data. The scenario presented here anticipates greenhouse gas levels by the century's end reaching 1,320 parts per million by volume in CO_2 equivalents and a total human population of 15 billion by 2100 (Colombo, McKenney, Lawrence and Gray, 2007).

CHU ratings in some parts of northern Ontario will be altered as a result of the expected climate change. For example, in the area around Fort Frances and Thunder Bay the CHU rating will increase by almost 400 units between 2010 and 2039 and almost 800 units between 2040 and 2069 (Bootsma, 2002). According to Bootsma et al (2001), grain corn yields could potentially increase by 0.64 tonnes per hectare with each increase of 100 CHU.

In conducting a regional assessment of the implications of climatic change on land resource potential for crop production in Ontario, Smit et al. (1989) reported the following effects for northern Ontario:

- Grain corn yields would increase to such an extent that it would be feasible to obtain a high return to investment on well-drained loamy soils, and on lands that have a low drought tolerance. On lands where artificial land drainage has lessened the limitations imposed by excessive moisture conditions yields would be sufficient to obtain a modest return (p.166). In northern Ontario, grain corn would become an economically viable crop on about 70% of the land base that is cleared and available for agriculture (p.168).

- The longer growing season and warmer temperatures in northern Ontario would create new opportunities for soybeans. Land which is well-drained would be especially well-suited for soybeans, and a modest return to investment could be expected on those lands where moisture imposes moderate limitations on crop production (p. 168). In northern Ontario, where current climatic conditions prohibit the crop's production, soybeans would be a profitable crop on approximately 58% of the regional resource base (p.170).

- Considerable increases in barley yields could be expected throughout the region, but lands suffering from excessive moisture would continue to be economically unsuitable for the small grains (p.167).

- Opportunities for hay production would be considerably smaller than the effects on other field crops in northern Ontario. Although the longer growing season would permit an extra growth cycle in other parts of the province, in northern Ontario the number of cutting periods would not change under the altered climate and the production prospects for hay would not differ appreciably from the present (p.168).

4.0 Agricultural Community Resources in the Blue Sky Region

A number of institutions and organizations work together to promote agriculture in northeastern Ontario. This section of the report provides a very brief introduction to some of these organizations to provide a sense of the variety and scope of activities taking place in the region.

Federation of Agriculture

The Blue Sky Region has two local Federations of Agriculture: East Nipissing - Parry Sound Federation of Agriculture and West Nipissing – East Sudbury Federation of Agriculture. In general, these groups work to promote agriculture to rural and urban residents and ensure that government officials are aware of the issues / challenges facing the sector as well as the opportunities for further development and growth.

Soil and Crop Improvement Association

Districts in northern Ontario are also represented by Soil and Crop Improvement Associations. There are three local Associations in the Blue Sky Region: Sudbury, West Nipissing, and Parry Sound. In general, these groups work to enhance producer education and practices, develop and deliver stewardship programs, and address consumer concerns on agricultural environmental issues. The North Eastern Ontario Soil and Crop Improvement Associations (NEOSCIA) in northeastern Ontario also work collectively to publish a regular newsletter, *Breaking Ground*, which informs agri-related stakeholders about upcoming professional development and training sessions, upcoming agriculture commodity group meetings, results from crop research stations, and information from government agencies.

A current NEOSCIA research interest is determining the potential for farm biomass production for energy generation in every northeastern Ontario District (Breaking Ground. Spring 2009).

Agricultural Commodity Groups / Organizations

In addition to the local Federations of Agriculture and the local Soil and Crop Improvement Associations, there are a number of agricultural commodity groups and organizations promoting agriculture in the region such as the West Nipissing Holstein Club, Nipissing Hay Producers Association, Muskoka-Nipissing-Parry Sound Cattlemen's Association and the Sudbury-West Nipissing Cattlemen's Association.

Other important community organizations include Agricultural Societies and local farmers’ markets which are profiled in greater detail under the theme of agri-tourism in Chapter 6 of the report.

Research / Development Groups

Agricultural related research is important to making farms more profitable and making farming practices more sustainable. A number of organizations in northeastern Ontario are undertaking a variety of research initiatives and a brief overview of some of these activities is provided below.

New Liskeard Agricultural Research Station

Agriculture in northeastern Ontario has been aided by the research work of the New Liskeard Agricultural Research Station (NLARS). NLARS manages approximately 680 acres along with an additional 120 rented acres in and near New Liskeard. Research programs focusing on agronomy, beef and horticulture are all carried out at this central station. NLARS also operates the Verner Test Site in Nipissing District and the Emo Agricultural Research Station in Rainy River District. NLARS is managed by the University of Guelph Kemptville Campus.

Sudbury Food Connections Network

The mandate of the Sudbury Food Connections Network (formerly known as the Sudbury Food Security Network) is to increase the accessibility of healthy food, involve the community in food security strategies, support local food production and distribution, and support sustainable development practices. Network members represent every sector of the food system, from farmers to consumers. In 2003, the Network hosted a Visioning Session in 2003 with Dr. Wayne Robert from the Toronto Food Policy Council which led to the development of a Food Charter that was adopted by the City of Greater Sudbury in 2004 (Appendix B). The Network also developed a Community Food Security Indicators Baseline Report Card in 2005.[12]

A number of other organizations in Sudbury District are committed to implementing the Food Charter including the Foodshed Project which is working in partnership with the citizens of the City of Greater Sudbury on initiatives to enhance the local foodshed and improve access to healthy food. The FoodShed Project is also collaborating with the Sudbury Food Connections Network to initiate new community gardens locally including the Ste. Anne Community Garden, the Spirit Garden, and the Laurentian University Community Gardens.

Eat Local Sudbury Co-operative Inc. is another group that subscribes to the Greater Sudbury Food Charter and is working to increase the amount of locally-grown food products. The Co-operative operates a retail space where consumers can buy food from local farmers/producers (within a150 mile radius of Sudbury). Eat Local Sudbury is non-profit in nature and retail sales profits are re-invested into the co-op to pay for

[12] The complete Report Card can be found at the following website: http://www.foodshedproject.ca/pdf/2007%20Companion%20Report%202005%20Baseline%20Community%20Food%20Security%20Indicators%20Greater%20Sudbury.pdf

equipment, staff, and other overhead costs. Other key interests of the organization include building relationships between farmers and urban and/or non-farm based residents, providing information to the public about local food production, and keeping food dollars in the local economy.

A full listing of community gardens, Community Shared Agriculture organizations, and other community food security initiatives, projects and networks is provided in the Sudbury and Manitoulin Districts' Community Food Security Directory, 2008-2009 (Sudbury and District Health Unit, 2008).[13]

Agri-Food Innovation

Northern Ontario is a source of agri-food innovation. Since the Premier's Award for Agri-Food Innovation Excellence was established in 2006, six farms in the region have been recognized for their innovation and contribution to the community and economy.[14]

- Roche Court Farms – Nipissing District (2006)
  Roche Court Farms developed the idea of having a representative/team from John Deere farm equipment visit their community to provide maintenance for several farmers during the same visit. The innovation has saved farmers excess overhead costs and down time.

- Spring Valley Farms – Parry Sound District (2006)
  James Zulak invented a bumper system to protect animals in transport trailers. The bumper system is moulded out of a polymer called Salflex 562, a product used by automobile makers. This bumper system can be added to any trailer for the safe transportation of all livestock.

- Marcel Betty - Nipissing District (2007)
  Marcel Betty developed a safer field catch basin that works in areas where frost heaving is a problem. The frost problem can lift cement catch basins, posing a dangerous obstruction for equipment and render the drain inoperable. The innovation is low cost, low maintenance and prevents wildlife from entering the drain. As a result, a safer field with proper drainage enables farmers to crop land

[13] As defined in the Directory, "a community garden is organized, planted, maintained and harvested by all interested members in a neighbourhood, school or workplace"(p. 10). As defined in the Directory "Community Shared Agriculture is a system of growing and distributing food in a way that connects farmers and those that consume their food (p.20). The Directory can be downloaded from the Sudbury and District Health Unit website (http://www.sdhu.com/content/search/index.asp?q=food+security&lang=0).

[14] The Premier's Award for Agri-Food Innovation Excellence is a five-year program that recognizes innovations that add value to existing products, create jobs and drive economic growth. As many as 55 regional awards, valued at $5,000 each, can be presented each year. Recipients of the Premier's Award (up to $100,000) and the Minister's Award (up to $50,000) are selected from the regional winners. Additional details on the Award can be accessed through OMAFRA website: http://www.omafra.gov.on.ca/english/premier_award/background.html

that would otherwise be left as "wet spots". This innovation has been shared amongst the community and adapted for the winter conditions of the area.

- Jonella Farms - Sudbury District (2007)
  John Mooney used telecommunications equipment to access technical support for his modern robotic dairy which is located in a remote area. The use of video and monitoring equipment along with fast internet service in the barn enabled John to link with the equipment manufacturer's service centre. This innovation eliminates service obstacles for remote dairy farmers interested in these systems. It also opens the door to expand the technology for new uses.

- Nurtural Horse - Sudbury District (2008)
  Since establishing their horse farm in 1997, Gerry Guy and Zoe Brooks have mastering the basics of natural horsemanship, viewed as a kinder, gentler way of training horses. They also developed a bitless bridle that enhances control and communication during horse training. The patented product, The Nurtural Bitless Bridle, is now sold in 46 Canadian tack stores and in Europe.

- Sudbury - West Nipissing Abattoir Producer Group - Sudbury District (2008)
  At the end of August 2008, a group of producers and a meat retailer invested enough capital to re-open a meat plant at a local store. The abattoir is now slaughtering 20 head of cattle per week, with plans to expand to other livestock. The partners are also looking to create a regional brand of beef. Consumers are getting locally raised meat, the growers have lowered their costs by having a local slaughterhouse, and the local economy benefits from the jobs the enterprise has created.

5.0 Profile of the Agriculture Sector in the Blue Sky Region

5.1 Introduction

This section presents a profile of the Agriculture Sector in the Blue Sky Region. Data for the analysis were drawn from the Census of Agriculture, which is conducted every five years. Agricultural activity in the Blue Sky Region is largely located in the following townships/towns in Sudbury, Nipissing and Parry Sound Districts and Greater Sudbury:

Greater Sudbury

- Walden
- Rayside-Balfour
- Valley East

Sudbury District [15]

- French River
- St.-Charles
- Markstay-Warren

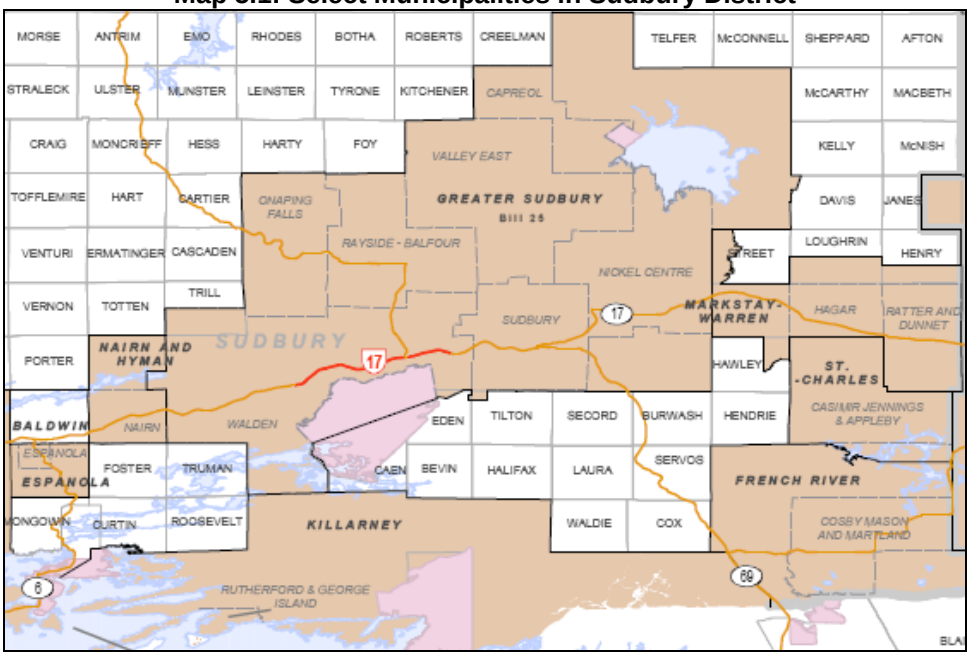
Nipissing District

- Calvin
- Bonfield
- Chisholm
- East Ferris
- West Nipissing

Parry Sound District

- Seguin
- Armour
- Ryerson
- McKellar
- Whitestone
- Magnetawan
- Strong
- Machar
- Powassan
- Nipissing
- Parry Sound, Unorganized

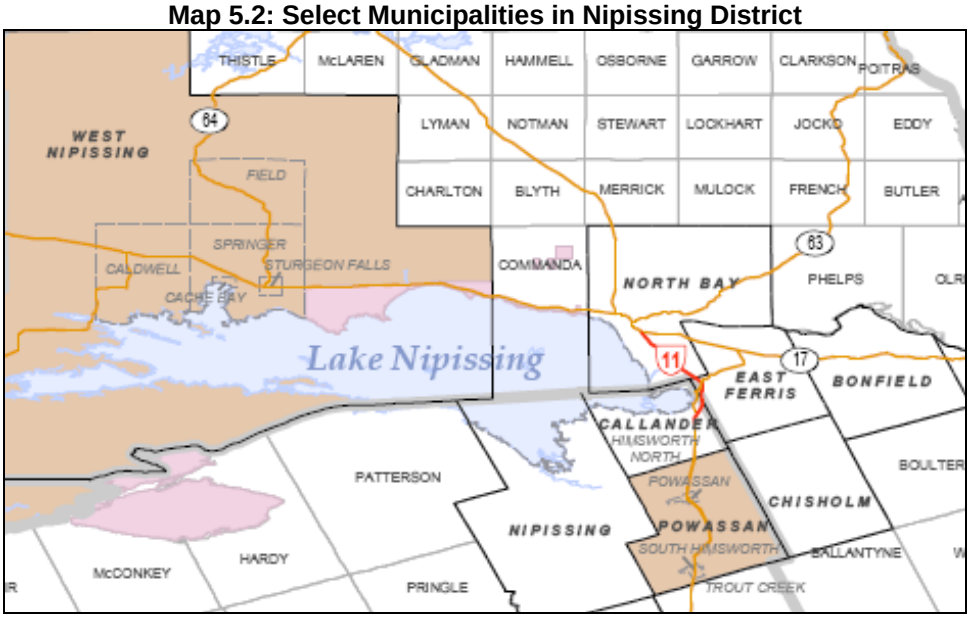
Map 5.1: Select Municipalities in Sudbury District



Source: Ministry of Municipal Affairs and Housing, 2009.

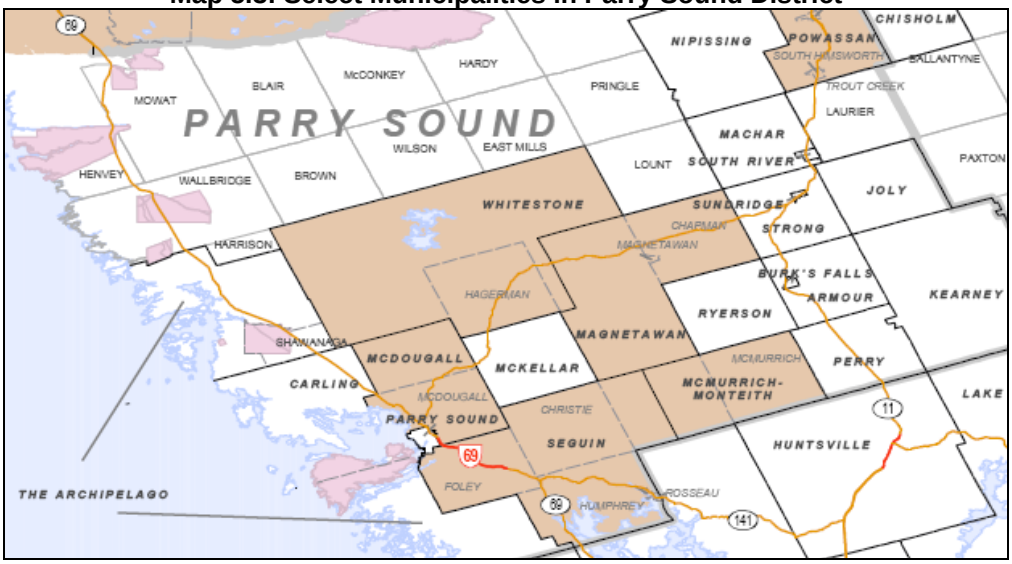
[15] Although the municipality of Sables-Spanish Rivers is in Sudbury District, it not part of the Blue Sky Region and the agriculture Census data for this municipality is not included in the agricultural profile.

Map 5.2: Select Municipalities in Nipissing District



Source: Ministry of Municipal Affairs and Housing, 2009.

Map 5.3: Select Municipalities in Parry Sound District



Source: Ministry of Municipal Affairs and Housing, 2009.

An analysis of the trends and changes in farmland area and farm size, farm types, farm productivity, farm receipts, and net revenues as well as farm capital is provided for the census years 1996, 2001 and 2006. Data for Blue Sky Region are further compared to data at the regional (i.e. northern Ontario region) and provincial levels to provide further insight into the relative importance of the contribution of Blue Sky Region to these economies.[16]

[16] The Northern Ontario Agricultural Region includes the following Districts: Nipissing, Sudbury, Manitoulin, Temiskaming, Cochrane, Greater Sudbury Division, Algoma, Thunder Bay, Rainy River and Kenora.

The Census data was reviewed with a small group of agri-sector stakeholders from the Blue Sky Region in October 2009 to identify any discrepancies in the data as well as any major changes/trends in the local agriculture sector since the 2006 Census. The results are presented in section 5.15.

5.2 Number of Farms, Farmland Area and Land Tenure

In 2006, the Blue Sky Region reported a total of 864 farms, down from 1,031 farms in 1996 (Table 5.1).[17] This represents a 16% decline across the Region which is comparable to the rate of loss experienced across the northern Ontario region and Ontario as a whole (15%). Within the Region, Parry Sound District experienced the largest loss in absolute numbers (-87 farms) while Sudbury District experienced the largest rate of loss (-30%) between 1996 and 2006.

Table 5.1: Number of Farms in Blue Sky Region, Northern Ontario, and Ontario, 1996-2006

	1996	2001	2006	Change # 1996-06	Change % 1996-06
Ontario	67,520	59,728	57,211	-10,309	-15%
Northern Ontario	2,915	2,635	2,479	-436	-15%
Blue Sky Region	1,031	955	864	-167	-16%
Greater Sudbury	172	159	160	-12	-7%
Sudbury District	135	120	94	-41	-30%
Nipissing District	299	284	272	-27	-9%
Parry Sound District	425	392	338	-87	-21%

Source: Statistics Canada, 1996, 2001, 2006.

Blue Sky Region farms reported a total of 221,654 acres of workable and non-workable (e.g. woodlands, wetlands, natural pastureland) farmland in 2006 (Table 5.2).[18] Between 1996 and 2006, the area of farmland reported in the Region declined by approximately 25,500 acres. Historically, the Districts that make up the Blue Sky Region reported a much larger area of farmland. For example, in 1961 Nipissing District and Parry Sound District reported about 200,000 and 250,000 acres of farmland respectively.

While farm numbers have been consistently declining over the past few census periods, farm consolidation has resulted in larger farms. The average farm size in the Blue Sky Region increased from 240 acres to 257 acres or 7% between 1996 and 2006. During the same period the average farm size for northern Ontario increased from 352 acres to

[17] Statistics Canada defines 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).

[18] Statistics Canada associates the following land uses with farmland: land in crops, land in pasture, land occupied by farm buildings and yards, land used for other farm-related activities such as farm woodlots.

412 acres (17%) while the average farm size for Ontario increased from 206 to 233 acres (13%).

Within the Blue Sky Region there is considerable variation in average farm size. On average, farms in Sudbury District are the largest at 345 acres while farms in Greater Sudbury are the smallest at 143 acres.

Table 5.2: Total Land Area, Workable[a] and Non-workable[b], Reported by Farms in Blue Sky Region, Northern Ontario, and Ontario, 1996-2006 (acres)

	1996			2001			2006		
	Total farms	Total acres	Average farm size	Total farms	Total acres	Average farm size	Total farms	Total acres	Average farm size
Ontario	67,520	13,879,565	206	59,728	13,507,357	226	57,211	13,310,216	233
Northern Ontario	2,915	1,025,190	352	2,635	1,012,026	384	2,479	1,022,060	412
Blue Sky Region	1,031	247,225	240	955	241,214	253	864	221,654	257
Greater Sudbury	172	25,457	148	159	25,414	160	160	22,892	143
Sudbury District	135	38,615	286	120	36,820	307	94	32,398	345
Nipissing District	299	87,657	293	284	83,170	293	272	83,747	308
Parry Sound District	425	95,496	225	392	95,810	244	338	82,617	244

[a] Workable land includes all arable or cleared lands including area in hay, crops, summerfallow, and tame or seeded pasture land.
[b] Non-workable land includes woodlots (sugarbushes, tree windbreaks, and bush that is not used for grazing), natural pastureland, wetlands, ponds, bogs, sloughs, etc., barnyards, lanes, etc., and land on which farm buildings are located.
Source: Statistics Canada, 1996, 2001, 2006.

Approximately 18% or 39,595 acres of the total farmland area reported by farmers in the Blue Sky Region is leased or rented (Table 5.3). This is much lower than the provincial average of 28% and the northern Ontario average of 26%. Between 1996 and 2006 the total area of farmland reported as rented in the Region increased by 3,482 acres or 9%.

Within the Region, Greater Sudbury reported the lowest percentage of rented farmland at 11% while Nipissing District reported the highest percentage at 21%.

Table 5.3: Land Tenure in the Blue Sky Region, Northern Ontario and Ontario, 1996-2006 (acres)

	1996				2006			
	Area owned		Area rented/leased		Area owned		Area rented/leased	
	Acres	%	Acres	%	Acres	%	Acres	%
Ontario	9,764,607	70%	4,114,958	30%	9,613,544	72%	3,696,672	28%
Northern Ontario	808,816	79%	216,374	21%	755,642	74%	266,418	26%
Blue Sky Region	211,112	85%	36,113	15%	182,059	82%	39,595	18%
Greater Sudbury	21,952	86%	3,505	14%	20,386	89%	2,506	11%
Sudbury District	31,439	81%	7,176	19%	25,969	80%	6,429	20%
Nipissing District	72,993	83%	14,664	17%	66,483	79%	17,264	21%
Parry Sound District	84,728	89%	10,768	11%	69,221	84%	13,396	16%

Source: Statistics Canada, 1996, 2006.

5.3 Farmland Use

The largest single use of farmland in the Blue Sky Region is crop production. In 2006, 79,449 acres or 36% of the total farmland base was used for crop production (Table 5.4). Blue Sky Region has a comparable percentage of its farmland base in crop production compared to northern Ontario as a whole (37%) but a smaller percentage compared to the province (68%). Historically, the Blue Sky Region reported a much larger area of farmland in crop production. For example, in 1961 Nipissing District and Parry Sound District reported about 53,000 and 140,000 acres of farmland in crop production respectively.

Between 1996 and 2006, the area reported in crop production in the Blue Sky Region increased by 4,227 acres or 6%. The majority of this increase occurred in Nipissing District where the area in crop production increased by 2,585 acres. During the same period the area reported in crop production in northern Ontario and Ontario increased by 8% and 3% respectively.

Table 5.4: Farmland Use in Blue Sky Region, Northern Ontario and Ontario, 1996-2006 (acres)

	Total area of farms (acres)	Land in crops	Summer-fallow [a]	Tame or seeded pasture [b]	Natural land for pasture [c]	All other land [d]
1996						
Ontario	13,879,565	8,759,707	48,492	860,786	1,641,692	2,568,888
Northern Ontario	1,025,190	350,511	3,920	90,526	251,066	329,167
Blue Sky Region	247,225	75,222	455	15,907	47,730	107,911
Greater Sudbury	25,457	8,208	203	848	4,118	12,080
Sudbury District	38,615	11,906	0	2,792	6,808	17,109
Nipissing District	87,657	32,826	110	5,993	16,838	31,890
Parry Sound District	95,496	22,282	142	6,274	19,966	46,832
2006						
Ontario	13,310,216	9,046,383	29,394	749,719	1,112,668	2,372,052
Northern Ontario	1,022,060	380,186	2,163	96,093	222,173	321,445
Blue Sky Region	221,654	79,449	NA	NA	30,489	NA
Greater Sudbury	22,892	8,667	223	1,048	2,289	10,665
Sudbury District	32,398	12,746	NA	2,227	3,604	NA
Nipissing District	83,747	35,411	NA	5,505	10,798	NA
Parry Sound District	82,617	22,625	NA	NA	13,798	39,822

[a] Summerfallow involves keeping normally cultivated land free of vegetation throughout one growing season by cultivating (plowing, discing, etc.) and/or applying chemicals to destroy weeds, insects and soil-borne diseases and allow a buildup of soil moisture reserves for the next crop year.
[b] Tame or seeded pasture includes grazeable land that has been improved from its natural state by seeding, draining, irrigating, fertilizing or weed control. Does not include areas of land harvested for hay, silage, or seed.
[c] Natural land for pasture includes areas used for pasture that have not been cultivated and seeded, or drained, irrigated or fertilized. Includes native pasture/hay (indigenous grass suitable as feed for livestock and game); rangeland (land with natural plant cover, principally native grasses or shrubs valuable for forage); grazeable bush, etc.
[d] All other land includes woodland, wetlands and Christmas tree area.
N/A denotes that too few farms have reported data to ensure confidentiality.
Source: Statistics Canada, 1996, 2006.

5.4 Farm Types

Blue Sky Region features a variety of different farm types based on farms reporting gross farm receipts of $2,500 or more. In 2006, a total of 329 farms or 38% of all farms in the Region were primarily engaged in producing hay/fodder crops while 192 farms or 22% of all farms in the Region were primarily engaged in producing beef cattle and 41 farms (5%) were primarily engaged in dairy production. A further 166 farms (19%) were involved in 'other animal' production (e.g. horses, bison, deer, elk, llamas, etc.) and 47 farms (5%) were involved in greenhouse, nursery or floriculture production (Table 5.5).

Between 2001 and 2006, the number of beef cattle farms in the Region reporting gross farm receipts of $2,500 or more declined from 245 farms to 192 farms or 22%. During the same period northern Ontario experienced a 19% decline in beef cattle farms while the province as a whole experienced a 13% decline in beef cattle farms.

The number of dairy farms in the Region reporting gross farm receipts of $2,500 or more declined from 56 farms in 2001 to 41 farms in 2006 which represents a decrease of 27%. During the same period northern Ontario experienced a 28% decline in dairy farms while the province as a whole experienced a 23% decline in dairy farms.

The other major change in farm numbers in the Region was the increase in hay/fodder farms and 'other animal' farms. Between 2001 and 2006 the number of hay/fodder farms in the Region increased from 212 to 329 farms (55%) while the number of 'other animal' farms increased from 108 to 166 farms (54%).

Table 5.5: Number of Farms by Farm Type for Blue Sky Region, Northern Ontario and Ontario, 2001 and 2006 (Farms reporting gross farm receipts of $2,500 or more) [a]

	Total farms	Dairy cattle	Beef cattle	Hog and pig	Poultry and egg [b]	Sheep and goat	Other animal production [c]	Oilseed and grain	Fruit	Green-house, nursery, floriculture	Other crops [d]	Vegetable
2001												
Ontario	55,092	6,414	12,738	2,491	1,614	1,017	5,428	13,371	1,739	2,430	6,434	1,416
Northern Ontario Region	2,279	239	928	16	16	36	241	75	23	125	545	35
Blue Sky Region	756	56	245	9	13	18	108	10	15	51	212	19
Greater Sudbury	130	0	30	2	4	1	30	1	7	17	28	10
Sudbury District	101	14	36	0	0	3	12	1	1	10	22	2
Nipissing District	245	31	79	4	0	7	26	5	3	12	76	2
Parry Sound District	280	11	100	3	9	7	40	3	4	12	86	5
2006												
Ontario	57,211	4,937	11,052	2,222	1,700	1,365	7,573	13,056	1,892	2,822	8,823	1,769
Northern Ontario Region	2,479	171	752	11	27	46	383	59	35	131	810	54
Blue Sky Region	864	41	192	10	18	12	166	13	14	47	329	22
Greater Sudbury	160	0	24	1	6	1	44	3	5	16	51	9
Sudbury District	94	14	29	0	2	1	14	1	1	5	25	2
Nipissing District	272	19	62	4	1	4	46	5	4	8	114	5
Parry Sound District	338	8	77	5	9	6	62	4	4	18	139	6

[a] Farm typing is a procedure that classifies each census farm according to the predominant type of production. This is done by estimating the potential receipts from the inventories of crops and livestock reported on the questionnaire and determining the product or group of products that make up the majority of the estimated receipts. For example, a census farm with total potential receipts of 60% from hogs, 20% from beef cattle and 20% from wheat, would be classified as a hog farm.

[b] Includes ostriches and emus.

[c] Includes horses, bison, deer, elk, llamas, alpacas, wild boars, rabbits, bees, etc.

[d] Includes hay, fodder and other field crops excluding vegetables and fruit.

Source: Statistics Canada, 2001, 2006.

In 2001, the first year that the Census of Agriculture began to collect data on organic farming activity, there were a total of 5 farms in the Blue Sky Region that reported organic farming activity. By 2006 a total of 114 farms in the Region reported that they produced organic products of which 6 farms reported that they produced products that were certified as organic.[19] Additional details on organic production in the Blue Sky Region are provided in Table 5.6.

Table 5.6: Number of Farms Producing Organic Products in Blue Sky Region, Northern Ontario and Ontario, 2006

	Total number of farms reporting organic products regardless of the certification status	Number of farms producing certified organic products	Number of farms producing transitional organic products	Number of farms producing not certified organic products	Total farms reporting organic hay or field crops	Total farms reporting organic fruits, vegetables or greenhouse products	Total farms reporting organic animals or animal products	Total farms reporting organic maple products	Total farms reporting other organic products
Ontario	3,591	593	148	2,989	1,873	934	1,748	262	364
Northern Ontario Region	240	12	3	227	110	57	144	22	22
Blue Sky Region	114	6	3	107	50	16	63	18	9
Greater Sudbury	16	2	0	15	6	3	8	1	2
Sudbury District	8	0	0	8	5	0	6	0	1
Nipissing District	36	2	1	34	19	5	23	4	2
Parry Sound District	54	2	2	50	20	8	26	13	4

Source: Statistics Canada, 2006.

[19] Canada recently adopted a national code of practice that defines and regulates the use of the terms "organic", "organically grown", "organically raised", "certified organic" and other variations. Independent, organic certification agencies verify growing, processing, packaging, transportation, warehousing and retailing procedures. While these standards are not regulated by any government department, the Food and Drug Act requires labels to be true and factual.

A further assessment of farm type specialization in the Blue Sky Region can be obtained using the Location Quotient. Economic analysts have found the Location Quotient (LQ) to be a useful tool in determining which sectors of the economy are more specialized than others (Bendavid-Val, 1991, p.73). The term 'specialized' in this instance refers to the relative size or presence of an industrial activity. The LQ is essentially a ratio of ratios. In assessing farm type specialization, the regional share of a particular farm sector or type is compared to the provincial share in the sector. The LQ can be used to gauge the relative specialization of a region in various farm sectors such as dairy, beef and field crops. Using the Blue Sky Region beef sector as an example, the LQ formula for 2006 appears as follows:

$$LQ = \frac{\text{number of beef farms in the Region}}{\text{total number of farms in the Region}} \div \frac{\text{number of beef farms in the province}}{\text{total number of farms in the province}}$$

$$LQ = (192 / 864) \div (11{,}052 / 57{,}211) = 1.2$$

For the purpose of interpreting the LQ, it has a base value of one. An LQ of one suggests that the region and the province are specialized to an equal degree in the chosen industry sector. If the LQ is greater than one, it indicates that the region has a higher degree of specialization in the industry sector than the province. An LQ of less than one indicates that the industry sector is less specialized in the region than it is for the province.

Using the farm type data from Table 5.5, the 2006 LQ for the beef sector (1.2) indicates that the Blue Sky Region as a whole continues to be specialized in beef production although not as specialized as it was in 2001 (1.4). The Blue Sky Region also continues to be specialized in greenhouse/nursery/floriculture production although not as specialized as it was in 2001 (1.4 vs. 1.1). In 2006 the Blue Sky Region was also specialized in 'other animal' production (1.5) and hay/fodder crop production (2.5).

Within the Blue Sky Region in 2006, Greater Sudbury was specialized in 'other animal' production (2.1), poultry/egg production (1.3), hay/fodder production (2.1), vegetable production (1.8), and greenhouse/nursery/floriculture production (2.0). Sudbury District was specialized in dairy production (1.7), beef production (1.6), hay/fodder production (1.7), 'other animal' production (1.1), and greenhouse/nursery/floriculture production (1.1). Nipissing District was specialized in beef production (1.2), hay/fodder production (2.7), and 'other animal' production (1.3). Parry Sound District was specialized in beef production (1.2), hay/fodder production (2.7), 'other animal' production (1.4), and greenhouse/nursery/floriculture production (1.1).

Table 5.7: Location Quotient for Farm Types for Blue Sky Region, 2001 and 2006

Year	Dairy cattle	Beef cattle	Hog and pig	Poultry and egg [a]	Sheep and goat	Other animal prod. [b]	Oilseed and grain	Fruit	Green-house, nursery, floriculture	Other crops [c]	Vegetable
Blue Sky Region											
2001	0.6	1.4	0.3	0.6	1.3	1.4	0.1	0.6	1.5	2.4	1.0
2006	0.5	1.2	0.3	0.7	0.6	1.5	0.1	0.5	1.1	2.5	0.8
Greater Sudbury											
2001	0.0	1.0	0.3	1.1	0.4	2.3	0.0	1.7	3.0	1.8	3.0
2006	0.0	0.8	0.2	1.3	0.3	2.1	0.1	0.9	2.0	2.1	1.8
Sudbury District											
2001	1.2	1.5	0.0	0.0	1.6	1.2	0.0	0.3	2.2	1.9	0.8
2006	1.7	1.6	0.0	0.7	0.4	1.1	0.0	0.3	1.1	1.7	0.7
Nipissing District											
2001	1.1	1.4	0.4	0.0	1.5	1.1	0.1	0.4	1.1	2.7	0.3
2006	0.8	1.2	0.4	0.1	0.6	1.3	0.1	0.4	0.6	2.7	0.6
Parry Sound District											
2001	0.3	1.5	0.2	1.1	1.4	1.4	0.0	0.5	1.0	2.6	0.7
2006	0.3	1.2	0.4	0.9	0.7	1.4	0.1	0.4	1.1	2.7	0.6

[a] Includes ostriches and emus.
[b] Includes horses, bison, deer, elk, llamas, alpacas, wild boars, rabbits, bees, etc.
[c] Includes hay, fodder and other field crops excluding vegetables and fruit.
Source: Adapted from Statistics Canada, 2001, 2006.

5.5 Livestock and Animals

Blue Sky Region farms raise a number of different types of livestock and poultry (Table 5.8a and 5.8b).[20]

In 1996, the Region reported a total of 7,130 beef cows which dropped by 8% to 6,524 beef cows in 2006. The majority of the beef cows were reported in Parry Sound District (38%) and Nipissing District (39%) in 2006.

[20] A farm may be involved in producing more than one type of livestock which explains, for example, why there are more beef farms reported here than in section 4.4 of the report which focuses on farm types by the predominant type of production on each farm.

In 1996, the Region reported a total of 3,545 dairy cows which dropped by 49% to 1,767 dairy cows in 2006. The majority of the dairy cows were reported in Sudbury District (38%) and Nipissing District (49%) in 2006.

In 1996, the Region reported a total of 1,615 pigs which increased by 119% to 3,539 pigs in 2006. The majority of the pigs were reported in Parry Sound District (62%) in 2006.

In 1996, the Region reported a total of 2,887 sheep and lambs which dropped by 8% to 2,661 sheep and lambs in 2006. The majority of the sheep and lambs were reported in Parry Sound District (64%) in 2006.

In 1996, the Region reported a total of 706 goats which increased by 108% to 1,473 goats in 2006. The majority of the goats were reported in Nipissing District (89%) in 2006.

In 1996, the Region reported a total of 1,350 horses and ponies which increased by 38% to 1,871 horses and ponies in 2006. The majority of the horses and ponies were reported in Greater Sudbury (26%), Nipissing District (31%), and Parry Sound District (35%) in 2006.[21]

Although there were no farms in the Region producing farm raised bison or deer/elk in 1996, by 2006 at least 5 farms were raising bison and 8 farms were raising deer/elk. There were also 20 farms in the Region raising llamas/alpacas in 2006 while there was none in 1996.

In 1996, the Region also reported a total of 43,051 hens and chickens which dropped by 80% to 8,606 hens and chickens in 2006. The majority of the hens and chickens were reported in Parry Sound District (60%) in 2006.

[21] The economic importance of livestock such as sheep, goats, horses, etc. to the local and regional economy is often overlooked. However, the impacts of these sectors can be substantial. A 2006 study on the equine sector in northeastern Ontario determined that the sector directly contributes $70 million to the regional economy. This is equivalent to the economic impact of Nipissing University on the North Bay/Nipissing region. Furthermore, if the indirect and induced economic impact is added, the contribution is $105 million annually. The figures are based on an estimated 14,000 horses in northeastern Ontario – including recreational and show hoses, racing horses, and other horses including draft horses (Suthey Holler Associates. May 2006).

Table 5.8a: Inventory of Selected Farm Related Animals for Blue Sky Region, Northern Ontario and Ontario, 1996 and 2006

	Hens and chickens		Dairy cows		Beef cows		Pigs		Sheep and lambs		Goats	
	# farms	# birds	# farms	# cows	# farms	# cows	# farms	# pigs	# farms	# sheep	# farms	# goats
1996												
Ontario	8,295	35,596,946	10,122	404,797	19,572	441,211	6,777	2,831,082	3,592	231,087	2,521	45,258
Northern Ontario Region	451	283,388	437	18,259	1,448	37,720	144	7,606	189	10,435	124	1,462
Blue Sky Region	204	43,051	120	3,454	462	7,130	70	1,615	67	2,887	54	706
Greater Sudbury	26	5,045	6	26	54	716	12	67	5	NA	9	70
Sudbury District	25	401	20	526	62	806	4	NA	4	NA	13	210
Nipissing District	47	2,001	64	2,258	152	2,747	14	NA	24	1,012	8	117
Parry Sound District	106	35,604	30	644	194	2,861	40	1,548	34	1,875	24	309
2006												
Ontario	7,397	44,101,552	6,092	329,737	15,017	377,354	4,070	3,950,592	3,408	311,162	2,169	76,114
Northern Ontario Region	342	79,252	209	11,922	1,187	39,723	85	10,171	166	13,899	112	3,265
Blue Sky Region	155	8,606	47	1,767	358	6,524	48	3,539	45	2,661	41	1,473
Greater Sudbury	20	614	0	0	44	501	4	34	1	NA	5	20
Sudbury District	16	329	14	669	44	996	2	0	1	NA	3	NA
Nipissing District	49	2,482	23	861	120	2,454	13	1,321	19	959	15	1,319
Parry Sound District	70	5,181	10	237	150	2,573	29	2,184	24	1,702	18	134

NA denotes that too few farms have reported data to ensure confidentiality.
Source: Statistics Canada, 1996, 2006.

Table 5.8b: Inventory of Selected Farm Related Animals for Blue Sky Region, Northern Ontario and Ontario, 1996 and 2006

	Horses and ponies		Bison		Deer and elk (excluding wild deer/elk)		Llamas and alpacas		Colonies of bees	
	# farms	# horses	# farms	# bison	# farms	# deer	# farms	# llama	# farms	# colonies
1996										
Ontario	11,829	76,553	46	2,344	256	15,735	161	1,114	1,263	62,928
Northern Ontario Region	640	3,555	14	892	16	722	13	138	85	1,796
Blue Sky Region	242	1,350	3	NA	4	NA	1	NA	39	1,025
Greater Sudbury	51	435	1	NA	1	NA	0	0	13	83
Sudbury District	37	258	2	NA	1	NA	1	NA	4	10
Nipissing District	56	205	0	0	2	NA	0	0	6	59
Parry Sound District	98	452	0	0	0	0	0	0	16	873
2006										
Ontario	12,333	97,285	71	4,106	238	11,581	696	4,332	981	64,591
Northern Ontario Region	630	4,507	17	2,316	24	2,179	32	250	62	752
Blue Sky Region	281	1,871	5	NA	8	NA	20	NA	25	NA
Greater Sudbury	59	487	0	0	1	NA	0	0	6	58
Sudbury District	23	148	3	NA	3	NA	2	NA	3	NA
Nipissing District	91	581	1	NA	4	405	6	39	5	42
Parry Sound District	108	655	1	NA	0	0	12	NA	11	594

NA denotes that too few farms have reported data to ensure confidentiality.
Source: Statistics Canada, 1996, 2006.

5.6 Field Crops

Blue Sky Region farms produce a variety of field crops including wheat, barley, oats, corn, soybeans, canola, potatoes and hay crops (Table 5.9a and 5.9b).

In 2006, the Region reported 4,277 acres of oats, up from 3,377 acres in 1996. The majority of the oat production was reported in Nipissing District and Parry Sound District in 2006.

In 2006, the Region reported 2,583 acres of barley, down from 3,648 acres in 1996. The majority of the barley production was reported in Nipissing District in 2006.

In 2006, the Region also reported a substantial acreage of wheat. Although data is not available for all of the Districts, in Nipissing District over 2,000 acres of wheat were reported in 2006, up from 166 acres in 1996.

In 2006, the Region reported some canola and soybean production. Although data is not available for all of the Districts, Nipissing District reported 395 acres of canola and 477 acres of soybeans in 2006.

With respect to corn production, there is no acreage data available but the number of farms producing corn for silage increased from 11 to 15 between 1996 and 2006.

In 2006, the Region reported 14,230 acres of alfalfa, up from 8,971 acres in 1996. The majority of alfalfa production was reported in Nipissing District in 2006.

The Region also reported 49,441 acres of other tame hay/fodder crops in 2006, down from 52,186 acres in 1996. The majority of other tame hay/fodder production was reported in Nipissing District and Parry Sound District in 2006.

With respect to potato production, the Region reported 871 acres of potatoes in 2006, up from 841 acres in 1996. The majority of potato production was reported in Greater Sudbury in 2006.

Table 5.9a: Total Reported Acreage of Selected Field Crops for Blue Sky Region, Northern Ontario and Ontario, 1996 and 2006

	Wheat		Oats		Barley		Mixed grains		Corn for Grain		Corn for Silage	
	# farms	# acres	# farms	# acres	# farms	# acres	# farms	# acres	# farms	# acres	# farms	# acres
1996												
Ontario	15,282	778,952	4,740	98,357	8,456	332,821	8,651	279,762	20,823	1,895,650	9,927	296,029
Northern Ontario Region	70	5,416	528	15,102	463	35,733	287	13,013	24	596	47	1,665
Blue Sky Region	15	NA	165	3,377	83	3,648	86	NA	11	NA	11	NA
Greater Sudbury	2	NA	26	502	7	269	2	NA	2	NA	0	0
Sudbury District	3	NA	19	253	19	481	12	523	3	NA	2	NA
Nipissing District	5	166	60	1,770	44	2,545	34	1,315	4	83	7	169
Parry Sound District	5	NA	60	852	13	353	38	814	2	NA	2	NA
2006												
Ontario	14,682	1,235,390	4,362	131,952	5,139	221,029	5,400	173,454	14,304	1,577,862	8,404	320,759
Northern Ontario Region	142	21,264	455	19,839	334	25,329	181	6,768	23	1,911	113	4,021
Blue Sky Region	35	NA	166	4,277	54	2,583	41	1,045	3	NA	15	NA
Greater Sudbury	1	NA	17	365	3	190	5	188	0	0	0	0
Sudbury District	2	NA	19	463	14	414	7	90	2	NA	3	NA
Nipissing District	25	2,137	63	2,333	29	1,514	17	370	1	NA	9	NA
Parry Sound District	7	NA	67	1,116	8	465	12	397	0	0	3	NA

N/A denotes that too few farms have reported data to ensure confidentiality.
Source: Statistics Canada, 1996, 2006.

Table 5.9b: Total Reported Acreage of Selected Field Crops for Blue Sky Region, Northern Ontario and Ontario, 1996 and 2006

	Alfalfa/Alfalfa Mixtures		Other Tame Hay/Fodder Crops		Forage Seed for Seed		Canola		Soybeans		Potatoes	
	# farms	# acres	# farms	# acres	# farms	# acres	# farms	# acres	# farms	# acres	# farms	# acres
1996												
Ontario	26,521	1,479,447	18,172	1,036,399	264	11,910	757	53,304	18,743	1,918,055	1,218	39,905
Northern Ontario Region	749	66,908	1,769	195,393	55	3,531	63	5,351	5	94	143	2,065
Blue Sky Region	142	8,971	598	52,186	4	NA	12	NA	1	NA	67	841
Greater Sudbury	23	1,320	77	4,088	0	0	2	NA	0	0	26	744
Sudbury District	27	1,354	82	8,592	2	NA	1	NA	0	0	5	5
Nipissing District	68	5,041	194	20,877	1	NA	8	461	0	0	16	52
Parry Sound District	24	1,256	245	18,629	1	NA	1	NA	1	NA	20	40
2006												
Ontario	24,427	1,662,370	13,010	900,267	312	12,323	205	18,575	17,171	2,155,884	904	38,155
Northern Ontario Region	836	103,232	1,383	175,975	25	1,745	33	4,578	35	4,385	85	1,476
Blue Sky Region	168	14,230	484	49,441	7	NA	7	NA	8	NA	28	871
Greater Sudbury	32	1,259	72	4,488	1	NA	1	NA	1	NA	11	827
Sudbury District	21	2,072	62	9,113	1	NA	0	0	0	0	0	0
Nipissing District	75	8,422	162	18,941	1	NA	5	395	6	477	8	27
Parry Sound District	40	2,477	188	16,899	4	263	1	NA	1	NA	9	17

N/A denotes that too few farms have reported data to ensure confidentiality.
Source: Statistics Canada, 1996, 2006.

5.7 Fruit, Berry and Vegetable Production

A small number of farms in the Blue Sky Region produce fruit and vegetables. In 2006, between 2 and 5 farms were engaged in apple, pear, and/or plum production while 12 farms were engaged in producing strawberries and 10 farms were engaged in producing raspberries. In general, it appears that the number of farms engaged in fruit or berry production in 2006 is down from 1996 (Table 5.10). The decline in acreage for some types of fruits and berries appears to be a consistent pattern across northern Ontario and the province as a whole.

Table 5.10: Number of Farms and Acreage of Selected Fruit and Berry Production, 1996-2006

	Apples		Pears		Plums and Prunes		Strawberries		Raspberries		Blueberries	
	# farms	# acres	# farms	# acres	# farms	# acres	# farms	# acres	# farms	# acres	# farms	# acres
1996												
Ontario	2,482	30,524	1,356	3,305	1,065	1,622	971	5,507	789	1,250	172	639
Northern Ontario Region	33	50	6	NA	9	4	51	309	50	76	9	139
Blue Sky Region	14	NA	1	NA	2	NA	19	NA	20	NA	5	NA
Greater Sudbury	3	NA	1	NA	1	NA	7	28	10	NA	2	NA
Sudbury District	2	NA	0	0	0	0	2	0	2	NA	0	0
Nipissing District	1	NA	0	0	0	0	1	NA	1	NA	1	NA
Parry Sound District	8	NA	0	0	1	NA	9	43	7	NA	2	NA
2006												
Ontario	1,223	20,169	542	2,546	376	1,231	801	4,243	613	1,153	161	732
Northern Ontario Region	17	56	5	1	2	NA	43	223	31	52	5	59
Blue Sky Region	5	NA	2	NA	2	NA	12	NA	10	NA	4	NA
Greater Sudbury	0	0	0	0	0	0	3	48	4	NA	0	0
Sudbury District	0	0	0	0	0	0	1	NA	1	NA	0	0
Nipissing District	2	NA	1	NA	1	NA	3	NA	1	NA	3	NA
Parry Sound District	3	NA	1	NA	1	NA	5	32	4	NA	1	NA

N/A denotes that too few farms have reported data to ensure confidentiality. Data at the individual municipality / township level is not reported on due to the limited number of farms and missing acreage data.
Source: Statistics Canada, 1996, 2006.

Although Blue Sky Region farms produce a large variety of vegetables the number of farms involved in this type of activity appears to be small and has declined over the 1996 to 2006 period.

In 2006, the number of farms in the Region engaged in producing sweet corn, tomatoes, cucumbers, green peas, green beans, carrots, and pumpkins, squash and zucchini ranged from 13 to 27 farms compared to 27 to 51 farms in 1996.

In 2006, the number of farms in the Region engaged in producing cabbage, cauliflower, broccoli, dry onions, lettuce and peppers ranged from 4 to 11 farms compared to 13 to 18 farms in 1996.

However, it is important to recognize that due to the small number of farms in the Region and confidentiality issues, it is not possible to determine if the total acreage of production associated with the above vegetables has also declined since 1996.

The only vegetable crop in the Region where the number of farms increased between 1996 and 2006 was asparagus. Additional details are provided in Table 5.11a and 5.11b.

Table 5.11a: Number of Farms and Acreage of Selected Vegetable Production, 1996-2006

	Sweet corn		Tomatoes		Cucumbers		Green Peas		Green Beans		Cabbage		Cauliflower		Broccoli	
	# farms	# acres	# farms	# acres	# farms	# acres	# farms	# acres	# farms	# acres	# farms	# acres	# farms	# acres	# farms	# acres
1996																
Ontario	2,081	52,789	1,822	21,854	1,170	3,818	20,634	8,350	947	9,729	636	4,131	517	2,964	512	2,739
Northern Ontario Region	113	392	89	82	98	67	29	12	96	36	50	25	45	17	40	12
Blue Sky Region	51	NA	39	NA	40	NA	27	NA	31	NA	18	NA	16	NA	13	NA
Greater Sudbury	17	28	16	4	16	8	14	8	15	5	10	4	8	2	6	2
Sudbury District	5	NA	3	NA	3	NA	3	NA	3	NA	2	NA	2	NA	2	NA
Nipissing District	8	37	6	NA	8	5	2	NA	5	2	1	NA	2	NA	0	0
Parry Sound District	21	32	14	5	13	5	8	3	8	NA	5	NA	4	NA	5	NA
2006																
Ontario	1,399	38,617	1,429	20,195	964	4,146	763	21,482	852	11,879	442	3,707	327	2,025	346	3,712
Northern Ontario Region	92	181	61	15	61	23	54	21	61	29	32	28	23	6	22	4
Blue Sky Region	27	NA	17	NA	18	NA	13	NA	16	NA	6	NA	4	NA	4	NA
Greater Sudbury	6	14	5	2	6	2	3	1	5	2	2	NA	1	NA	1	NA
Sudbury District	4	NA	1	NA	2	NA	2	NA	2	NA	2	NA	0	0	1	NA
Nipissing District	11	26	3	1	3	2	3	1	3	5	1	NA	1	NA	0	0
Parry Sound District	6	12	8	2	7	1	5	NA	6	2	1	NA	2	NA	2	NA

N/A denotes that too few farms have reported data to ensure confidentiality. Data at the individual municipality / township level is not reported on due to the limited number of farms and missing acreage data.
Source: Statistics Canada, 1996, 2006.

Table 5.11b: Number of Farms and Acreage of Selected Vegetable Production, 1996-2006

	Carrots		Rutabagas		Beets		Dry Onions		Lettuce		Peppers		Pumpkins, Squash		Asparagus	
	# farms	# acres	# farms	# acres	# farms	# acres	# farms	# acres	# farms	# acres	# farms	# acres	# farms	# acres	# farms	# acres
1996																
Ontario	820	7,953	260	2,919	718	797	724	6,047	475	1,377	880	3,632	1,429	5,664	338	1,986
Northern Ontario Region	96	35	52	23	84	23	49	13	39	10	29	9	70	41	10	5
Blue Sky Region	33	NA	16	NA	26	NA	18	NA	17	NA	11	NA	25	NA	3	NA
Greater Sudbury	13	7	7	3	13	2	10	2	6	1	5	NA	7	2	0	0
Sudbury District	4	NA	1	NA	2	NA	2	NA	2	NA	1	NA	3	NA	0	NA
Nipissing District	5	2	2	NA	3	2	1	NA	3	NA	2	NA	4	2	1	NA
Parry Sound District	11	2	6	2	8	2	5	NA	6	2	3	1	11	11	2	NA
2006																
Ontario	648	9,993	204	1,814	607	1,088	648	6,930	429	955	795	4,015	1,518	9,297	391	3,245
Northern Ontario Region	56	21	25	20	52	16	28	4	35	6	21	2	69	74	11	2
Blue Sky Region	14	NA	8	NA	15	NA	7	NA	11	NA	2	NA	20	NA	5	NA
Greater Sudbury	5	5	0	0	5	2	1	NA	3	1	0	0	4	5	0	0
Sudbury District	1	NA	1	NA	1	NA	0	0	1	NA	0	0	4	NA	0	0
Nipissing District	3	2	3	4	4	2	2	NA	1	NA	0	0	5	7	0	0
Parry Sound District	5	1	4	1	5	1	4	1	6	2	2	NA	7	7	5	NA

N/A denotes that too few farms have reported data to ensure confidentiality. Data at the individual municipality / township level is not reported on due to the limited number of farms and missing acreage data.
Source: Statistics Canada, 1996, 2006.

5.8 Greenhouse Production

Between 1996 and 2006, the total area under glass, plastic or other protection in the Blue Sky Region increased from 223,498 square feet to over 307,000 square feet (Table 5.12). Greater Sudbury alone reported close to 183,000 square feet under glass or plastic in 2006. Due to the small number of farms engaged in this activity in some parts of the Region it is not possible to determine the overall area in production for different greenhouse products.

However, the data indicates that in Greater Sudbury the number of farms involved in flower production increased from 7 to 8 farms and the related area of production increased from 57,550 square feet to 73,820 square feet between 1996 and 2006. During the same period the number of farms involved in flower production in Nipissing District declined from 10 to 4 farms and the related area of production declined from 62,145 square feet to 8,220 square feet.

Table 5.12: Number of Farms and Production Area Associated with Greenhouse Production, 1996-2006

	Total area under glass, plastic or other protection		Total area of greenhouses in use in May		Greenhouse flowers		Greenhouse vegetables		Other greenhouse products		Mushrooms	
	# farms	# square feet	# farms	# square feet	# farms	# square feet	# farms	# square feet	# farms	# square feet	# farms	# square feet
1996												
Ontario	2,085	63,302,565	2,085	62,609,895	1,465	36,100,406	785	22,163,817	409	4,345,672	80	3,407,376
Northern Ontario Region	138	2,130,535	138	2,074,054	104	774,835	61	92,163	31	1,207,056	1	NA
Blue Sky Region	45	223,498	45	222,198	35	NA	20	NA	7	NA	0	0
Greater Sudbury	11	67,431	11	66,431	7	57,550	4	NA	2	NA	0	0
Sudbury District	8	18,100	8	17,800	6	4,947	4	NA	1	NA	0	0
Nipissing District	11	101,541	11	101,541	10	62,145	7	NA	1	NA	0	0
Parry Sound District	15	36,426	15	36,426	12	NA	5	NA	3	NA	0	0
2006												
Ontario	1,898	126,589,790	1,898	125,141,329	1,274	49,414,104	654	69,808,871	282	5,918,354	85	3,447,739
Northern Ontario Region	109	3,418,948	109	3,366,943	81	797,744	46	190,838	27	2,378,361	4	NA
Blue Sky Region	33	NA	33	NA	23	NA	10	NA	6	NA	0	0
Greater Sudbury	10	182,870	10	NA	8	73,820	3	NA	1	NA	0	0
Sudbury District	4	NA	4	NA	3	NA	1	NA	1	NA	0	0
Nipissing District	7	71,940	7	69,940	4	8,220	3	NA	2	NA	0	0
Parry Sound District	12	52,588	12	52,588	8	NA	3	NA	2	NA	0	0

N/A denotes that too few farms have reported data to ensure confidentiality.
Source: Statistics Canada, 1996, 2006.

5.9 Nursery Products, Sod, and Forest Related Products

Between 1996 and 2006, the total number of farms in the Blue Sky Region involved in nursery production declined from 29 farms to 13 farms (Table 5.13).[22] Between 1996 and 2006 the number of farms involved in sod production in the Region dropped from 6 to 5 farms. All of the current sod farms except 1 are in Greater Sudbury. Between 1996 and 2006 the number of farms involved in maple syrup production in the Region dropped from 93 to 86 farms. However, the majority of current maple syrup farms are located in Parry Sound District and the number of taps on trees in the District more than doubled from 57,011 in 1996 to 119,854 in 2006. Between 1996 and 2006 the number of farms producing Christmas trees in the Region dropped from 34 to 15 farms and it appears the total acreage of Christmas trees in the Region has also dropped.

Table 5.13: Number of Farms and Production Area Associated with Nursery Products, Sod, Christmas Trees, and Taps on Trees for Maple Syrup Production, 1996-2006

	Nursery products		Sod Grown for Sale		Taps on Maple Trees		Christmas Trees	
	# farms	# acres	# farms	# acres	# farms	# taps	# farms	# acres
1996								
Ontario	1,619	26,217	144	23,538	2,240	1,127,373	1,345	27,887
Northern Ontario Region	67	555	17	1,323	91	84,537	59	1,303
Blue Sky Region	29	NA	6	NA	93	NA	34	NA
Greater Sudbury	7	112	5	621	2	-	7	188
Sudbury District	4	NA	0	0	2	NA	3	NA
Nipissing District	5	10	1	NA	16	10,299	7	167
Parry Sound District	13	44	0	0	73	57,011	17	458
2006								
Ontario	1,209	27,079	120	32,196	2,240	1,311,599	725	15,795
Northern Ontario Region	36	733	9	1,029	100	108,464	31	697
Blue Sky Region	13	NA	5	NA	86	NA	15	384
Greater Sudbury	5	152	4	619	3	852	4	126
Sudbury District	2	NA	0	0	5	NA	0	0
Nipissing District	2	NA	0	0	22	10,875	3	23
Parry Sound District	4	33	1	NA	56	119,854	8	235

N/A denotes that too few farms have reported data to ensure confidentiality.
Source: Statistics Canada, 1996, 2006.

[22] Nursery production includes establishments primarily engaged in growing nursery products, nursery stock, shrubbery, bulbs, fruit stock, vines, ornamentals, etc., in open fields.

5.10 Farm Productivity: Total Farm Receipts, Farm Operating Expenses and Net Revenue

The Blue Sky Region reported $43.9 million in total gross farm receipts in 2005 compared to $37.1 million in 1995 (Table 5.14). The total gross farm receipts for the Region for 2005 represent about 24% of the total for northern Ontario.

Within the Blue Sky Region, the amount and proportion of total gross farm receipts was fairly evenly distributed across the four member Districts. Nipissing District reported the largest share of total gross farm receipts in 2005 at $12.7 million or 29% of the total for the for the Region while Greater Sudbury reported the lowest share of total gross farm receipts in 2005 at $9.5 million or 22% of the total for the Region.

A considerable portion of the farm receipts in Nipissing District and Sudbury District (30%+) are linked to the dairy sectors in these areas. In Canada, dairy farms operate under a supply management system and they typically generate higher and more stable farm incomes compared to other farm types.[23]

Table 5.14: Total Gross Farm Receipts (Excluding Sales of Forest Products from Farms) for Blue Sky Region, Northern Ontario and Ontario, 1995-2005

	1995		2000		2005	
	Total number of farms	Total gross farm receipts	Total number of farms	Total gross farm receipts	Total number of farms	Total gross farm receipts
Ontario	67,520	$7,778,476,483	59,728	$9,115,454,790	57,211	$10,342,031,229
Northern Ontario Region	2,915	$151,786,040	2,635	$162,099,250	2,479	$179,177,281
Blue Sky Region	1,031	$37,109,615	955	$43,599,614	864	$43,961,140
Greater Sudbury	172	$7,123,006	159	$8,122,001	160	$9,576,636
Sudbury District	135	$5,810,913	120	$8,551,408	94	$10,462,602
Nipissing District	299	$13,937,713	284	$13,140,579	272	$12,777,360
Parry Sound District	425	$10,237,983	392	$13,785,626	338	$11,144,542

Source: Statistics Canada, 1996, 2001, 2006.

Average gross farm receipts per farm for 1995 and 2005 are presented in Table 5.15. Total receipts per farm in the Blue Sky Region are, on average, lower than other parts of northern Ontario and the provincial average. Farms in the Region averaged $50,881 in gross farm gate sales in 2005, compared to $72,278 per farm in northern Ontario and $180,770 per farm in Ontario. Within the Region, farms in Sudbury District had the highest average total sales per farm at $111,304.

[23] Supply management is a system used by certain agricultural commodity groups to ensure a stable supply of products. The system also promotes stable farm incomes. The producers control the amount of product they produce, and pay a fee (a levy) on all their production to fund the administration and marketing expenses of their provincial commodity boards and national agency. Milk, poultry and egg production all use supply management controls to regulate domestic production (National Farm Products Council, May 2003).

Table 5.15: Average Gross Farm Receipts per Farm in Blue Sky Region, Northern Ontario and Ontario, 1995-2005

	1995			2005		
	Total number of farms	Total gross farm receipts	Average receipts per farm	Total number of farms	Total gross farm receipts	Average receipts per farm
Ontario	67,520	$7,778,476,483	$115,203	57,211	$10,342,031,229	$180,770
Northern Ontario Region	2,915	$151,786,040	$52,071	2,479	$179,177,281	$72,278
Blue Sky Region	1,031	$37,109,615	$35,994	864	$43,961,140	$50,881
Greater Sudbury	172	$7,123,006	$41,413	160	$9,576,636	$59,854
Sudbury District	135	$5,810,913	$43,044	94	$10,462,602	$111,304
Nipissing District	299	$13,937,713	$46,614	272	$12,777,360	$46,976
Parry Sound District	425	$10,237,983	$24,089	338	$11,144,542	$32,972

Source: Statistics Canada, 1996, 2006.

Farm woodlots represent an important source of income for many farmers in northern Ontario. In 2005, farms in Parry Sound District reported approximately $266,000 in sales of forest products (Table 5.16).

Table 5.16: Sales of Forest Products from Farms for Blue Sky Region, Northern Ontario and Ontario, 1995-2005

	1995		2000		2005	
	Total number of farms	Sales of forest products	Total number of farms	Sales of forest products	Total number of farms	Sales of forest products
Ontario	3,343	$19,717,541	2,903	$20,587,058	2,485	$18,568,858
Northern Ontario Region	284	$2,122,968	272	$2,127,631	222	$2,544,585
Blue Sky Region	132	NA	99	NA	64	NA
Greater Sudbury	7	$12,900	11	$21,518	4	$7,670
Sudbury District	7	NA	10	NA	4	NA
Nipissing District	40	$257,487	27	$116,763	15	$52,183
Parry Sound District	78	$197,190	51	$189,449	41	$266,147

N/A denotes that too few farms have reported data to ensure confidentiality.
Source: Statistics Canada, 1996, 2001, 2006.

As shown in Table 5.17, approximately 9% of the farms in the Blue Sky Region reported total gross farm receipts of $100,000 or more in 2005 compared to 16% for northern Ontario and 32% for the province as a whole. In 2005, about 14% of the farms in Nipissing District and Sudbury District reported total gross farm receipts of $100,000 or more which is partly linked to the concentration of dairy farms in these areas. Approximately 50% of the farms in the Blue Sky Region reported less than $10,000 in total gross farm receipts in 2005 compared to 38% for northern Ontario and 25% for the province as a whole.

Table 5.17: Total Gross Farm Receipts (Excluding Sales of Forest Products from Farms) for Blue Sky Region, Northern Ontario and Ontario by Receipts Category, 1995 and 2006

	Gross Farm Receipts Category															
	Under $10,000		$10,000 to $24,999		$25,000 to $49,999		$50,000 to $99,999		$100,000 to $249,999		$250,000 to $499,999		$500,000 and over		Total farms	
	# farms	%	# farms	%	# farms	%	# farms	%	# farms	%	# farms	%	# farms	%	# farms	%
1995																
Ontario	20,306	30%	12,010	18%	8,162	12%	7,477	11%	11,642	17%	5,513	8%	2,410	4%	67,520	100%
Northern Ontario Region	1,399	48%	621	21%	268	9%	216	7%	265	9%	107	4%	39	1%	2,915	100%
Blue Sky Region	608	59%	199	19%	60	6%	55	5%	86	8%	14	1%	9	1%	1,031	100%
Greater Sudbury	108	63%	30	17%	13	8%	7	4%	7	4%	5	3%	2	1%	172	100%
Sudbury District	72	53%	26	19%	9	7%	13	10%	10	7%	2	1%	3	2%	135	100%
Nipissing District	147	49%	56	19%	15	5%	22	7%	54	18%	4	1%	1	0.3%	299	100%
Parry Sound District	281	66%	87	20%	23	5%	13	3%	15	4%	3	1%	3	1%	425	100%
2005																
Ontario	14,500	25%	10,828	19%	7,397	13%	6,521	11%	7,965	14%	5,589	10%	4,411	8%	57,211	100%
Northern Ontario Region	946	38%	558	23%	358	14%	236	10%	195	8%	123	5%	63	3%	2,479	100%
Blue Sky Region	432	50%	204	24%	92	11%	55	6%	44	5%	28	3%	9	1%	864	100%
Greater Sudbury	87	54%	33	21%	14	9%	8	5%	7	4%	7	4%	4	3%	160	100%
Sudbury District	36	38%	25	27%	10	11%	9	10%	7	7%	5	5%	2	2%	94	100%
Nipissing District	123	45%	60	22%	33	12%	22	8%	18	7%	15	6%	1	0.4%	272	100%
Parry Sound District	186	55%	86	25%	35	10%	16	5%	12	4%	1	0%	2	1%	338	100%

Source: Statistics Canada, 1996, 2006.

The Blue Sky Region reported $41 million in total farm operating expenses in 2005 compared to $34 million in 1995 (Table 5.18). Total expenses per farm in the Region are, on average, lower than other parts of northern Ontario and substantially lower than the provincial average. Farms in the Region averaged $47,464 in farm expenses in 2005, compared to $61,266 per farm in northern Ontario and $154,584 per farm in Ontario. Within the Region, farms in Sudbury District had the highest average farm expenses per farm at $91,322.

Table 5.18: Average Farm Operating Expenses per Farm in Blue Sky Region, Northern Ontario and Ontario, 1995-2005

	1995			2005		
	Total number of farms	Total farm operating expenses	Average expenses per farm	Total number of farms	Total farm operating expenses	Average expenses per farm
Ontario	67,520	$6,545,516,325	$96,942	57,211	$8,843,882,426	$154,584
Northern Ontario Region	2,915	$133,749,010	$45,883	2,479	$151,879,475	$61,266
Blue Sky Region	1031	$34,522,294	$33,484	864	$41,008,633	$47,464
Greater Sudbury	172	$6,800,190	$39,536	160	$8,918,528	$55,741
Sudbury District	135	$5,043,093	$37,356	94	$8,584,306	$91,322
Nipissing District	299	$12,290,416	$41,105	272	$12,349,810	$45,404
Parry Sound District	425	$10,388,595	$24,444	338	$11,155,989	$33,006

Source: Statistics Canada, 1996, 2006.

In examining the distribution of farm operating expenses by expense category we find that 22% ($9.2 million) of total operating expenses in the Blue Sky Region were tied to livestock expenses in 2005 while wages and salaries accounted for at least 10% ($4.1 million) of the total farm operating expenses. In 2005, fuel expenses accounted for 8.5% ($3.5 million) of the total operating expenses and farm equipment repairs and maintenance accounted for 7% ($2.9 million) of the total farm operating expenses (Table 5.19). Wage related expenses appear to account for a smaller proportion of total farm operating expenses in the Blue Sky Region compared to northern Ontario as a whole and the province (10% vs. 16% and 14%).

Table 5.19: Farm Operating Expenses by Expense Category for Blue Sky Region, Northern Ontario and Ontario, 1995 and 2005

	Total farms	Total farm business operating expenses	Total wages and salaries [a]	Total crop expenses [b]	Total livestock expenses [c]	Electricity, telephone and all other tele-communication services	All fuel expenses (diesel, gasoline, oil, wood, natural gas, etc.)	Repairs and maintenance to farm machinery, equipment and vehicles	Repairs and maintenance to farm buildings and fences	All other expenses (excluding depreciation and capital cost allowance) [d]
1995										
Ontario	67,520	$6,545,516,325	$870,427,370	$838,018,004	$1,980,903,395	$225,698,619	$315,267,700	$318,236,693	$162,405,947	$1,834,558,597
Northern Ontario Region	2,915	$133,749,010	$19,298,274	$10,442,810	$33,977,279	$7,343,404	$8,923,979	$9,139,471	$4,508,504	$40,115,289
Blue Sky Region	1,031	$34,522,294	$4,602,849	$2,658,898	$8,684,804	$2,126,475	$2,192,098	$2,301,451	$1,201,995	$10,753,724
Greater Sudbury	172	$6,800,190	$1,395,888	$1,120,700	$741,181	$335,237	$415,938	$420,747	$217,358	$2,153,141
Sudbury District	135	$5,043,093	$572,847	$284,371	$1,592,075	$323,874	$336,243	$342,638	$151,653	$1,439,392
Nipissing District	299	$12,290,416	$1,356,353	$651,465	$3,388,040	$783,455	$749,008	$879,995	$429,973	$4,052,127
Parry Sound District	425	$10,388,595	$1,277,761	$602,362	$2,963,508	$683,909	$690,909	$658,071	$403,011	$3,109,064
2005										
Ontario	57,211	$8,843,882,426	$1,269,812,144	$1,197,628,533	$2,362,356,671	$269,542,496	$582,869,778	$426,417,721	$211,320,305	$2,523,934,778
Northern Ontario Region	2,479	$151,879,475	$24,490,985	$14,877,218	$29,852,551	$7,555,681	$13,928,483	$10,973,703	$5,355,841	$44,845,013
Blue Sky Region	864	$41,008,633	NA	NA	$9,210,180	$2,209,415	$3,520,186	$2,994,039	$1,448,824	NA
Greater Sudbury	160	$8,918,528	$1,737,199	$1,023,415	$956,915	$463,216	$921,450	$628,860	$303,951	$2,883,522
Sudbury District	94	$8,584,306	NA	NA	$1,311,188	$400,438	$698,348	$547,149	$272,939	NA
Nipissing District	272	$12,349,810	$1,141,979	$1,069,254	$2,669,738	$702,142	$988,092	$961,419	$478,220	$4,338,966
Parry Sound District	338	$11,155,989	$1,353,163	NA	$4,272,339	$643,619	$912,296	$856,611	$393,714	NA

[a] Wages includes wages and salaries paid to family members
[b] Crop expenses includes fertilizer and lime, seed and plant purchases, herbicides, pesticides, etc.
[c] Livestock expenses includes feed purchases (including feed purchases from other farmers), livestock and poultry purchases, veterinary services, etc.
[d] Other expenses includes rental and leasing of farm machinery, equipment and vehicles; rental and leasing of land and buildings; custom work and contract work; and other expenses. It excludes depreciation and capital cost allowance.
Source: Statistics Canada, 1996, 2006.

In 2005, total net farm revenue in the Blue Sky Region amounted to $2.9 million. The average net revenue per farm in the Region in 2005 was $3,417 which is considerably lower than the average for northern Ontario and Ontario as a whole (Table 5.20). All of the Districts in the Blue Sky Region with the exception of Parry Sound District reported positive total net farm revenues. The average net revenue per farm in Sudbury District amounted to $19,982 in 2005, almost double the northern Ontario average.

Table 5.20: Total Net Farm Revenue and Net Revenue per Farm in Blue Sky Region, Northern Ontario and Ontario, 1995 and 2005

	Total number of farms	Total gross farm receipts	Total farm expenses	Total net farm revenue	Net revenue per farm
1995					
Ontario	67,520	$7,778,476,483	$6,545,516,325	$1,232,960,158	$18,261
Northern Ontario Region	2,915	$151,786,040	$133,749,010	$18,037,030	$6,188
Blue Sky Region	1,031	$37,109,615	$34,522,294	$2,587,321	$2,510
Greater Sudbury	172	$7,123,006	$6,800,190	$322,816	$1,877
Sudbury District	135	$5,810,913	$5,043,093	$767,820	$5,688
Nipissing District	299	$13,937,713	$12,290,416	$1,647,297	$5,509
Parry Sound District	425	$10,237,983	$10,388,595	-$150,612	-$354
2005					
Ontario	57,211	$10,342,031,229	$8,843,882,426	$1,498,148,803	$26,186
Northern Ontario Region	2,479	$179,177,281	$151,879,475	$27,297,806	$11,012
Blue Sky Region	864	$43,961,140	$41,008,633	$2,952,507	$3,417
Greater Sudbury	160	$9,576,636	$8,918,528	$658,108	$4,113
Sudbury District	94	$10,462,602	$8,584,306	$1,878,296	$19,982
Nipissing District	272	$12,777,360	$12,349,810	$427,550	$1,572
Parry Sound District	338	$11,144,542	$11,155,989	-$11,447	-$34

Source: Statistics Canada, 1996, 2006.

5.11 Agriculture Value Added

Value added is the unique business contribution to value for the sector being reviewed. It is the net of value added counted previously for components that are inputs to the sector.

One way to calculate value added in agriculture is to take the gross farm receipts and subtract operating expenses (except wages, interest, rent and property taxes) (Wolfe, Statistics Canada 1999). Total gross margin (the profit) is also included in value added. Total gross margin is the gross farm receipts minus operating expenses. These last items are not subtracted because they represent the value of labour and capital added to the original "inputs" into the commodity.

Each step in the value-added chain uses capital and labour to create employment. Consequently, the more "value" that is added to a product before final sale or export, the better it is for the economy, provided, of course, that demand is there. Adding value to a product is often translated into job creation and is viewed as essential to a flourishing economy. Farms can also have a negative value added when the amount spent on items other than labour and capital exceed the amount they receive in gross farm receipts.

The measure of value added can differ depending on the farm type. With an average of 60 cents of value added per dollar of gross farm receipts, tobacco farms have the highest share (i.e. they use the most labour and capital but fewer inputs) among all farm types, while beef farms rank last (21 cents) (Wolfe, Statistics Canada 1999). When comparing the value added for every dollar in gross farm receipts between beef farms and dairy farms for example, the value-added figures are very different. Producing cattle for slaughter usually requires less capital and labour. In contrast, dairy farms are far more labour and capital (equipment and machinery) intensive. On dairy farms, labour and expensive milking equipment are essential. Another major difference between beef and dairy operations is that beef operations work in an open market, whereas dairy operators work within a supply management system which controls production and price levels.

Farms in the Blue Sky Region produce a variety of goods such as grains, livestock, and dairy products. Because labour and other agricultural and non-agricultural goods such as seed, forage, fertilizer and technology are required to produce these goods, farming makes a considerable contribution to the total value added in the Region.

As shown in Table 5.21, the total value added component for agriculture in Greater Sudbury amounted to $3.2 million in 2005. This translates into 33 cents of value added per dollar of gross farm receipts.

The total value added component for agriculture in Nipissing District amounted to $3 million in 2005. This translates into 24 cents of value added per dollar of gross farm receipts.

The total value added component for agriculture in Parry Sound District amounted to $2 million in 2005. This translates into 18 cents of value added per dollar of gross farm receipts.

The average value added component per farm associated with farms in the Greater Sudbury area is much lower than the provincial average ($20,030 per farm vs. $63,631 per farm) but close to the average for northern Ontario farms ($26,619 per farm).

Table 5.21: Value Added Agriculture in Blue Sky Region, Northern Ontario and Ontario, 1995-2005

	Total farms	Total gross farm receipts	Total farm operating expenses [a]	Total agriculture value added [b]	Value added per farm
1995					
Ontario	67,520	$7,778,476,483	$5,042,199,846	$2,736,276,637	$40,525
Northern Ontario Region	2,915	$151,786,040	$101,698,083	$50,087,957	$17,183
Blue Sky Region	1,031	$37,109,615	$26,310,117	$10,799,498	$10,475
Greater Sudbury	172	$7,123,006	$4,667,833	$2,455,173	$14,274
Sudbury District	135	$5,810,913	$4,028,541	$1,782,372	$13,203
Nipissing District	299	$13,937,713	$9,350,464	$4,587,249	$15,342
Parry Sound District	425	$10,237,983	$8,263,279	$1,974,704	$4,646
2005					
Ontario	57,211	$10,342,031,229	$6,701,651,827	$3,640,379,402	$63,631
Northern Ontario Region	2,479	$179,177,281	$113,188,265	$65,989,016	$26,619
Blue Sky Region	864	$43,961,140	NA	NA	NA
Greater Sudbury	160	$9,576,636	$6,371,886	$3,204,750	$20,030
Sudbury District	94	$10,462,602	NA	NA	NA
Nipissing District	272	$12,777,360	$9,716,097	$3,061,263	$11,255
Parry Sound District	338	$11,144,542	$9,138,901	$2,005,641	$5,934

N/A denotes that too few farms have reported data to ensure confidentiality.
[a] Total farm operating expenses excluding wages, interest, rent and property taxes.
[b] Total Agriculture value added = (Total farm receipts – Total farm operating expenses excluding wages, interest, rent and property taxes).
Adapted from Statistics Canada, 1996, 2006.

5.12 Farm Capital

In 2005, the Blue Sky Region reported $352 million in total farm capital, which represents about 27% of the northern Ontario total (Table 5.22). Within the Region, Parry Sound District and Nipissing District combined account for 70% of the total farms and 69% of the total farm capital.

The average farm capital value for farms in the Blue Sky Region in 2005 was $408,053 which is about $100,000 less than the average for northern Ontario ($509,793) and less than half the value of the provincial average of $1.1 million.

Within the Region, the average farm capital value ranged from $395,633 in Parry Sound District to $446,794 in Sudbury District in 2005. The concentration of livestock in certain parts of the Region such as the dairy sector in Sudbury District is a major factor influencing the high average farm capital values. The cost of modern livestock facilities can easily exceed half a million dollars. In the dairy sector, milk parlors alone range in cost from $100,000 to $300,000 depending on the size of the herd and the type of automated equipment (Hyde et al., 2002. p.4).

Table 5.22: Total Farm Capital for Blue Sky Region, Northern Ontario and Ontario, 1995 and 2005

	Total farms	Total farm capital - Market value [a]	Farm capital per farm	Number of farms reporting by total farm capital category						
				Under $100,000	$100,000 to $199,999	$200,000 to $349,999	$350,000 to $499,999	$500,000 to $999,999	$1,000,000 to $1,499,999	$1,500,000 and over
1995										
Ontario	67,520	$40,860,936,035	$605,168	3,756	11,151	17,962	10,770	14,857	4,530	4,494
Northern Ontario Region	2,915	$1,022,746,952	$350,857	370	784	850	379	394	81	57
Blue Sky Region	1,031	$298,990,280	$290,000	138	320	332	124	95	11	11
Greater Sudbury	172	$49,239,505	$286,276	26	50	56	19	17	3	1
Sudbury District	135	$37,441,674	$277,346	19	35	47	21	10	2	1
Nipissing District	299	$96,886,077	$324,034	35	73	100	47	39	3	2
Parry Sound District	425	$115,423,024	$271,584	58	162	129	37	29	3	7
2006										
Ontario	57,211	$65,336,796,501	$1,142,032	945	3,281	9,736	9,122	16,803	6,767	10,557
Northern Ontario Region	2,479	$1,263,776,707	$509,793	114	444	699	439	533	149	101
Blue Sky Region	864	$352,557,973	$408,053	38	161	305	147	170	32	11
Greater Sudbury	160	$67,291,339	$420,571	12	33	57	26	23	5	4
Sudbury District	94	$41,998,677	$446,794	4	19	26	16	24	4	1
Nipissing District	272	$109,543,871	$402,735	8	49	97	43	60	13	2
Parry Sound District	338	$133,724,086	$395,633	14	60	125	62	63	10	4

[a] Farm capital includes the value of farm machinery, livestock and poultry, and land and buildings.
Source: Statistics Canada, 1996, 2006.

5.13 Farm Operator Characteristics

In 2006, the Blue Sky Region reported a total of 1,275 farm operators, down from 1,495 operators in 1996 (Table 5.23).[24] In 2006, 65% of all farm operators in the Region were male and 35% were female. This compares to 69% males vs. 31% females for northern Ontario as a whole and 71% males vs. 29% females for the province. Over the 10 year period between 1996 and 2006, the proportion of female farm operators in the Region increased from 30% to 35%.

In 2006, the average age of farm operators in the Blue Sky Region ranged from 52 years in Nipissing District to 56 years in Parry Sound District.

Table 5.23: Characteristics of Farm Operators – Gender and Age, 1996-2006

	Total number of operators	Gender		Age Category			Average age of operators (yrs)
		# of male operators	# of female operators	Under 35 years	35 to 54 years	55 years and over	
1996							
Ontario	96,940	71,050	25,895	13,835	49,000	34,105	49
Northern Ontario Region	4,180	3,010	1,170	575	2,190	1,415	49
Blue Sky Region	1,495	1,030	450	165	815	515	NA
Greater Sudbury	255	175	80	20	155	75	49
Sudbury District	190	125	50	25	105	60	49
Nipissing District	445	305	140	60	250	140	48
Parry Sound District	605	425	180	60	305	240	52
2006							
Ontario	82,410	58,875	23,530	7,070	40,280	35,065	53
Northern Ontario Region	3,570	2,470	1,095	270	1,755	1,540	53
Blue Sky Region	1,275	835	440	75	620	585	NA
Greater Sudbury	245	160	85	15	120	105	53
Sudbury District	150	90	50	10	80	60	53
Nipissing District	395	255	145	30	215	155	52
Parry Sound District	485	330	160	20	205	265	56

Source: Statistics Canada, 1996, 2006.

Table 5.24 provides data on the types and number of farm operation arrangements in the Blue Sky Region, northern Ontario and Ontario between 1996 and 2006. The majority of farms in the Region, northern Ontario and Ontario continue to be managed

[24] In 1996 and 2006, "farm operators" was defined as those persons responsible for the day-to-day management decisions made in the operation of a census farm or agricultural operation. Up to three farm operators could be reported per farm. Prior to the 1991 Census of Agriculture, the farm operator referred to only one person responsible for the day-to-day decisions made in running an agricultural operation.

under a sole proprietor operating arrangement. In the Blue Sky Region, sole proprietorship type farms account for 66% of all farms which is higher than the provincial average (56%) but comparable to the northern Ontario average (63%).

There was only a small change in the percentage of farms managed under a sole proprietorship arrangement in the Region between 1996 and 2006. Additional details on farm operation arrangements are presented in Table 5.24.

Table 5.24: Farm Operating Arrangements for Blue Sky Region, Northern Ontario and Ontario, 1996-2006

	Number of farms	Operating Arrangement					
		Sole proprietor-ship [a]	Partnership with no written agreement [b]	Partnership with a written agreement	Family corporation [c]	Non-family corporation [d]	Other (institution, community pasture, etc.)
1996							
Ontario	67,520	38,465	15,242	5,834	6,972	937	70
Northern Ontario Region	2,915	1,820	616	223	210	41	5
Blue Sky Region	1,031	675	221	56	57	20	2
Greater Sudbury	172	110	37	6	11	7	1
Sudbury District	135	92	24	5	11	3	0
Nipissing District	299	187	58	30	18	6	0
Parry Sound District	425	286	102	15	17	4	1
2006							
Ontario	57,211	31,755	13,953	3,178	7,538	733	54
Northern Ontario Region	2,479	1,566	599	104	166	36	8
Blue Sky Region	864	571	218	21	42	12	0
Greater Sudbury	160	108	34	0	14	4	0
Sudbury District	94	62	20	3	7	2	0
Nipissing District	272	167	78	15	7	5	0
Parry Sound District	338	234	86	3	14	1	0

[a] Sole proprietorship operation: an agricultural operation where one person owns the non-incorporated business. The person who owns the business may or may not own the land, buildings, machinery, etc. There may be multiple operators (persons responsible for the day-to-day management decisions) such as husband and wife, father and son.
[b] Partnership with or without a written agreement: an agricultural operation where the business is owned and operated jointly by two or more persons with or without a written agreement and where risks and profits are shared.
[c] Family corporation: an agricultural corp. in which an individual or family owns the majority of the shares.
[d] Non-family corporation: an agricultural corp. in which a group of unrelated individuals owns the majority shares.
Source: Statistics Canada, 1996, 2006.

Agriculture has experienced significant structural change over recent decades as farm size, intensity, capitalization and specialization have dramatically moved from traditional to industrial configurations. Agricultural restructuring refers to the adjustments that the farm community has made in order to cope with the changing and demanding economic, technological and market environments that have developed in the post-war period. Adjustments are made at the farm level as operators attempt to remain profitable (Parsons, 1999. p. 345).

One of the more notable farm changes occurring with restructuring is the fact that many farm operators have taken off-farm work to supplement the inadequate returns they receive from commodities to cover the costs of their farm expenses (Statistics Canada, The Daily: Farmers Leaving the Field, Feb. 22, 2002).

At the national level, the 2006 Census of Agriculture revealed that younger farm operators and operators with a university degree were more likely to be engaged in off-farm work, as were male operators compared with female operators. The level of gross farm revenue was also a factor in off farm work as operators with lower farm revenues were more engaged in off-farm work categories (Statistics Canada, The Daily: Off Farm Work by Farmers, March 9, 2009).

As shown in Table 5.25, 705 of the 1,275 farm operators (55%) in the Blue Sky Region reported working off the farm in 2005. This is fairly comparable to the percentage reported for the northern Ontario region (54%) and Ontario as a whole (50%). Within the Region, the percentage of farm operators working off the farm in 2005 ranged from 46% in Sudbury District to 58% in Parry Sound District.

Between 1995 and 2005 the proportion of Blue Sky Region farm operators working off the farm increased from 33% to 55%. The increased involvement in off-farm jobs is a consistent trend for farm operators across Ontario.

Table 5.25: Number of Farm Operators by Hours of Farm and Non-farm Work, for Blue Sky Region, Northern Ontario and Ontario, 1995-2005

	Total operators	Hours per week spent working for the agricultural operation			Hours per week of paid work (not related to the agricultural operation)			
		Less than 20	20 to 40	More than 40	None	Less than 20	20 to 40	More than 40
1995								
Ontario	96,940	27,565	25,490	43,885	66,105	6,575	13,300	10,960
Northern Ontario Region	4,180	1,270	1,215	1,695	2,665	320	660	535
Blue Sky Region	1,495	510	445	540	990	95	245	160
Greater Sudbury	255	105	70	80	165	25	45	25
Sudbury District	190	50	70	75	125	0	35	20
Nipissing District	445	130	130	185	295	35	65	50
Parry Sound District	605	225	175	200	405	35	100	65
2005								
Ontario	82,410	24,480	22,400	35,520	41,550	7,325	15,205	18,320
Northern Ontario Region	3,570	1,050	1,075	1,445	1,655	370	760	790
Blue Sky Region	1,275	410	415	450	575	105	310	290
Greater Sudbury	245	90	70	75	100	20	60	55
Sudbury District	150	35	50	70	80	0	30	40
Nipissing District	395	125	130	150	185	35	95	90
Parry Sound District	485	160	165	155	210	50	125	105

Source: Statistics Canada, 1996, 2006.

5.14 Blue Sky Region Districts Compared to Other Northern Ontario Districts

Table 5.26 provides an overview of farm characteristics for the 11 Districts in northern Ontario.

In 2005, Nipissing and Sudbury were the 5th and 6th top ranking Districts in northern Ontario in terms of total gross farm receipts and Sudbury ranked 3rd in terms of average net revenue per farm.

Collectively, the four Districts that make up the Blue Sky Region have more farmland than any single District in northern Ontario and the second largest area of farmland in crop production after Temiskaming District. The Blue Sky Region also has the second highest amount of total gross farm receipts after Temiskaming District.

Table 5.26: Agricultural Characteristics for Northern Ontario Districts, 2006 – Ranked by Total Gross Farm Receipts

	Total number of farms	Total number of operators	Average age of operators	Total area of workable and non-workable land (acres) [d]	Land in crops (acres)	% of farmland in crops	Average farm size (acres)	Total gross farm receipts (2005)	Total farm operating expenses (2005)	Net revenue per farm (2005)	Net revenue per acre farmland (2005)
Ontario	57,211	82,410	53	13,310,216	9,046,383	68%	233	$10,342,031,229	$8,843,882,426	$26,186	$113
Northern Ontario Region	2,479	3,570	53	1,022,060	380,186	37%	412	$179,177,281	$151,879,475	$11,012	$27
Northern Ontario Districts											
Temiskaming	471	700	51	205,800	114,118	55%	437	$49,834,957	$40,032,383	$20,812	$48
Thunder Bay	252	375	51	61,850	29,420	48%	245	$32,305,551	$24,575,742	$30,674	$125
Algoma	335	480	54	95,814	38,292	40%	286	$20,095,138	$17,581,358	$7,504	$26
Rainy River	312	420	52	211,625	59,374	28%	678	$13,152,226	$12,701,240	$1,445	$2
Nipissing	***272***	***395***	***52***	***83,747***	***35,411***	***42%***	***308***	***$12,777,360***	***$12,349,810***	***$1,572***	***$5***
Sudbury [a]	***143***	***205***	***53***	***50,799***	***18,411***	***36%***	***355***	***$12,611,432***	***$10,363,532***	***$15,720***	***$44***
Manitoulin	258	345	56	178,144	34,279	19%	690	$12,150,387	$10,277,410	$7,260	$11
Cochrane	184	270	55	75,236	28,437	38%	409	$11,195,641	$10,426,510	$4,180	$10
Parry Sound [b]	***338***	***485***	***56***	***82,617***	***22,625***	***27%***	***244***	***$11,144,542***	***$11,155,989***	***-$34***	***$0***
Greater Sudbury	***160***	***245***	***53***	***22,892***	***8,667***	***38%***	***143***	***$9,576,636***	***$8,918,528***	***$4,113***	***$29***
Kenora	92	130	54	36,153	13,777	38%	393	$5,477,953	$4,652,962	$8,967	$23
Blue Sky Region [c]	***864***	***1,275***	***NA***	***221,654***	***79,499***	***36%***	***257***	***$43,961,140***	***$41,008,633***	***$3,417***	***$13***

[a] Including Sables-Spanish Rivers.
[b] Parry Sound District is not part of the Northern Ontario Agricultural Region as defined by Statistics Canada but is included as part of this study to be consistent with previous agri-economic impact research in northeastern Ontario.
[c] Blue Sky Region includes Nipissing District, Parry Sound District, Sudbury District (excluding Sables-Spanish Rivers) and Greater Sudbury.
[d] Workable land includes all arable or cleared lands including area in hay, crops, summer fallow, and tame or seeded pasture land. Non-workable land includes woodlots (sugar bushes, tree windbreaks, and bush that is not used for grazing), natural pastureland, wetlands, ponds, bogs, sloughs, etc., barnyards, lanes, etc., and land on which farm buildings are located.
Source: Statistics Canada 2006.

5.15 Agri-Sector Stakeholder Review of the Census Data

A small group discussion and review of the 2006 Census data was conducted with six agri-sector stakeholders from the Blue Sky Region in October 2009. Stakeholders participating in the session included representatives from a variety of sectors including dairy, beef and sheep and lambs. The OFA Member Service Representative for the region also participated in the session.

The following key points were raised by the agri-sector stakeholders:

- Agri-sector stakeholders attribute the growth of the population in Parry Sound District to the increased retirement and cottager population.

- Agri-sector stakeholders confirmed that there have been substantial job losses in the local forestry sector since 2006.

- Agri-sector stakeholders confirmed that farm operators are increasingly working more hours off the farm and transitioning from full time farmers to part time farmers. It was suggested that well over 60% of the farm operators in the Region are now working off of the farm to supplement their farm income.

- Agri-sector stakeholders suggested that the number of farms reported by the Census is high relative to the number of Ontario Federation of Agriculture members in the Region. Furthermore, the number seems high even allowing for local members of the Christian Farmers Federation of Ontario. It was suggested that horse operations and other small scale farm operations could be responsible for the higher than expected number of farms.

- Agri-sector stakeholders reported that the number of dairy farms in the Region has dropped from 41 farms in 2006 to about 30 farms in 2009. With respect to beef production, it was suggested that the number of beef farms dropped from 192 farms in 2006 to about 170 farms in 2009. It was reported that the number of sheep farms has likely increased to as many as 20 farms since 2006 while the number of goat operations has likely dropped off since 2006. Agri-sector stakeholders also suggested that the number of farm raised deer, elk and bison in the Region are likely down since the 2006 Census. It was also reported that the horse population in the Region has increased substantially since 2006.

- Agri-sector stakeholders noted that the decline in farmland acreage reported in the Region is likely a reporting issue in that some farmers are no longer reporting on land that is idle. It was reported that some of the land that has gone out of use is potentially very productive while other areas of farmland is very marginal. It was emphasized that tile drainage is key to maximizing farmland productivity in the area. As noted by one stakeholder, some land is being brought back into production but it is not keeping pace with the area of land that is going out of production.

- Agri-sector stakeholders confirmed that the area of farmland in crop production in the region is increasing in part because of the grain elevator that was established in Verner. Agri-sector stakeholders indicated that the acreage reported in tame or seeded pasture seems large and could be a reporting error.

- Agri-sector stakeholders suggested that the value of total gross farm receipts for the Region has likely declined since 2006, in part because of the loss of dairy farms in the Region.

5.16 Summary of Agriculture Characteristics

Key characteristics of the agriculture sector in the Blue Sky Region:

- The overall number of farms in the Region declined from 955 to 864 between 2001 and 2006 which is a consistent with an ongoing trend found in the large majority of Ontario counties/districts. Greater Sudbury was one of the few areas of the province where the number of farms increased slightly between 2001 and 2006.[25]

- Since 1996, the average farm size in the Blue Sky Region increased from 240 acres to 257 acres. The increase in farm size is consistent with a general trend across the province and is linked to farm consolidation.

    - The average farm size in the Region (257 acres) is slightly larger than the provincial average (233 acres) but much smaller than the average for northern Ontario (412 acres).

    - Within the Blue Sky Region there is considerable variation in average farm size. On average, farms in Sudbury District are the largest at 345 acres while farms in Greater Sudbury are the smallest at 143 acres.

- Blue Sky Region reported a total of 221,654 acres of farmland in 2006, down from 247,225 acres in 1996. Historically, the Districts that make up the Blue Sky Region reported a much larger area of farmland. For example, in 1961 Nipissing District and Parry Sound District reported about 200,000 and 250,000 acres of farmland respectively.

    - The climate and soil conditions in the region allow for the production of a variety of field crops including barley, wheat, oats, mixed grains, corn, canola, soybeans, and hay crops.

    - Approximately 79,500 acres or 36% of the total farmland base in the Region was used for crop production in 2006 and the area in crop production is increasing.

[25] Thunder Bay District is another area of northern Ontario where the number of farms actually increased between 2001 and 2006. The reversal in declining farm numbers is partly attributed to the growing interest in producing agricultural products for the local market.

Historically, the Region reported a much larger area of farmland in crop production. For example, in 1961 Nipissing District and Parry Sound District reported about 53,000 and 140,000 acres of farmland in crop production respectively which suggests that there is considerable potential for expanding crop production in the region, especially with the use of tile drainage.

- The major farm production activities in the Region include hay/fodder production (38% of the farms are primarily engaged in this activity), beef production (22%), dairy production (5%), greenhouse, nursery or floriculture production (5%), and other types of animals including horses, bison, deer/elk, sheep, goats (19%).

- The number of farms reporting organic production in the Region grew considerably between 2001 and 2006. In 2006, a total of 114 farms reported that they produced organic products (including fruits, vegetables and animal and/or animal products) compared to only 5 farms in 2001.

- Given the soil and climate limitations in the area, the Blue Sky Region has a very productive agricultural sector. In 2005, the Region reported $43.9 million in total gross farm receipts.

- Between 2001 and 2006, the number of jobs directly supported by agriculture in the Region declined from 1,255 to 860. However, farmers in the Region are increasingly working off the farm and it is possible that some of the farming activity in the region is being underreported.

- Between 1995 and 2005 the proportion of farm operators working off the farm in the Region increased from 33% to 55%. The increase in off-farm employment activity is a consistent trend for farm operators across Ontario.

- The non timber forest product sector is growing in importance but is not captured in the Census data.[26]

- The economic contribution being made by First Nation communities is important even though much of this activity is not reflected in the Census data.

[26] Non timber forest products (NTFP) encompass all biological materials, other than timber, which are extracted from forests for human use. Examples include forest product fuels, resins, gums, essential oils, hemp, plant fibres for construction products, forest foods (wild berries, wild mushrooms, herbal tea plants, etc.), and floral, foliage and branch products (e.g. used in the manufacture of craft products). Estimating the contribution of NTFPs to national, regional and even local economies is challenging given the lack of broad-based systems for tracking the combined value of the hundreds of products that make up the various NTFP industries (McLain and Jones, 2005. p.1). In 2006, the total value of the NTFP forest bio-products industry to Canada's economy was estimated at close to $1 billion (Natural Resources Canada, April 2009).

6.0 Agri-Tourism, Agricultural Fairs, and Farmers' Markets

6.1 Agri-Tourism / Entertainment

Agri-tourism is increasingly recognized as an important alternative farming activity that diversifies the economic base and provides educational opportunities to local residents and tourists.[27] In Ontario, agri-tourism activities typically combine travel to a rural setting and feature agricultural products (e.g. pick your own enterprises, road side stands, on-farm retail stores selling fresh produce and/or farm products) and/or activities (e.g. on-farm recreation/entertainment, harvest festivals, agricultural heritage museums, farm tours, and farm based bed and breakfast accommodation).

Studies at the provincial level in Canada provide important information about the economic contribution of agri-tourism/entertainment activities. For example, the agri-tourism sector in British Columbia employed 4,400 people in 2003 (of which 23% were full time year round positions) and the average agri-tourism operator generated revenue of $98,000 (Organization for Economic Co-operation and Development, 2009). Research completed in the United States has also shown that agri-tourism can be an important component of the local/regional agricultural industry and provide a substantial source of revenue for farmers (Leones, Dunn, Worden and Call, 1994; Allen, Gabe and McConnon, 2006).

The Blue Region features a variety of agri-tourism/entertainment activities and destinations. Some examples of the attractions include:

- The annual Powassan Maple Syrup Festival occurs in April and features Pancake Breakfasts, a full day of food, live music, crafts, and family events.
- Matthews Maple Syrup in Powassan (Parry Sound District) has been producing and selling maple syrup and maple syrup products since 1980. The production facilities on the farm are federally inspected, and licensed to export maple syrup. Matthews Maple Syrup is a Seal of Quality Producer.
- Board's Honey Farm in Restoule (Parry Sound District) has been producing and selling honey and honey products since 1974. The farm also features educational programs and tours.
- Becker's Berry Patch in village of Nipissing (Parry Sound District) is a family operated pick-your-own strawberry farm that was established in 1985. The farm grows about four different varieties of strawberries on 10-12 acres. The farm also sells ready picked strawberries.
- Commanda Country Gardens is located just outside the community of Commanda (Parry Sound District). The family farm was established in the early 1880's and currently produces perennial plants for sales from around the world. Plants are grown from their own collected seed, cuttings, and divisions and are guaranteed to be winter hardy. Visitors are welcome to tour the many display gardens at the farm.

[27] Agri-tourism has its roots in the Italian term agritourismo - the concept of bringing urban residents to farming areas for recreation and to facilitate an understanding of the origin of their food. As small scale farming in Italy became less profitable starting in the 1950s, farmers began to incorporate tourism related activities in their operations to augment their income.

- Misty Haven Alpacas Yarn and Garment Shop in Corbeil (Nipissing District) raises alpacas and produces and sells a large variety of yarn, spinning fibres, and finished garments. Misty Haven Alpacas maintains a herd of quality Huacaya alpacas that are registered for sale of breeding stock to both Canada and the U.S.
- Leisure Farms in Sturgeon Falls (Nipissing District) features a variety of farm fresh produce including pick your own raspberries, sweet corn, and pumpkins. The farm also produces a variety of baked goods. The farm welcomes tour groups and features a picnic area, playground, wagon rides, and a corn and straw maze.
- Graywalk Buffalo Ranch in Noëlville (Sudbury District) raises grass fed buffalo and produces a variety of natural buffalo meat products. The ranch also offers trail riding.
- Guse Farm is located near Chelmsford. (Greater Sudbury) and features pick your own or ready picked raspberries.
- Ruby Berry Farm is located near Chelmsford (Greater Sudbury) and features pick your own or ready picked strawberries. The farm also produces and sells asparagus.
- Green Zone Farm is located near Chelmsford (Greater Sudbury) and raises grass fed red deer and elk and produces a variety of red and elk specialty meat products.
- Ferme Beaulieu Farms near Chelmsford (Greater Sudbury) produces and sells vegetables, fruits, and raspberries.
- Valley Veggies near Blezard Valley (Greater Sudbury) produces and sells a variety of vegetables.

Blue Sky Region also features a number of agricultural fairs/exhibitions and farmers' markets which are examined in greater detail below.

6.2 Agricultural Fairs

A recent study conducted by the Canadian Association of Fairs and Exhibitions (CAFE) revealed that agricultural fairs can provide significant economic and social benefits for communities. The study found that the average small fair in Canada (i.e. less than 50,000 visitors) has a $750,000 impact on the local economy and supports approximately 8 full-year positions (Enigma Research Corporation, 2009).[28]

The CAFE study also revealed that the majority of attendees at small fairs place a high value on learning about agriculture and 75% of attendees agree that education programs enhance the experience at the fair. This interest indicates that there are opportunities to partner with private and public sector stakeholders for promoting educational opportunities. The study also determined that the large majority of attendees (90%+) value fairs as an important tradition and major social gathering event (Enigma Research Corporation, 2009).

[28] The study involved a survey of 2,400 attendees at 6 small fairs across Canada: Abbotsford Agrifair (British Columbia), Carp Fair (Ontario), Expo Shawville (Quebec), Expo Brome Fair (Quebec), FREX Fredericton Exhibition (New Brunswick), Cape Breton County Exhibition (Nova Scotia).

As shown in Table 6.1, Blue Sky Region features numerous fairs/exhibitions.

Table 6.1: Agricultural Fairs in the Blue Sky Region (2009)

Name of Fair	Date (2009)	Website	Agricultural Features
Warren Fair	June 19-21	NA	Livestock show
Bonfield Fair	Aug. 14-16	http://sites.google.com/site/bonfield agriculturalsociety/	Horse shows
Dunchurch Fair	Aug. 21-22	NA	NA
Trout Creek Fair	Aug. 21-22	NA	Light horse show, vegetables
Emsdale Fair	Aug. 29	http://users.vianet.ca/emsdalag/	Light horse show, heavy horse pull, agricultural exhibits, youth horse/pony show, poultry judging, sheep, goats, swine, rabbit judging, Icelandic horses
Rosseau Fair	Aug. 29	NA	NA
Foley Fall Fair	Sept. 4-5	www.foleyagriculturalsociety.ca	English horse show
Magnetawan Fair	Sept. 4-5	NA	Livestock displays
Powassan Fall Fair	Sept. 5-6	NA	Heavy horse pull, light horse show, poultry, animal displays
Burks Falls Fair	Sept. 6-7	NA	English horse show, western and heavy horse shows, Horse pull, poultry
South River-Machar Fair	Sept. 11-12	NA	Western light horse, heavy horse show and pull, poultry barn, livestock displays
McKeller Fair	Sept. 12	NA	Livestock show, light and heavy horse shows
Strong Agricultural Fair	Sept. 18-20	http://strongagrisociety.tripod.com	Livestock displays, light horse games, agricultural exhibits

Source: Ontario Association of Agricultural Societies (www.ontariofairs.org/cms/) and the respective fair websites.

6.3 Farmers' Markets

Recent studies on farmers' markets indicate that they are experiencing a resurgence of popularity in Ontario and are playing an important role in the marketing of local agricultural products and generating farm income.

A 2008 study completed by Farmers' Markets Ontario (FMO) demonstrates the significant economic and social benefits that markets provide to communities.[29] In 2008, the total estimated economic impact of Ontario farmers markets was at least $641 million.[30] The study also determined that sales at Ontario farmers' markets are growing on an annual basis – between 1998 and 2008 the estimated compound annual growth in direct sales at farmers' markets was 7.3%.[31] Average in-market spending by customers at Ontario farmers' markets in 2008 amounted to $27.67 per visit; ranging from $21.99 at small markets to $33.94 at large markets (Experience Renewal Solutions Inc., Jan. 2009).[32]

Farmers' markets also play an important role in supporting and generating local employment. The 2008 FMO study determined that 55% of vendors reported the creation of up to 5 jobs as a result of their participation at the market (e.g. jobs linked to preparing products for the market, assisting the farmer/vendor at the market) (Experience Renewal Solutions Inc., Jan. 2009)

Part of the recent growth of farmers' markets can be attributed to consumer interest in fresh, in-season, locally produced foods. As found in the 2008 FMO study, close to 60% of Ontario market customers reported that fresh produce was their primary reason for visiting the market (Experience Renewal Solutions Inc., Jan. 2009).

[29] The Ontario Farmers' Market impact study was completed as part of the National Farmers' Market Impact Study that was conducted in the same 2008 period (July to October). The study was conducted by Experience Renewal Solutions Inc. on behalf of Farmers' Markets Ontario. A total of 70 farmers' markets participated in the National Study including 36 markets from Ontario. Over 1,800 shoppers were interviewed at the 36 Ontario markets. Only one market in northern Ontario, the Downtown Sudbury Farmers' Market, was represented in the study.

[30] Total farmers' market direct sales in Ontario in 2008 were estimated to be in the range of $421 million to $641 million. Based on a conservative multiplier of 1.5, markets in Ontario are estimated to contribute at least $641 million to the provincial economy, while a multiplier of 3.0 estimates that markets could be contributing as much as $1.9 billion to the provincial economy (Experience Renewal Solutions Inc., January 2009).

[31] The 1998 baseline study of farmers' markets involved 19 markets across Ontario including 3 markets in northern Ontario: Sudbury Farmers' Market, Timmins Country Market, and Clover Valley Farmers' Market (Fort Frances). The 1998 study determined that on a provincial average, customers spent just under $20 per visit to the market. Additionally, multipliers associated with agriculture and other special events like agricultural fairs, suggested that for every dollar spent in the market, another two dollars rippled through the provincial economy. These dollars were spent by the businesses that supply the farmers that sell goods in the market, the purchases of retail goods and services by employees in the market, and by customers who stopped to make other purchases while on a trip to the market (Cummings, Kora and Murray, 1999).

[32] Small markets are defined in the study as markets with fewer than 20 vendors while large markets have 40 or more vendors.

The local trend toward a greater preference for fresh food reflects a wider global trend. A recent survey conducted by Ipsos Marketing of approximately 1,000 consumers in 18 different countries found that fresh ingredients along with environmentally friendly packaging are growing priorities influencing food purchasing decisions (Canadian Broadcasting Corporation, June 12, 2009).

Consumers are also showing a greater interest in knowing where their food is produced and who is benefiting from their spending habits. A national survey by Ipsos Reid in 2006 revealed that 70% of Canadians recognize the importance of buying locally grown/produced fruits, vegetables, and meat to help the local economy and support family farmers and the majority of Canadians (56%) always or usually check to see where their fresh fruit and vegetables come from (Ipsos Reid, Dec. 1, 2006).[33]

The results from the 2008 FMO study support the above findings as almost 70% of Ontario farmers' market customers reported that buying directly from a local farmer was extremely important to them (Experience Renewal Solutions Inc., Jan. 2009).[34]

Beyond the economic benefits that farmers' markets generate, customers and vendors are also attracted by the social aspect and sense of community that the market promotes.

Some of the market challenges identified by Ontario market vendors in the 2008 FMO study include: providing a selection of fresh products while dealing with labour and cost of production issues, responding to consumer interest in year round product selection, and increasing pressures associated with meeting health and safety requirements/regulations (Experience Renewal Solutions Inc., Jan. 2009).

The 2008 FMO study also involved a survey of shoppers not using farmers' markets and determined that the key factors limiting their use of markets is convenience (e.g. location and/or time of operation) and lack of awareness issues. The FMO study concludes that "future growth (of the farmers' market) sector will require engaging non-users through increased awareness of benefits, locations, and product selection. Trial usage among non-users will be dependent on making local market hours and locations more accessible to time challenged, health conscious consumers." (Experience Renewal Solutions Inc., January 2009).

As shown in Table 6.2, the Blue Sky Region features at least six farmers' markets.

[33] The survey results are based on a random sample of 1,091 adult Canadians, weighted by region, age, and gender according to Census data. The results are considered accurate to within ± 3.0 percentage points, 19 times out of 20, of what they would have been had the entire adult population been polled.

[34] Consumer interest in locally produced foods is changing the way some food retail stores are operating in Ontario. In southwestern Ontario, a group of nine grocery stores recently ended their franchise arrangements with a large national grocery chain in order to stock fresh pork, chicken and beef products that are sourced no further than 60km away (Canadian Broadcasting Corporation, July 14, 2009). Additionally, six Safeway grocery stores in northwestern Ontario are starting to make locally grown food available on their shelves (Northern Ontario Business. June 22, 2009).

Table 6.2: Farmers' Markets in the Blue Sky Region

Name of Market (year established)	Community	Location / Operating Days & Hours	Operating Months	Approx. # of Vendors
Powassan Farmers' Market (1998)	Powassan	Main St. Sat. 9am to 1pm	May to Oct.	10-12
Magnetawan Farmers' Market (1989)	Magnetawan	Downtown at the 5 corners Sat. 10am to 1pm	June to Sept.	NA
Sudbury Farmers' Market (1988)	Sudbury	Market Square Sat. 8am to 3:30 pm Sun. 10am to 3:30 pm	June to Oct.	35
North Bay Downtown Farmers' Market (2002)	North Bay	200 McIntyre Street Sat. 8:30am to 1pm	May to Oct.	24
West Nipissing Farmers' Market (2002)	Sturgeon Falls	Corner of Queen Street and King Street Sat. 8am to 1:30pm	May to Oct.	10-20
Argyle Farmers' Market	Port Loring	Highway 522 Wed. 9am to 1pm	July and Aug.	NA

NA = not available.
Source: Farmers' Markets Ontario (www.farmersmarketsontario.com/Markets.cfm) and/or respective market or community websites.

The Eat Local Sudbury Co-operative also operates a retail space in downtown Sudbury where consumers can buy food from local farmers/producers (within a150 mile radius of Sudbury). Eat Local Sudbury is non-profit in nature and retail sales profits are re-invested into the co-op to pay for equipment, staff, and other overhead costs. The store operates Wednesday to Friday from 11am to 6pm and on Saturdays from 9am to 4pm.

7.0 Agricultural Related Businesses and Economic Impact

7.1 Introduction

An economic impact study of the agriculture sector in the Blue Sky Region was conducted in 2001-2002 and updated in 2004 (Cummings and Associates. 2004). The economic impact was measured through an accounting of the total sales and employment of Agriculture and Agriculture-related (agri-related) businesses located in the Region. This work involved an assessment of the direct, indirect and induced impacts of agriculture on the local economy. The methodology used in the 2001 study as outlined below was consistent with other agri-impact assessments completed across Ontario. An overview of the theory and applications associated with economic impact analysis is described in greater detail in Appendix C.

Direct Impacts

Direct impacts refer to the on-farm jobs and farm gate sales generated by the agriculture sector in the District. This information was obtained from the Population Census of Canada and the Agricultural Census.

Indirect Impacts

Indirect impacts refer to jobs and sales generated 'off the farm' by agri-related businesses which interact directly with farm operations through buying and selling products and services. 'Agri-related' includes only those businesses that buy from or sell to the farm business; sales to farm families for personal consumption (e.g. household goods and services) are excluded from the indirect impact assessment, but are examined as part of the induced impact component.

The research method used to measure the indirect impacts in the 2001-2002 study 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 by Dr. Harry Cummings 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 other areas of southern Ontario (1998 to 2003).

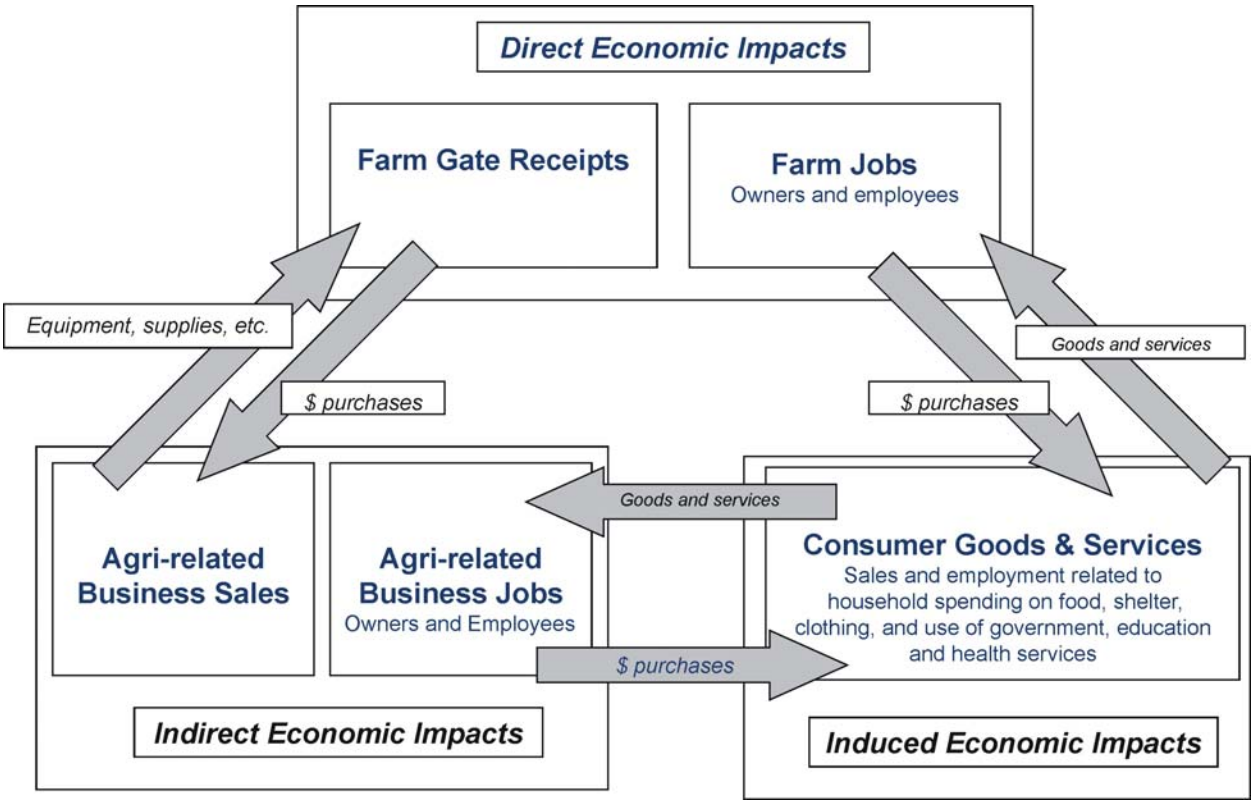
The methodology was designed to identify the value of gross sales and the jobs produced by a sample of agri-related businesses. From this sample, an estimate was produced for the total population of agriculture-related businesses in the Blue Sky Region. This in turn provided an estimate of the economic impact of agri-related businesses in the Region through indirect employment and sales.

Induced (Service Sector) Impacts

An examination of the induced effects of agriculture was conducted. Induced employment refers to jobs in the service sector, especially Education, Government, and Health and Social Service sectors that are supported by the people employed in the agricultural sector or in agri-related businesses that use the services provided by these three service industries. Population Census employment data for the agriculture and manufacturing sectors were compared to employment data for the three government service sectors noted above to estimate the number of induced jobs in the Blue Sky Region.

Figure 7.1 illustrates the relationship between direct, indirect and induced economic linkages.

Figure 7.1: Tracking the Economic Impacts of the Agriculture Sector



While Figure 7.1 is useful in understanding key linkages in the agriculture sector, it does not reflect the overall complexity of the system. The system is actually a multitude of interconnected loops between various sectors with each sector impacted by a host of inputs and outputs which in turn change the inputs and outputs of the other sectors in the system. The system is not a closed system, in addition to changes experienced within the Region the system is also impacted by changes occurring elsewhere in the

province, country and the world. Evidence of this can be seen in the effects of the world wide embargo that was placed on Canadian beef as the result of a single case of bovine spongiform encephalopathy (BSE or mad cow disease) in Alberta in 2003. The closure of markets to Canadian beef resulted in significant financial losses for cattle producers across Canada as well as the businesses that supported and depended on this production activity.

7.2 Overview of Findings from the 2002 Agri-Economic Impact Study

Direct Impacts

Based on the 2001 Census data that was available at the time of the earlier agri-economic impact study, the total number of direct on-farm jobs in the Blue Sky Region amounted to 1,250 while the value of total gross farm receipts in the Region amounted to $43.6 million.

Indirect Impacts

In 2002, a total of 253 agri-related businesses were identified in the Blue Sky Region. In order to obtain a high level of confidence in the results (90%+) a total of 152 businesses were surveyed by random selection. The 152 businesses represented 11 different industrial sectors including retail trade, wholesales trade, construction, manufacturing, finance and insurance, professional services and other services (Cummings and Associates. 2004. p. 82). The 2002 survey determined that 148 agri-related businesses had $113,273,100 in total gross sales in 2000 of which $24,929,935 or 22% of total gross sales were related to agriculture (p.77).

An estimate the total gross agri-related sales for all 253 agri-related businesses in the Blue Sky Region was then derived from the sample of 152 businesses. By dividing the total number of businesses (253) by the total number of businesses that provided sales data (148), a sampling multiplier of 1.7 (i.e. 253/148 = 1.7) was used to estimate the total gross agri-related sales in the Region. The estimated total gross agri-related sales for the 253 agri-related businesses amounted to approximately $42.6 million in 2000 (p. 78).

With respect to jobs, the 150 agri-related businesses that provided employment data had 1,021 full time equivalent (FTE) employees. The number of agri-related jobs was estimated by applying the percentage of sales that were identified as agri-related to the total employment number. This translated into 239 FTE jobs related to agriculture for the 150 businesses. An estimate the total agri-related jobs for all 253 agri-related businesses in the Region was then derived from the sample of 150 businesses. By dividing the total number of businesses (253) by the total number of businesses that provided job data (150), a sampling multiplier of 1.7 (i.e. 253/148 = 1.7) was used to estimate the total agri-related jobs in the Region. The estimated total agri-related jobs for the 253 agri-related businesses amounts to 404 FTE jobs (p.80).

Induced (Service Sector) Impacts

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 2002 study only the induced jobs were calculated.

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 and manufacturing) and service producing. The service component consists of public sector services (health and social services, education and government) and private sector services[35] (wholesale and retail trade, accommodation and restaurant, professional services, and finance and insurance related services). In this case we are trying to estimate what portion of the public sector workers are supported by agriculture and agri-related employment and expenditure. 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.

To make estimates of the induced jobs in the Blue Sky Region, a combination of three census subdivisions were examined. Powassan from Parry Sound District; West Nipissing from Nipissing District; and French River from Sudbury District were selected to represent the Blue Sky Region as they had the greatest direct agriculture employment numbers in each of the Districts in 2001. The total direct employment figure for the two primary production industries in the three census subdivisions, Agriculture and Manufacturing (315 and 830 respectively for a total of 1,145 jobs), was divided into the total number of jobs in the Health and Social Services, Education and Government sectors (1005, 500, and 615 respectively for a total of 2,120 jobs). This calculation indicates that for every job created in the two primary production industries, 1.9 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 (1,250 direct and 404 indirect jobs for a total of 1,654 jobs X 1.9), it indicates that 3,143 induced jobs are supported by the agriculture sector (p.92).

Total Economic Impact

As shown in Table 7.1, the 2002 study revealed that there were 1,250 direct, 404 indirect and 3,143 induced jobs sustained as a result of the agriculture sector in the Blue Sky Region. Thus, farm operations, businesses they buy from and sell to, and

[35] Estimates for the 'private sector services' were excluded 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.

services that support farmers and farm businesses, were estimated to support a total of 4,797 jobs.

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

In terms of dollars, the total direct sales associated with the agricultural sector amounted to $43.5 million (2000) while indirect sales associated with agri-related businesses amounted to $42.6 million (2000). In total, approximately $86.2 million in agri-related sales were generated in the Blue Sky Region in 2000. When the total sales figure is divided by the total agri-related sales figure we get a sales expenditure multiplier of approximately 2. This calculation allows us to estimate that for every dollar generated by direct agricultural sales (farm gate sales), an additional dollar in sales related to agriculture is also generated. Please note, these are gross agriculture-related sales and no attempt has been made to identify the "net value-added" component.

Table 7.1 Total Direct, Indirect and Induced Impacts of Agriculture in the Blue Sky Region, 2001

Impact	Sales	Jobs
Direct [a]	$43,599,614	1,250
Indirect	$42,672,862	404
Induced		3,143
Total	$86,272,476	4,797

a Direct values are taken from Statistics Canada, Population Census and Census of Agriculture 2001.
Source: Cummings and Associates, 2004.

7.3 Update to 2002 Agri-Economic Impact Findings

Direct

The direct economic impacts of agriculture in the Blue Sky Region were updated based on a review of 2006 Census data. In 2006, the agriculture sector in the Region directly supported 860 jobs and generated $43,961,140 in total gross farm receipts.

Indirect

The cost constraints of the current study did not allow for a survey of agri-related businesses to update the indirect economic impacts of agriculture in the Blue Sky Region. Instead, the researchers used three business activity scenarios to estimate a range of possible indirect agri-economic impacts in the Region.

In the first scenario we assumed that the amount of agri-related business activity in the Region remained largely unchanged since 2002. In other words, the agriculture sector

continues to indirectly sustain a total of 404 full time jobs and indirectly generates at least $42.6 million in agri-related sales in the local economy.

In the second scenario we assumed that the amount of agri-related business activity in the Region declined by 10% since 2002. In other words, the agriculture sector indirectly sustains a total 364 full time jobs and indirectly generates approximately $38.3 million in agri-related sales in the local economy.

In the third scenario we assumed that the amount of agri-related business activity in the Region increased by 10% since 2002. In other words, the agriculture sector indirectly sustains a total 444 full time jobs and indirectly generates approximately $46.9 million in agri-related sales in the local economy.

Induced (Service Sector) Impacts

Current estimates of the induced jobs in the Blue Sky Region were derived from the 2006 Population Census data and focused on three municipalities in the Region: Powassan in Parry Sound District, Bonfield in Nipissing District, and French River in Sudbury District.[36] These municipalities were selected to represent the Blue Sky Region as a whole as they each featured a substantial number of farm jobs in 2006. The total direct employment figure for the two primary production industries in the three municipalities, Agriculture and Manufacturing (245 and 430 respectively for a total of 675 jobs), was divided into the total number of jobs in the Health and Social Services, Education and Government sectors (495, 265 and 235 respectively for a total of 995 jobs).[37] This calculation indicates that for every job created in the two primary production industries, 1.5 induced jobs are supported in the three public service sectors.

When this number is applied to the total number of direct and indirect jobs related to agriculture in the Blue Sky Region (assuming no change in indirect jobs since 2002) it indicates that 1,897 induced jobs are supported by agriculture and agri-related businesses (860 direct and 404 indirect jobs for a total of 1,264 jobs X 1.5).

If we assume that the amount of agri-related business activity in the Region declined by 10% since 2002, the induced component would amount to 1,836 jobs (860 direct and 364 indirect jobs for a total of 1,224 jobs X 1.5). Alternatively, if we assume that the amount of agri-related business activity in the Region increased by 10% since 2002, the

[36] In the 2002 study West Nipissing in Nipissing District was used as part of the induced analysis. However, in reviewing the 2001 and 2006 Census data it was determined that West Nipissing has a very high concentration of public sector jobs and it was decided to substitute West Nipissing with Bonfield as part of the current analysis to provide a more conservative estimate of the induced impact.

[37] In 2006, the Town of Powassan reported 95 jobs in agriculture, 125 jobs in manufacturing, 250 jobs in health services, 175 jobs in educational services, and 55 jobs in public administration. In 2006, the Township of Bonfield reported 70 jobs in agriculture, 120 jobs in manufacturing, 160 jobs in health services, 50 jobs in educational services, and 105 jobs in public administration. In 2006, the Town of French River reported 80 jobs in agriculture, 185 jobs in manufacturing, 85 jobs in health services, 40 jobs in educational services, and 75 jobs in public administration (Statistics Canada, 2006).

induced component would amount to 1,956 jobs (860 direct and 444 indirect jobs for a total of 1,304 jobs X 1.5).

Total Economic Impact

As shown in Table 7.2, the agriculture sector in the Blue Sky Region currently sustains between 3,060 and 3,260 direct, indirect and induced jobs. When we take the total employment figure and divide it by the total number of direct agriculture jobs, we get a multiplier that ranges from 3.5 to 3.8. This calculation allows us to estimate that for every job in the agriculture sector approximately 2 to 3 additional jobs are supported in the wider economy.

In terms of dollars, we estimate that the agricultural sector in the Blue Sky Region generates between $82 million and $91 million in direct and indirect sales. When we take the total sales figure and divide it by the total amount of direct sales, we get a sales expenditure multiplier that ranges from 1.9 to 2.1. This calculation allows us to estimate that for every dollar generated by direct agricultural sales (farm gate sales), an additional $0.90 to $1.10 in sales related to agriculture is also generated. Please note, these are gross agriculture-related sales and no attempt has been made to identify the "net value-added" component.

Table 7.2 Total Direct, Indirect and Induced Impacts of Agriculture in the Blue Sky Region, 2006

Impact	Sales ($ million)	Jobs
Low Estimate		
Direct [a]	$43.9	860
Indirect	$38.3	364
Induced		1,836
Total	$82.2	3,060
Medium Estimate		
Direct [a]	$43.9	860
Indirect	$42.6	404
Induced		1,897
Total	$86.5	3,161
High Estimate		
Direct [a]	$43.9	860
Indirect	$46.9	444
Induced		1,956
Total	$90.8	3,260

[a] Direct values are taken from Statistics Canada, Population Census and Census of Agriculture 2006.

A number of factors suggest that the overall level of agri-related business activity in the Blue Sky Region has declined somewhat since 2002:

- The number of agricultural jobs in the Region declined substantially by 31% between 2001 (1,255 jobs) and 2006 (860 jobs) while the total value of gross farm receipts for the Region increased only slightly from $43.5 million to $43.9 million during the same period.
- Between 2001 and 2006 there were job losses or minimal job gains in some of industry sectors that have important linkages with the agriculture sector. Although the number of jobs in the wholesale trade sector increased by 965 jobs or 24% the number of jobs in the retail trade sector increased by only 20 jobs or 0.1% while the number of jobs in the manufacturing sector dropped by 425 jobs or 4%.
- The number of dairy farms in the Region is continuing to decline in the Region.
- Agri-sector stakeholders reported that some farmers are sourcing more of their farm supplies, materials, equipment, etc. from outside the Region (e.g. New Liskeard, southern Ontario, Quebec).

Accordingly, we suggest that a reasonable estimate of the current total contribution of agriculture to the economy of the Blue Sky Region is about 3,000 direct, indirect and induced jobs and approximately $82 million in direct and indirect sales.

8.0 Agriculture Sector Challenges and Opportunities

A focus group was conducted with six agriculture sector stakeholders from the Blue Sky Region on October 23, 2009. One objective of the focus group was to present information from the 2006 Census of Agriculture with the group of stakeholders and to identify any major changes/trends in the local agriculture sector since the 2006 Census (see section 5.15). The balance of the focus group was used to discuss challenges and opportunities related to the development of the agriculture sector. Stakeholders participating in the session included representatives from a variety of sectors including dairy, beef and sheep. The OFA Member Service Representative for the region also participated in the session.

The key findings from the consultation with agri-sector stakeholders are presented below.

Agri-related Business

Agri-sector stakeholders reported that some farmers are sourcing more of their farm supplies, materials, equipment, etc. from outside the Region (e.g. New Liskeard, southern Ontario, Quebec). The reason for sourcing farm materials from outside the Region is linked to a number of factors including cost, availability and convenience. It was noted that some businesses have shifted their focus from dairy, beef and other livestock sectors to supplying the growing horse sector. It was also noted that the farm equipment dealers have expanded their trade in small horsepower tractors and small scale implements but it is becoming increasingly difficult to purchase large implements from local dealers.

Agri-sector stakeholders noted that many farmers in the region rely on agricultural consultant from southern Ontario as there are very limited local options. Agri-sector stakeholders also stressed that there are a lack of services to help young people start or enter into a farm business.

Agri-sector stakeholders recognize the economic importance of livestock producers in the Region, especially dairy and beef producers as these businesses rely on a variety of agri-related business services including feed services, livestock handling equipment and services, building maintenance services, veterinarian services, fencing services, etc. It was suggested that the conversion of livestock operations to cash crop operations over the last 10 years has likely reduced the diversity of agri-related businesses in the Region along with product and service availability.

Research and Industry Support

Agri-sector stakeholders noted that the agricultural research station in New Liskeard and Verner are addressing some but not all producer needs in the region as the climate and growing conditions vary considerably across the region. For example it was

reported that some areas of Parry Sound District experience more freeze and thaw events and more winter kill in the fields than other parts of the Region and research is needed to develop crop varieties that will perform better in these conditions.

Agri-production and Farm Viability

Many farmers continue to struggle in obtaining a sufficient return on their products to cover operating expenses. In general, agri-sector stakeholders reported that fluctuating market prices and external factors like the rising dollar continue to make long range planning difficult for agriculture. Agri-sector stakeholders also feel that agriculture continues to be undervalued in the region and its potential is being overlooked by policy makers and the business sector. Producers believe that agriculture in the Region and northern Ontario in general has significant growth potential given the substantial farmland base in the region and the lower land prices relative to southern Ontario.

Although the use of tile drainage and liming is viewed as an important strategy for enhancing farmland productivity in the Region, agri-sector stakeholders reported that tiling can be expensive and involves having to locate and contract outside firms to undertake the work. It was also emphasized that the value of tiling is undermined if local municipalities fail to ensure that roadside drains and ditches are properly maintained.

In terms of opportunities, local agri-sector stakeholders pointed to the potential for biomass crops to be grown on some of the more marginal farmland in the Region.

Agri-sector stakeholders also identified significant opportunities for promoting greater local food production and marketing, particularly in the areas around the major urban centres of Greater Sudbury and North Bay. Producers and organizations in the Greater Sudbury area have been actively promoting the development of a formal local food production and distribution system for several years now and agri-sector stakeholders would like to see a similar type of initiative established around North Bay. A key element of a local food initiative for the North Bay area would be the establishment of a coordinating body to bring the different stakeholders together (e.g. producers, distributors/retailers, consumer representatives, relevant local government officials and organizations) and develop a local food system plan with goals and objectives.

Government Regulations and Policies

A common concern expressed by agri-sector stakeholders in the region is that many of the government polices and support programs for agriculture are directed at models of agri-food production that are based on larger scale operations and southern Ontario market realities. Agri-sector stakeholders would like to see northern oriented incentive programs that encourage projects that will establish and enhance the capacity of local agri-food and product processing. Agri-sector stakeholders also emphasized the need for streamlining provincial trade regulations to facilitate the easier movement of food and agri-related products between provinces.

The Northern Ontario Heritage Fund Corporation (NOHFC) was recognized by stakeholders for the important role it played in recent years in making funds available for land improvement and farm facility expansion projects. However, these cost sharing programs are no longer available through NOHFC even though the need still exists. It was suggested that NOHFC needs to revive its commitment to an agricultural development program.

9.0 Conclusions

The value of agricultural production in the Blue Sky Region is substantial. In 2005, farmers in the Region reported a total of $43.9 million in gross farm receipts which represents 24% of the total receipts for northern Ontario.

In terms of employment, the agriculture sector in the Blue Sky Region directly supports 860 on-farm jobs. A notable trend in the farm operator data is the increased time involved in off farm employment. Between 1995 and 2005, the proportion of Blue Sky Region farm operators working off the farm increased from 33% to 55%. The increase in off-farm employment activity in the Region is consistent with the wider provincial trend. Producers often link the need for a second income to a combination of factors including stagnant or shrinking commodity prices and rising production costs. The increase in off-farm work is also having a negative effect on the amount of time that farm leaders are able to volunteer for organizations and activities that have traditionally helped to promote agriculture in the region.

It is important to emphasize that the decline in agriculture employment does not reflect trends in farm productivity. Agriculture in the Region continues to have competitive advantages and economic opportunities including a substantial farmland base that supports the growth of a variety of crops; lower land prices relative to land prices in southern Ontario, its isolation from the threat of contaminants from industrial farms; and its access to a regional market (northeastern Ontario).

Blue Sky Region reported almost 222,000 acres of farmland from 864 farms in 2006. Historically, the Region reported a much larger area of farmland. For example, in 1961 Nipissing District and Parry Sound District reported about 200,000 and 250,000 acres of farmland respectively which indicates the great potential for expanding local agriculture production.

With respect to crop production, the climate and soil conditions in the Region allow for the production of a variety of field crops including barley, wheat, oats, corn, mixed grains, soybeans, canola and hay crops. Approximately 79,500 acres or 36% of the total farmland base in the Region was used for crop production in 2006.

The Blue Sky Region features a variety of farm types and sizes. Major farm production activities in the Region include hay production, beef production, dairy production, greenhouse, nursery and floriculture production, as well as a range of other animal production activities including sheep, goats, and horses. The average farm size in the Region is 257 acres but there is considerable variation in farm sizes across the Region. On average, farms in Sudbury District are the largest at 345 acres while farms in Greater Sudbury are the smallest at 143 acres.

The agri-related business community plays an important role in supporting agriculture in the Blue Sky Region. These businesses represent a variety of industry sectors including retail and wholesale trade, manufacturing, construction, transportation and business

services. Agri-related businesses provide the support infrastructure for the agriculture sector and through their linkages to farm based activities, generate substantial economic benefits for the Region.

A review of the findings from the 2002 agri-economic impact study for the Blue Sky Region in the context of more recent economic activity reveals that agriculture continues to make a significant contribution to the wider economy beyond the farm gate.

Allowing for a ±10% change in agri-related business activity since the 2002 study, we estimate that agriculture in the Region currently generates between $38 million and $47 million in indirect sales (agri-related business sales) and sustains between 364 and 444 indirect jobs. With respect to induced impacts, we estimate that agriculture in the Region sustains between 1,836 and 1,956 jobs in the public service sectors (i.e. health services, education services, public administration).

Overall, the total economic impact of agriculture in the Blue Sky Region amounts to between $82 million and $91 million in sales (direct and indirect) and between 3,060 and 3,260 jobs (direct, indirect and induced). The associated sales expenditure multiplier indicates that for every dollar generated in direct agricultural sales (farm gate sales), an additional $0.90 to $1.10 in sales related to agriculture is also generated in the wider economy. The associated employment multiplier indicates that for every job in the agriculture sector an additional 2 to 3 jobs are supported in the wider economy.

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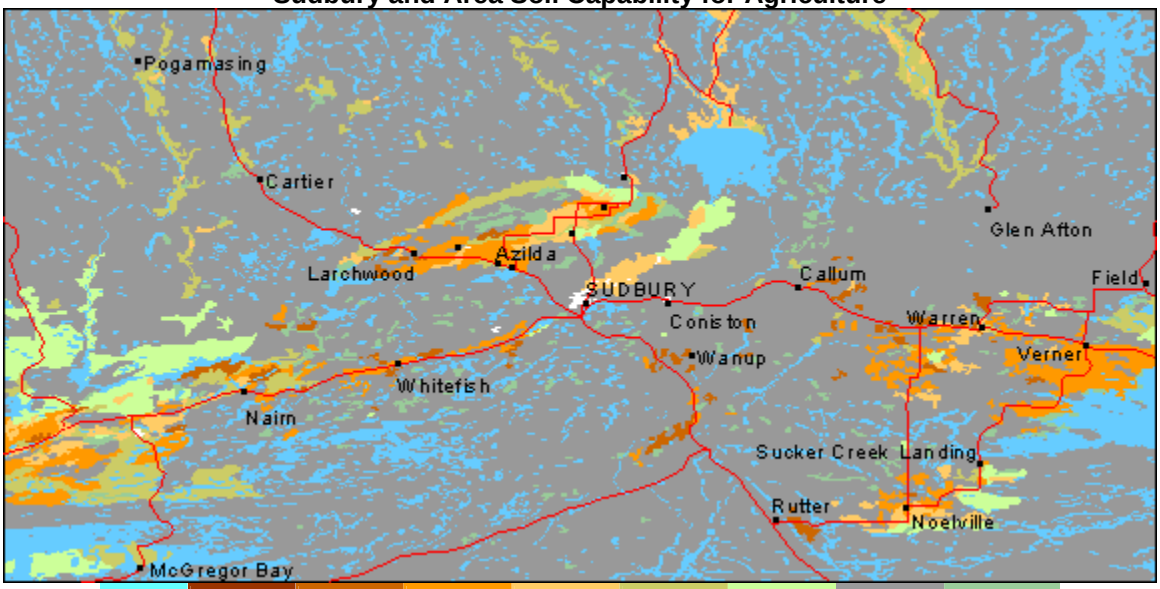
Appendix A: Soil Capability for Agriculture in the Blue Sky Region

The following land capability classes indicate the degree of limitation imposed by the soil in its use for mechanized agriculture.

Class	Description
1	Soils in this class have no significant limitations in use for crops.
2	Soils in this class have moderate limitations that restrict the range of crops or require moderate conservation practices.
3	Soils in this class have moderately severe limitations that restrict the range of crops or require special conservation practices.
4	Soils in this class have severe limitations that restrict the range of crops or require special conservation practices.
5	Soils in this class have very severe limitations that restrict their capability in producing perennial forage crops, and improvement practices are feasible.
6	Soils in this class are capable only of producing perennial forage crops, and improvement practices are not feasible.
7	Soils in this class have no capacity for arable culture or permanent pasture.
8	Organic Soils (not placed in capability classes).

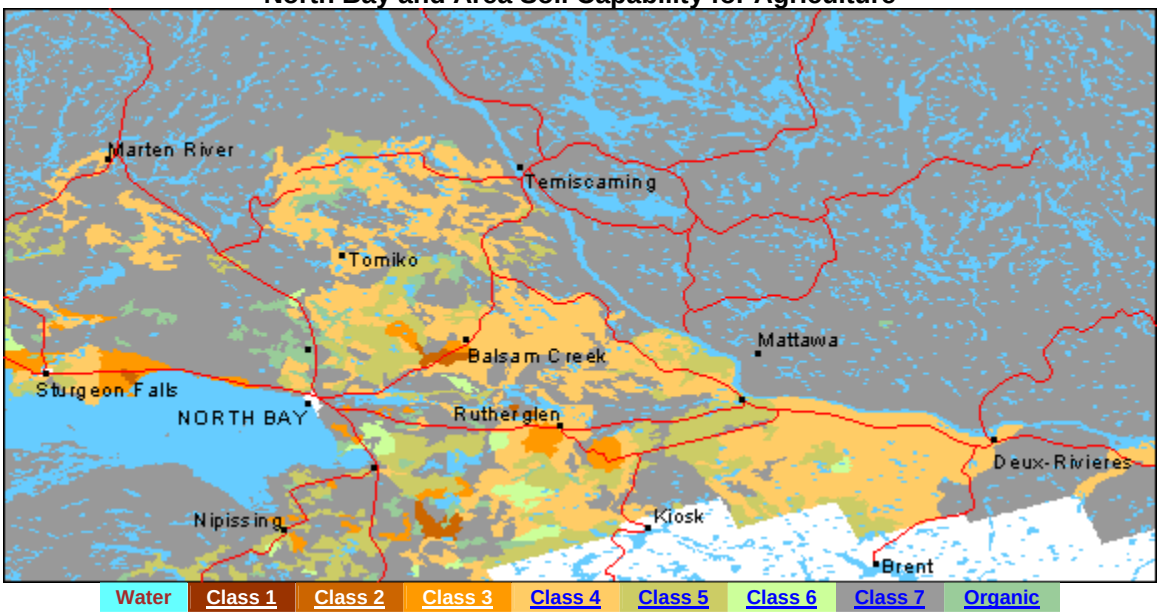
Source: Canada Land Inventory. Environment Canada

Sudbury and Area Soil Capability for Agriculture



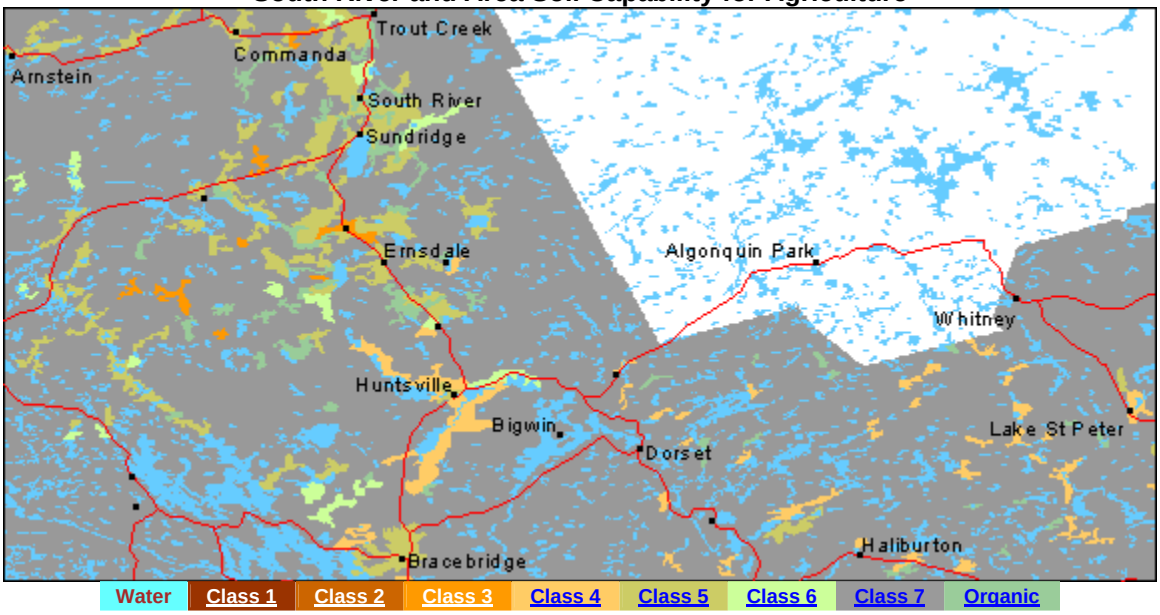
Source: Canada Land Inventory. Environment Canada.
http://geogratis.cgdi.gc.ca/CLI/frames.html

North Bay and Area Soil Capability for Agriculture



Source: Canada Land Inventory. Environment Canada.
http://geogratis.cgdi.gc.ca/CLI/frames.html

South River and Area Soil Capability for Agriculture



Source: Canada Land Inventory. Environment Canada.
http://geogratis.cgdi.gc.ca/CLI/frames.html

Appendix B: Greater Sudbury Food Charter - Final Version, June 2004

Given that access to safe, affordable, nutritious food is a basic human right of individuals and communities, and connects us to our families, our cultures, and our traditions;
And that community food security is a comprehensive approach that includes all components of the food system, from producers to consumers, and promotes regional food self-reliance;
And that having a food secure community is the foundation of population health, social justice, community-based economic development, and a sustainable environment;

Therefore, the Food Security Network of the Sudbury and Manitoulin Districts, including The City of Greater Sudbury, the Social Planning Council of Sudbury, and the Sudbury & District Health Unit, will work towards the development and implementation of a community food security mandate that supports research, policies, and programs that will endorse:

1) Population Health and Wellness:

- Individual and household food security as a determinant of health;
- Adequate income, employment, housing, and transportation policies that ensure food accessibility and availability to all citizens; and
- Nutritional education and healthy food choices in schools, businesses and public places.

2) Community Development:

- An annual community food security report card;
- Food self-reliance through community-based food programs, such as community gardens, fresh food box programs and collective kitchens;
- Multi-cultural food festivals and cultural events;
- An emergency food preparedness plan; and
- The involvement of the community in developing food security solutions.

3) Investment in the Regional Food System:

- A regionally-based and community-driven food system;
- The viability of agricultural and rural communities;
- The development of regional value-added agricultural production, food processing and distribution systems; and
- The promotion of regional food products at farmer's markets, farm-gate sales, and local food outlets.

4) The Development of a Sustainable Food System:

- Public and institutional education on the interdependence between the food system and a sustainable environment;
- Scientifically proven best management agricultural practices and regional crop varieties;
- The development and implementation of renewable technologies in the expansion of the regional food system;
- The reduction of persistent toxic chemicals that can accumulate within the food chain;
- Sustainable waste management practices; and
- Support for initiatives that minimize the loss of bio-diversity, resource depletion, and climate change, and that raise the awareness of global environmental issues.

Source: Sudbury and District Health Unit.
www.sdhu.com/content/search/doc.asp?doc=1161&q=food+security&l=&lang=0

Appendix C: 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).

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: "What is the overall gain in employment or income in the region associated with each gain in export sales?" (Bendavid-Val, 1991, p. 78).

This 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 equaling 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.

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 its comprehensiveness, 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. Suppliers - intermediate and primary - purchase inputs for processing into outputs. 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 (i.e. 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 Study Area 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.

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).