Funded by:

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BACKGROUND AND PURPOSE

The Holland Marsh\(^1\) is one of two “Specialty Crop Areas”\(^2\) in Ontario and a recognized producer of a significant percentage of the vegetables grown in the province. Despite the importance of the Marsh as a provincial agricultural resource, there is a lack of specific information about the agriculture that occurs there or the economic impact this activity has on the provincial economy. This report addresses this lack of information.

Funded by the Friends of the Greenbelt Foundation, this report commences with a description of the land base of the Marsh. This is followed by a profile of agriculture in the Marsh, which then forms the basis for an economic analysis to calculate the financial contribution that primary production in the Marsh makes to the provincial economy annually. Finally the report addresses the issues, challenges and opportunities associated with production in the Marsh.

ECONOMIC IMPACT

The Holland Marsh generates substantial economic activity in the form of industry output, labour income and value added operations; all of which have a significant impact on the Ontario economy. Based on a range of probable values, the significant stimulatory effect of primary production activities in the Holland Marsh generate annually in the range of $35 to $58 million in Gross Domestic Product\(^3\); and between $95 million and $169 million of economic activity in the provincial economy.

LAND BASE

The Holland Marsh as referred to in this study, is the area designated as a “Specialty Crop Area” by the Province. Covering approximately 18,200 acres, the Holland Marsh is comprised of the Bradford and Keswick Marshes. Sixty percent of the area is in agricultural production, the remaining 40% is wetland. The majority of the agricultural component was created in the 1920’s with drainage operations commencing in 1925.

PROFILE OF THE HOLLAND MARSH

In contrast to trends in other parts of central Ontario, the area under production in the Marsh increased between 2001 and 2006. Average farm size also increased and both total gross farm receipts and average gross farm receipts per acre rose. Although the majority of production is focused on carrots and onions, the production profile in the Marsh is becoming more diverse. The breakdown of area for the main product types is illustrated in Figure 5. In excess of 34 products were reported as being grown in the Marsh in 2006.

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\(^1\) For the purpose of this report, the Marsh is comprised of two components, the Bradford Marsh and the Keswick Marsh, both located along the course of the Holland River.

\(^2\) Designated under the 2005 Ontario Provincial Policy Statement.

\(^3\) The GDP figure reported in Table 4 measures only the value added by producers in satisfying the direct, indirect and induced requirements associated with the operation of the Fruit and Vegetable cluster in the Marsh.
% of Area by Product Type (Figure 5)

The importance of Marsh production on a provincial basis is emphasized by the percentage of vegetable production that occurs there. Total gross farm receipts for vegetables in Ontario in 2006, were estimated by Statistics Canada at $372 million. Vegetable production in the Marsh for 2006 was estimated at $29 million by Statistics Canada based on percentage of area within the Marsh and at $52 million by the Growers. These statistics confirm that vegetable production in the Marsh in 2006 represented between 8% and 14% of the total annual vegetable production in Ontario.

Production is dominated by family owned operations. The majority of operations are less than 70 acres in size but there is an ongoing decline in the number of small operations. Conversely, the number of operations in the larger size categories is growing.

In 2006, 44% of the land being farmed was rented, slightly higher than the 2001 rate of 43%. This rate is consistent with farm land rental rates in the GTA, lower than the rate in York but considerably higher than the provincial rate of 26%.

Greenhouses have a significant presence in the Marsh. In 2006, 457,805 square feet of production was under cover, a slight increase from 2001. The most significant change in greenhouse production between 2001 and 2006, was a shift in production from floriculture to vegetables.

Both gross farm receipts per acre and operating costs per acre are much higher in the Marsh than in Ontario or in surrounding areas. When the two values are balanced against each other for 2006 the average net revenue for the Marsh was $318 per acre; 2.8 times higher than the provincial average of $113 per acre. Average gross farm receipts per acre in 2006 were $2888 or 3.7 times the provincial average.
The average age of Marsh operators in 2006 was 53.5 years, as compared to the Ontario average of 52.6 years. The majority of farms reported more than one operator and the number of female operators is increasing. Although the average age of operator is high, the majority of operators are still in the age range from 35 to 54 years. As the value of operations rises the average age of the operators, drops.

TRENDS AND ISSUES

The value of production in the Marsh is rising and the range of products is increasing. Gross farm receipts per acre are more than double the provincial average and continue to increase. Operations are increasing in size, allowing operators to capitalize on economies of scale. Total farm capital is increasing. Net revenue per acre in the Marsh is higher than in surrounding areas but lower than in the other provincial Specialty Crop Area in Niagara.

Many of the trends in the Holland Marsh are consistent with what is happening generally in Ontario agriculture. Farms are getting larger but continue to be family run businesses with personal involvement in all aspects of the operation. Multiple family members are involved in the farm operations. Corporate farming of large acreages with absentee ownership is not a factor in Ontario nor is it a factor in the Marsh.

The average age of operators is rising and succession planning is not a priority. On a positive note, however, the statistics confirm that there are multiple operators on individual farms, many of whom are younger. There is also a decrease in the average age profile of growers for operations generating higher returns.
The Muck Crops Research Station, dedicated to research to support muck farming, has been a significant resource for producers over time. The work done by scientists at the Station led to the introduction of integrated pest management systems to decrease the use of nutrients in the Marsh. Research at the Station focuses on the development of improved farming techniques and has significantly expanded the life expectancy of the Marsh. This facility continues to be of great benefit to growers.

Financial viability is an ongoing challenge for farmers and this is no different in the Marsh. The price paid for agricultural products has not kept pace with the increase in the price of inputs over the past 20 years. There is a trend of stagnant or declining prices which is apparent across the production profile for the Marsh. At a time of rapid increases in costs of fuel, fertilizer, machinery, instability in the value of the Canadian dollar, an increase in minimum wage, fierce competition from abroad and an increasingly concentrated grocery market, this is creating difficulties for farmers.

Although the rate of rental land is lower in the Marsh than in surrounding municipalities, at 42% it is relatively high. This could be symptomatic of the capital cost of acquiring land which is an impediment to expanding operations; or simply a disinclination on the part of current land owners to sell. Regardless of the reason, constraints on the supply of land restrict the ability of growers to expand. This is difficult when commodity prices are stagnant and a grower must expand or increase productivity to maintain their income. This problem is exacerbated in the Marsh as the area available for production is finite and environmental regulations are such that obtaining permission to bring additional land into production is extremely challenging.

Assigning a Specialty Crop Area designation to the Holland Marsh has added an additional layer of protection to the agricultural land use within its boundaries and has addressed some of the land use issues associated with the Marsh. However, although the “Specialty Crop Area” designation is helpful, there are still issues associated with both neighbouring uses and the extent of the area that can be farmed, which are impacting operators.

Due to the nature of the products that dominate Marsh production, the retail market for the product tends to be concentrated in the hands of large retailers who sell in volume. In Ontario this means that the market is limited to three large retail conglomerates. This contributes to low prices for product, requirements to provide product continuously 12 months a year that are difficult to meet, and delays between shipping product and obtaining payment. Lack of a supply management system means growers are vulnerable to stiff international competition.

Agriculture and horticulture in particular, benefit greatly from certain types of infrastructure. Agricultural infrastructure including irrigation, three phase power and natural gas, support enhanced growing seasons and the use of advanced technology. Roads designed to facilitate the movement of farm equipment and manage traffic conflicts improve safety and ease of operation. At the current time there is an ongoing issue in the Marsh with commuter traffic using the local roads. Municipal support in addressing problems and providing agriculturally supportive infrastructure would help sustain this important area.
The horticulture sector is much more labour intensive than other types of agriculture. Therefore increases in minimum wage levels not offset by increases in the price of produce, have a much greater impact on what is already a challenging bottom line. Safety net programs which are meant to provide insurance for producers in difficult times are designed in response to the characteristics of agriculture in general and do not factor in the unique characteristics of the fruit and vegetable sector, such as higher costs for labour. This creates additional vulnerability for growers.

The current public interest in local food may provide an opportunity to diversify and develop alternative markets for the produce. However to take advantage of the demand for local food, growers must be able to access a mass market on a regular and reliable basis. While recent initiatives, including funding of more farmers’ markets, are helpful; the effectiveness of such initiatives is limited.

**OPPORTUNITIES**

Despite the issues outlined above, the Marsh is an area of tremendous possibility. Although the Marsh is facing some challenges, it is a unique agricultural resource. As emphasized in this report, it is one of the largest concentrations of horticultural production in North America. As such, if the identified challenges are met, there are tremendous opportunities for growth and prosperity. At this time when the public is awakening to the importance of local food, the Marsh is the “salad bowl” for Ontario. With its outstanding growing conditions, skilled operators and proximity to market, it is taking advantage of the opportunity to raise its profile and increase its market. Although carrots and onions continue to dominate, currently there are in excess of 34 different vegetables grown in the Marsh. With the large, growing, ethnically diverse market in the GTA there may be an opportunity to further diversify and develop new markets.

Once a product is grown, it must be washed, packed, processed and moved before it can be sold. These activities are intrinsic to agricultural production and yet are uses which are often prohibited in agricultural areas by planning regulations. Regulations dealing with value added and retention operations in the Marsh should be reviewed and updated to allow facilities that respond to today’s market and allow farmers the facilities to produce a table ready product to consume.

The Holland Marsh is fortunate to have an internationally recognized Research Station dedicated to its interests located within it. The establishment of the Growers’ Association provides an opportunity to strengthen the relationship with the Research Station to the benefit of both parties. Growers will benefit from having relevant research to support new opportunities and the researchers will benefit from having support for research proposals to attract funding. In addition to the Research Station, individual growers have shown considerable ingenuity in developing equipment that supports the type of production that occurs in the Marsh. There may be opportunities to build on these successes and using this unique technology, manufacture equipment for a broader market.

**CONCLUSION**

The Holland Marsh is a unique and prosperous component of Ontario agriculture, “the crown jewel of horticulture”, and the source of a significant percentage of the produce consumed in the province. In addition to making an annual, multimillion dollar contribution to the economy, this highly concentrated
area, farmed by a skilled, specialized group of growers, has all of the attributes required to support food security in Ontario.

Despite its successes, the Marsh is experiencing pressures. As markets change, growers must adapt to new demands. With increasing pressure from escalating costs, stagnant prices, consumer issues and trade barriers, growers require informed and responsive support.

This study, by profiling the Holland Marsh, documenting its contribution to the provincial economy and highlighting opportunities and issues associated with it, is intended to provide a base for informed support. It is hoped the information and analysis contained herein will assist in securing a long and prosperous future for the Holland Marsh.
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1.1 BACKGROUND AND PURPOSE

The Holland Marsh is an integral part of Ontario’s landscape and history. It consists of an extensive area of organic soils that through the use of appropriate drainage, support significant agricultural production. While most Ontario residents associate the Holland Marsh with the area viewed from Highway 400, the Marsh is much more than meets the eye. The area of rich black organic soil extends along the Holland River in a swath, incorporating parts of four municipalities and covering the northern part of York Region and the southern part of Simcoe County. First established in the 1920’s through the engineering work of Dr. William Day, the Marsh is named for Major Samuel Holland, the first Surveyor General of Ontario.

Over time, farming on marsh or organic soil, referred to as “muck” farming, has expanded to other areas and now occurs in a number of different locations in Ontario. The largest of these areas is the two sections that comprise the Holland Marsh located along the Holland River; the Bradford Marsh and the Keswick Marsh. There are also areas of organic soils in Innisfil and near Alliston in Simcoe County, in parts of East Gwillimbury and Georgina in York Region; and in Essex County in south western Ontario. Operators in many of these areas are part of the Holland Marsh Growers’ Association. This group of specialized “muck” farmers produce a significant portion of Ontario’s vegetables.

The sections of the Holland Marsh along the Holland River have been identified by the provincial government as one of two “Specialty Crop Areas” in Ontario, the second one being the Tender Fruit and Grape lands in the Niagara Peninsula. This Marsh is also part of the Ontario Greenbelt; a swath of land protected by the Province under the Greenbelt Plan enacted in 2005. The intent of creating the Greenbelt was to protect the natural systems and agricultural land in the urbanized Greater Golden Horseshoe.

By designating the Holland Marsh a “Specialty Crop Area”, the Province has recognized its importance as a major provincial agricultural resource.

Despite the importance of the Marsh as an agricultural resource, many residents of Ontario know little about it. Few specific details about the agriculture that occurs there are available and there is no quantification of its economic value. This study is intended to address this lack of knowledge by providing an in-depth summary of the characteristics of agriculture in the Marsh, its contribution to the Ontario economy, and the issues and opportunities impacting it.
Friends of the Greenbelt Foundation

In concert with the designation of the Greenbelt in 2005, the Province created a Foundation to support and promote this special area. Since that time, the Friends of the Greenbelt Foundation has taken an active role in addressing issues within the Greenbelt and worked hard to raise the profile of the area. In April 2007, the Foundation released a paper identifying challenges and opportunities in the Holland Marsh. The report focused on the main section of the Holland Marsh, in the Town of Bradford West Gwillimbury and King Township, and noted the need for improved information on the role of the Marsh in the agricultural economy of the Province.

Holland Marsh Growers’ Association

In August 2008, funds from the Friends of the Greenbelt Foundation facilitated the creation of the Holland Marsh Growers’ Association. This organization’s mandate is to provide a voice for farmers in the Marsh. Since its inception, the Association has been successfully coordinating activities for the benefit of the farming community in the Marsh, promoting Marsh products and representing the growers’ interests. One of the main goals of the Association is to elevate the profile of the Marsh. This study is one of the tools which will be used to achieve this goal. The Association and its members were actively involved in providing input to this study.

1.2 STUDY AREA AND PARAMETERS

As noted earlier, there are a number of different muck farming areas in southern Ontario. For the purposes of this report, the main study area is the Holland Marsh as defined in the Greenbelt Plan. To understand the context of the Marsh, statistics for the balance of the Greenbelt, York Region and Simcoe County are considered and compared with Marsh statistics.

To provide a comprehensive understanding of the Marsh, the report starts with a profile of agriculture in the area. Data from the profile is then used to generate an analysis of the economic impact of the Marsh on the Ontario economy. The last sections of the report address the challenges and opportunities associated with agriculture in the Holland Marsh.

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1.3 RESEARCH METHODOLOGY

In conducting research for the report both primary and secondary data sources were used. Primary sources included data from Statistics Canada, the Ontario Ministry of Agriculture Food and Rural Affairs (OMAFRA), and a questionnaire administered to a sample of growers. Secondary sources included material from literature and internet searches, and interviews with experts in subjects associated with the Marsh or with muck farming generally. A list of all sources referenced is included in the bibliography.

As noted elsewhere in this report and in other documents produced by the Friends of the Greenbelt Foundation, it is difficult to obtain consistent, accurate information on the extent of the farm activities in the Marsh. Statistics are difficult to obtain because the Marsh agricultural areas fall into two regional jurisdictions (County of Simcoe and Region of York) and at least four local municipal jurisdictions (Township of King, Town of Bradford West Gwillimbury, Town of East Gwillimbury and Town of Georgina). The Agricultural Census, generated by Statistics Canada, is the main source of agricultural data in Ontario. The boundaries of the Marsh as defined in the Greenbelt Plan, do not, however, coincide with established census divisions, and include four different Census dissemination units. Therefore, statistics are difficult to isolate for the specific area under production.

To address this issue, a special run of data was obtained from Statistics Canada isolating information from the 2001 and 2006 Censuses of Agriculture related to the Marsh. As a first step, the area of the Marsh was defined through mapping. Statistics Canada used this mapping to isolate the portions of the census dissemination units within the mapped boundary. Statistics were then generated on the basis of the percentage share of the unit estimated to be within the Marsh. Due to the small size of the Holland Marsh, a number of the statistics were suppressed by Statistics Canada for confidentiality reasons. Therefore the statistics generated are an estimate, not an exact accounting of the agricultural attributes of the Marsh. However, the data generated does provide a more accurate, in-depth accounting of the agricultural activities related to the Marsh than has previously been available and is helpful in assessing the scope of the agricultural activities. Because of the challenges in obtaining the data, the analytical approach taken was conservative and it is likely that the data under represents the full extent of the agricultural industry in the Marsh and its impact on the provincial economy.

In generating the data for the economic impact analysis, three different economic indicators were used:

(i) farm cash receipts;
(ii) gross farm receipts generated by Statistics Canada; and,
(iii) a grower estimate of productive value.

Three different values were used as a cross check for accuracy and to ensure that in addition to values based on acreages, factors such as differences in productivity were considered. Providing a range of values, with the low value based on conservative values associated with acreage and higher values based on productivity, ensures a reasonable estimate of the economic impact of the primary agricultural production in the Marsh on the provincial economy.

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5 A copy of the questionnaire administered to Marsh growers’ and a summary of their responses is attached as Appendix 1. Sixteen responses were received. Based on the 2007 Statistics Canada population of 93 growers, this represents a 17% return rate for the questionnaire.
2 THE LAND BASE
2.1 DEFINING THE HOLLAND MARSH

The Holland Marsh means different things in different contexts. As an entity, as shown on Map 1, the Marsh is a flat, level area lying in a shallow basin that drains to Cook’s Bay of Lake Simcoe through the Schomberg branch of the Holland River. It was an arm of glacial Lake Algonquin. Over time, portions of the Marsh were drained for agricultural production, so that today, it is comprised of two components; environmental areas designated as natural heritage areas and agricultural areas.

The agricultural section is divided into two distinct agricultural areas as shown on Map 2; the Bradford Marsh which is the diked portion visible from Highway 400, north of Highway 9; and the Keswick Marsh at the mouth of the Holland River. It is on these sections of the Marsh that this study focuses.  

The breakdown of the various land use designations assigned to the Marsh is shown on Map 3 (Schedule 3 from the Greenbelt Plan). On this schedule, the total Marsh occupies an area of approximately 18,200 acres, split among the following municipalities:

- **Simcoe County:**
  - Town of Bradford West Gwillimbury - 7,000 +/- acres split between agricultural and natural heritage areas;
  - Town of Innisfil - 100 +/- acres, exclusively natural heritage areas;

- **Region of York:**
  - Township of King – 7,000 +/- acres split between agricultural and natural heritage areas;
  - Town of East Gwillimbury - 3,200 +/- acres split between agricultural and natural heritage areas; and
  - Town of Georgina - 900 +/- acres- split between agricultural and natural heritage areas.

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6 Throughout the study references to the Holland Marsh are to the entire agricultural area. The two distinct areas within it are referred to as the Keswick Marsh and the Bradford Marsh.

7 Note that areas are estimated from Greenbelt mapping and therefore are approximate.
The area of farmland in 2006 and the approximate percentage split between agricultural land and wetland area is listed on Table 1.

### Table 1 - Holland Marsh Specialty Crop Area – Estimated Acreages between Agricultural and Natural Heritage features

<table>
<thead>
<tr>
<th>Geographic Location</th>
<th>Total Area (Acres +/-)</th>
<th>Agricultural (06 Census)</th>
<th>Natural Heritage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bradford Marsh</td>
<td>14,100</td>
<td>58%</td>
<td>42%</td>
</tr>
<tr>
<td>Keswick Marsh</td>
<td>4,100</td>
<td>68%</td>
<td>32%</td>
</tr>
<tr>
<td>Holland Marsh</td>
<td>18,200</td>
<td>60%</td>
<td>40%</td>
</tr>
</tbody>
</table>

The Greenbelt Plan, 2005, designates the Holland Marsh as a Specialty Crop Area as defined in the Provincial Policy Statement (PPS). While the total Marsh area is identified as a Specialty Crop Area, in practice, the Specialty Crop lands are focused on the existing developed agricultural components and not on the balance of the significant wetlands (natural heritage areas). The agricultural components of the Marsh occupy approximately 60% of the total area of the Marsh.

As noted previously, the Holland Marsh represents only a portion of the muck soils that are used for agricultural and vegetable production in Ontario. Land in the vicinity of Cookstown, Alliston and Innisfil in Simcoe County, as well as some dispersed areas in York Region and Essex County, are also part of the broader muck agricultural community.

Although the areas outside of the Bradford and Keswick Marsh sections in Simcoe and York have not formally been designated as Specialty Crop Areas by the Province, producers from these areas are eligible for membership in the Marsh Growers’ Association. Due to the lack of reliable data, these areas are not included as a formal part of this study. However, from the perspective of agricultural production, their contribution is significant, so where appropriate and possible, comments regarding the impact of the additional areas will be made. When considering the economic impact of the Holland Marsh it should be noted that the analysis included here does not include all muck production, only the portion of the primary production specifically attributable to the Holland Marsh.
2.2 HISTORY OF THE HOLLAND MARSH

Documented history of the Marsh tends to focus on the Bradford Marsh that was developed as an agricultural area in the early part of the 20th Century.

In 1904 Dave Watson, a Bradford grocer, persuaded William H. Day, professor of physics at the Ontario Agricultural College, Guelph, to investigate the possibility of draining the marsh. Day tested the soil and experimented successfully in growing vegetables. In 1925 drainage operations began and a canal and dikes 28 km long and 2 m deep were constructed around the marsh to divert the Holland River. Pumps were installed to control the water table within the dikes. The project was completed in 1930. In 1931 and 1934, 18 Dutch families came to the marsh and formed the nucleus of an expanding and prosperous agricultural community. After World War II, more immigrants from Holland, as well as from other European countries and Asia, settled here. The marsh today is a market garden for the Ontario and foreign markets, producing carrots and onions in particular, as well as lettuce, potatoes, celery, parsnips, cabbage, cauliflower and beets. There are some greenhouses in which tomatoes, cucumbers and commercial flowers are produced.8

8 The Canadian Encyclopedia, Holland Marsh.
Although this excerpt paints a positive picture of the evolution of agriculture in the Marsh, in actual fact it was a challenging task to bring the area into production. After successfully draining the Marsh and working to establish it as an agricultural area, William Day lost his fortune trying to farm there. The first wave of growers in the 1930’s and 40’s found conditions challenging and plot after plot was abandoned. It was not until a group of Dutch settlers, experienced in farming muck soils, arrived and settled on the Marsh in the 1940’s and 50’s that production began to improve.

Since the 1950’s the Marsh has been recognized as a unique, successful and highly productive area. The Bradford Marsh is one of the largest agricultural areas in the world contained within one dyke.\(^9\) In an article written in 1961, Willis B. Merriam, a geographer from Washington State University, commented that:

\begin{quote}
Economically it would appear that the Holland Marsh area is one of the most successful drainage reclamation projects on the continent. The original development cost was $137,000 with a later outlay probably totaling $300,000. This comes to about $53 per acre. As early as 1930, there was a gross return reported of $350 an acre on the first 37 acres checked. By 1949, the gross return was nearly $1000 an acre on 5,698 acres then in production. The 1959 figure due to higher costs of reclamation, production and distribution averaged around $714. Gross production since its inception and up through 1959 amounts to at least $85,000,000.\(^{10}\)
\end{quote}

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\(^9\) Vander Kooi, Kevin, Researcher, Muck Crop Research Station, April, 2009.

This article focused on the cohesive nature of the Marsh community, a feature which is still apparent today. This is due at least in part, to the fact that the grower profile in the Marsh has remained relatively stable over time with many properties being farmed by descendants of the original settlers. In a survey conducted of members of the Holland Marsh Growers’ Association in 2009, 75% of respondents indicated they were the second (25%) or third generation (56%) farming the same property in the Marsh. Owners live on the Marsh or in the communities immediately around it and form a relatively tight community.

Although, carrots and onions have always dominated production, the production profile has shifted over time in response to changes in the market. Recently products such as Chinese cabbage, greens and herbs have had an increased presence in the Marsh. With the growing interest in the role of natural products in the diet, consideration is being given to adding new crops such as the choke berry, which is very high in antioxidants and grows only in marsh conditions.

In addition to the economic spin-offs that will be discussed later in this report, the unique growing conditions in the Marsh have inspired more pragmatic forms of ingenuity. The unique circumstances associated with muck farming have prompted growers to develop specialized agricultural equipment suited to muck farming which they manufacture and sell to other producers. Secondary forms of economic activity such as packing and shipping operations have grown up to service Marsh production and represent a significant component of the economic infrastructure in Bradford and other local communities.

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11 Survey conducted of Holland Marsh Grower’s Association by Planscape, February, 2009 (see Appendix 1 for summary of results).
2.3 BRADFORD MUCK CROPS RESEARCH STATION

In addition to its success as a unique and productive growing area, the Marsh has generated significant spin-off activities. The Muck Crops Research Station (MCRS), located on 4 ha (9.88 acres) in the Marsh, is the smallest agricultural research station in the world but has developed an international reputation for specialized research on muck farming.

“The facilities at this station include a plant pathology lab, greenhouses with ebb and flow benches and computer monitored environment, cold storage facilities to provide the specific requirements for long term storage of onions and carrots and several sites for field research. There are 4 ha of organic soil research plots on site, a further hectare of organic soil, rented from a local grower and located in another area of the Marsh, and, recently, 2 ha of mineral soil nearby, to allow field trials to be conducted on mineral soil. Field trials are also conducted in commercial vegetable fields in cooperation with local growers.”

Founded in 1947 as part of the Ontario Agricultural College, the centre was part of the Ministry of Agriculture’s system of research centres for many years. During this period, there was a strong relationship with the growers, a focus on conducting very specific, grower driven, muck research.

In 1988, responsibility for the Centre was assumed by the University of Guelph, and the direction of the research done at the Station changed slightly. Researchers were required to compete for funding through the University and demonstrate the value of the research generally. This limited the ability of scientists to conduct research directly related to the Marsh with the result that the connection with local growers declined. However, the recent creation of the Marsh Growers’ Association provides an opportunity for this relationship to improve. The Association can help define the local needs and support appropriate research projects.

Despite shifts in responsibility, over the time the Station has participated in numerous collaborative projects to advance the science of muck farming. One ongoing example of a successful collaboration between the University of Guelph, Agriculture Canada and OMAFRA is the introduction of integrated pest management (IPM) in the Marsh. The IPM program has lead to a dramatic reduction in the volume of pesticides used in this area, with an 80% reduction in insecticide use in onions. Over all, across the 18 years of operation, the IPM program has contributed to a 40% reduction in the amount of pesticides used on muck crops. The 40%

12 http://www.plant.uoguelph.ca/stations/muck_crops/
A reduction in pesticide use is attributed to new technologies (seed treatments, new application methods), new chemistry that requires lower use rates and has a reduced impact on the environment, loss of registrations, and adoption of new varieties and growing methods.

Currently the Research Station is working on a project to assess the impact of phosphorus from the Marsh on local receiving waterbodies. Although there is a perception that the Marsh contributes a significant amount of phosphorus to local waterbodies, this is not true. The Station’s research has shown that the Marsh contributes approximately 3% of the phosphorus going into Lake Simcoe. The concentration of nitrates and pesticides coming out of the Marsh are below drinking water standards except during limited time periods in the spring when levels are slightly elevated. Conducting research to quantify these impacts will provide data to educate the public and promote the role of the Marsh as an environmentally sustainable source of fresh local product for Ontario.

Muck soils are a limited and finite resource. Due to their nature as organic material, use over time depletes the resource. Due to this, there is a finite period over which the Marsh will be able to be farmed. In the past, estimates of the life expectancy of the soil were as low as 40 years. To maximize this period, researchers at the Muck Station work to optimize the conditions under which the muck is farmed and are critical to the management of the resource. Working with the growers, these researchers have and will continue to extend the life expectancy of the soils so it continues to produce food for Ontario residents for many years. Currently, with the improved techniques and the knowledge about the soils, the life expectancy of the area is now closer to 200 years.

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13 MacDonald, Mary Ruth, Muck Crops Research Station, March, 2009.
2.4 PHYSIOGRAPHY, NATURAL FEATURES AND CLIMATE

The Holland Marsh is a large deposit of organic soils within the physiographic unit entitled Organic Deposits. Occupying a shallow basin that was formerly an arm of Lake Algonquin, the soils belong to the Great Group Humisol which means the majority of the organic material is well decomposed. The soils range in depth from 40 cm to in excess of 180 cm. These poorly drained soils are highly productive because their soft composition allows root vegetables to grow easily with little resistance.

The portions of the Marsh that have not been drained for agricultural production are wetlands. The largest single remaining wetland in the area is situated along the west side of the Holland River immediately above the confluence of the Holland and Schomberg Rivers. To the east of the river is the Colbar Marsh, a large area of cattails and shrubs. There are some mixed coniferous and deciduous swamp forests comprised of a mosaic of willow ash and poplar in the area, with much of the wetland area being in transition. Continuous swamp forest is found from Gilford in the extreme north end of the Marsh, south to the next side road. At the north end where the Holland River flows into Cook’s Bay, there is an old tamarack bog surrounded by an inner zone of ericaceous shrubs and an outer ring of sedges.  

Typically agricultural soils are ranked from Class 1 to Class 7 using the Canada Land Inventory system. However this system classifies only mineral soils, not organic soils such as those found in the Marsh. Applying a ranking for organic soils based on soil depths, the soils in the Marsh range in classification from Class 4-5 for the Terric Humisols with depths from 40 to 130 cm in the western, central and southern portions of the Marsh; to Class 2 for the Typic Humisols in the eastern section of the Marsh with depths exceeding 180 cm. There is a small area toward the north of Limno Humisols which have depths of 40 – 88 cm and a classification of 5.

After physiography and soils, climate is the third factor which determines productive capability. Crop Heat Units (CHU’s) is a rating system based on total accumulated crop heat units for the frost free growing season in each area of the province. As shown on Map 4, CHU’s can range from a high of 3500 in the extreme south west part of the Province to lows of 1900 in northern Ontario.

A significant portion of the Marsh is located within the Crop Heat Unit zone of 2900, a relatively moderate zone that also applies to the area along the shoreline of Lake Ontario, south of the Oak Ridges Moraine. This more benevolent rating will be due to the proximity to the moderating influence of Lake Simcoe and the relatively protected location of the Marsh in a river valley between two heights of lands. Marsh growers’ indicate that the Marsh benefits from a small microclimate that contributes to a longer growing season.

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14 Ontario Ministry of Natural Resources, Natural Area Report, Holland Marsh (Citation Ecologistics Limited, 1982, Environmentally Significant Area Study, South Lake Simcoe Conservations Authorities).

15 Ibid.
2.5 THE LAND USE PLANNING AND JURISDICTIONAL PROFILE

The multijurisdictional location of the Marsh means that throughout its history, the land use regulations affecting it have been complex. At the regional level, it is subject to the County of Simcoe and the Region of York Official Plans. At the local municipal level it is subject to the Official Plans and Zoning By-laws of Bradford West Gwillimbury, King Township, East Gwillimbury, Innisfil and Georgina.

This complexity was reduced somewhat by the enactment of the Greenbelt Plan in 2005. As explained below, this Plan designated the Holland Marsh as a Specialty Crop Area under the definition of the Provincial Policy Statement (PPS) and reduced the municipal options for managing this area.

2.5.1 Greenbelt Plan

The Greenbelt Plan, adopted by the Province in 2005, provides the overriding provincial policy framework governing the Holland Marsh as a designated Specialty Crop Area and Natural Heritage Area. Appendix 2 provides extracts from the Greenbelt Plan as they relate specifically to the Marsh.

Map 3 referred to earlier in this report is Schedule 3 to the Greenbelt Plan, which establishes the limits of the Holland Marsh. Map 2 shows the Holland Marsh with the Natural Heritage Area overlay (from Schedule 4 of the Greenbelt Plan). As noted previously, the agricultural component of the Holland Marsh is the smaller component of the total Marsh area.

The Greenbelt Plan was implemented to provide permanent protection to the agricultural land base and the ecological features and functions in the Greenbelt. The Holland Marsh itself, as well as the buffer around it, is part of the area designated as Protected Countryside, which is made up of an Agricultural System and a Natural Heritage System. The Agricultural System is made up of three components: specialty crop areas, prime agricultural areas and rural areas. The Holland Marsh is identified as one of two specialty crop areas in the Greenbelt, the second one being the tender fruit and grape area of Niagara. According to the Greenbelt Plan, the Holland Marsh boundary is based on a provincial analysis of the area of muck soils and current agricultural production in both the Region of York and County of Simcoe.

The agricultural protection goals of the Greenbelt Plan include:

- protection of the Specialty Crop Area land base;
- protection of prime agricultural land;
- provision for supportive infrastructure and value added uses necessary for sustainable agriculture; and
- increasing certainty for the agricultural sector to foster long-term investment in, improvement to, and management of the land.

Policies applicable to the Specialty Crop Area include support for normal farm practices and a full range of agricultural, agricultural-related and secondary uses, restrictions on re-designation of the land for non-agricultural uses, prohibition for Towns, Villages and Hamlets to expand into specialty crop areas, and requirements for compliance with the minimum distance separation formula. As a result of the restriction on settlement boundary expansions into the Holland Marsh, potential expansion of both Keswick and Bradford are affected.
The Natural Heritage System in the Greenbelt is defined as having within its boundaries the highest concentration of the most sensitive and/or significant natural features and functions. As noted on Map 3, an extensive area of the Holland Marsh is identified as part of the Natural Heritage System.

With respect to agricultural production and activities, the policies for the Natural Heritage System recognize that the full range of existing and new agricultural, agricultural-related, secondary uses and normal farm practices are permitted, subject to the following restriction:

“New buildings or structures for agriculture, agricultural-related and secondary uses are not subject to the general Natural Heritage System policies, but are subject to the policies on key natural heritage features.”

It is understood that the key natural heritage feature of the Holland Marsh as identified in the Greenbelt Plan is wetlands. As such, where existing wetland features are evident within the Marsh, the following policies will impact the expansion of agricultural activities into the wetland.

“In general, development, with the exception of agricultural practices on land that was being used for agricultural uses on the date the Plan came into effect, or site alteration is not permitted in key natural heritage features.”

New development or site alteration within 120 metres of a key natural heritage feature requires a natural heritage evaluation. Expansions to existing agricultural buildings and structures and farm and non-farm dwellings may be permitted provided it is demonstrated that there is no alternative and the expansion, alteration or establishment is directed away from the feature to the maximum extent possible, and the impact of the expansion on the feature and its functions is minimized to the maximum extent possible. New buildings and structures for agricultural uses will be required to provide a 30 metre vegetation protection zone from key natural heritage features, but may be exempted from the requirement for establishing a condition of natural self-sustaining vegetation if the land is, and will continue to be, used for agricultural purposes.

Infrastructure serving the agricultural sector (e.g. irrigation systems) may be located in key natural heritage features or their buffer areas, where there is no alternative.

Lot creation for agricultural uses may be permitted provided a minimum lot size of 40 acres is maintained in Specialty Crop Areas. Agriculturally related uses are to be on lots that are limited to the minimum size needed to accommodate the use. Surplus dwellings may also be divided from the farm parcel, provided a new dwelling is not permitted on the parcel from which it is being removed.

From a review of the Greenbelt Plan, the existing agriculturally developed parcels within the Holland Marsh are considered specialty crop areas whose permanent protection is contemplated by the Plan. There are restrictions and limitations to the expansion of agricultural uses into the key natural heritage features of the Marsh (wetlands). As such, the Marsh agricultural area is generally limited to that area shown on Map 2, and to the acreages noted in Table 1.
2.5.2 Region of York

The Region of York Official Plan currently designates the entire Marsh as an environmental policy area with an additional designation of Holland Marsh Area on the lands under agricultural production. The Holland Marsh Area is recognized as a Specialty Crop Area with agriculture and certain farm related uses as the only permitted uses.

In response to the requirements of the recently implemented Growth Plan for the Golden Horseshoe (the Growth Plan), the Region is updating its Official Plan to bring it into conformity with the Growth Plan. As part of the review process, the Region has undertaken a “LEAR”\(^{16}\) evaluation of the agricultural lands within its boundaries.

The Land Evaluation (LE) and Area Review (AR) process is a system for assessing agricultural land that involves inventorying lands with agricultural potential and indentifying the highest priority land, based on provincial criteria. The foundation of the study is the evaluation of the land based on the Canada Land Inventory (CLI). The lands are also reviewed using factors affecting agricultural potential such the presence of infrastructure, areas under production, fragmentation of land parcels and the presence of conflicting uses. The results of the two analyses are combined to generate scores. Based on these scores, the Region will review the agricultural designations in its Official Plan and designate contiguous areas of prime land for protection.

The update of the Regional Official Plan will not have an impact on the Marsh. This area has already been identified as specialty crop lands by the Province and in the existing Regional Official Plan. Protection of the area for agriculture is mandatory. As part of the review, however, the Region is required to consider if there are other areas of specialty crop production. This could include muck soils outside of the defined Marsh; and it could also involve appropriate adjustments to the boundaries of the currently designated area.

As mentioned previously, the CLI does not classify organic soils such as are found in the Marsh, only mineral soils. Therefore the LEAR evaluation will not address the issue of muck soils. The Region is aware of the limitations of the LEAR evaluation and is working with the local municipalities to consider alternative techniques to determine if there are other organic or “muck” soils in the Region that should be protected.

\(^{16}\) LEAR – Land Evaluation Area Review – a process established by OMAFRA for evaluating agricultural areas.
2.5.3 Local Municipalities in York

The local Official Plan designations currently applicable in the Marsh are shown on Map 5. Once the Region completes the update of its Official Plan to bring it into conformity with the Growth Plan, the local municipalities including King Township, and the Towns of East Gwillimbury\textsuperscript{17} and Georgina will be required to review and update their Official Plan policies accordingly. Currently, the Official Plans for each of these areas contain policies recognizing the special nature of the Marsh and protecting it for agriculture. Given the status of the Marsh as specialty crop lands, future amendments to these plans will continue to protect the area for agriculture. What may change is policies controlling farm related uses or development on adjacent lands that could impact the Marsh.

The issue that has potential to generate discussion is the division between the agricultural areas and the Natural Heritage System (NHS) within the Marsh itself. However, given that the Greenbelt Plan identifies the boundaries of both the agricultural area and the NHS, the municipalities are restricted in addressing this issue. The implication of the firm boundaries is that it restricts the potential for additional areas of the Marsh to be brought into production.

\textsuperscript{17} The Town of East Gwillimbury is currently in the process of reviewing its Official Plan with completion scheduled for the fall of 2009.
2.5.4 County of Simcoe

The County of Simcoe is in the process of updating its Official Plan. In the previous Official Plan, which was still in effect at the time this report was prepared, the areas of the Marsh within its boundaries were designated Greenlands, Rural and Agricultural. The Marsh agricultural area is shown on the Agricultural schedule as organic soils. The Plan directs that local municipalities will determine and map prime agricultural land and specialty crop lands.

In the revised Official Plan, which at the time of writing had been adopted by the County but not approved by the Province, the approach taken was to incorporate the Greenbelt designations as a Schedule. This implements the Specialty Crop Area designation for the Marsh. The area identified as agricultural in the Greenbelt Plan is then designated as Agricultural on the land use schedule and identified in policy as a Specialty Crop Area with the highest priority for protection. The NHS sections are designated as Greenlands.

2.5.5 Town of Bradford West Gwillimbury

The current Bradford West Gwillimbury Official Plan designates the agricultural lands within the Holland Marsh as “Marsh Agricultural”. Other lands are identified as Open Space Conservation, Provincial ANSI or Provincially Significant Wetlands. In addition, a Marsh Protection Buffer was established on the ridge that divided the Marsh from the upland rural/agricultural areas. It is noted that these boundaries formed the basis for the Protected Countryside and Holland Marsh Areas identified in the Greenbelt Plan.

The Town’s Official Plan policies provide support for the intensive agricultural operations in the Marsh, including associated agriculturally related uses (sorting, packing, drying, grading, etc.). Other uses are limited.

2.5.6 Town of Innisfil

The Marsh occupies approximately 100 acres of land in Innisfil along the shores of Cook’s Bay. These lands are designated as environmental and do not currently have an agricultural component.
2.5.7 Holland Marsh and Drainage System Joint Municipal Services Board

In addition to the various levels of government, the Holland Marsh drainage system, designed as an irrigation system to support the Marsh, is administered by the Holland Marsh Drainage System Joint Municipal Services Board. The former commission is now a Joint Municipal Services Board created under the Municipal Act and is comprised of representatives from the Township of King and the Town of Bradford West Gwillimbury. It is charged with the development and maintenance of the drainage system through the Bradford part of the Marsh. The Commission’s main focus is on the main river and the North and South Canals, located north of Highway 9 and west of County Road 4 (formerly Highway 11), although the drainage system watershed (outside the Marsh) includes lands in New Tecumseth, Caledon, Newmarket, and East Gwillimbury.

The Holland Marsh Drainage System Canal Improvement Project provided the following description of the Marsh (related to the drainage system):

The Holland Marsh is a 2,833 +/- hectare (7,000 +/- acres) area of organic lands that was reclaimed for agriculture by a substantial drainage (the Holland Marsh Drainage System) and land clearing scheme. It has been described by various documents with the general conclusion that it is one of the most fertile agricultural areas in the Province of Ontario and perhaps in the country. (…)

As is evident on the drawing (not available), approximately one third of the Holland Marsh lands are located west of Highway 400 with the balance lying east of Highway 400. The Marsh extends from just west of Highway 11 adjacent to the south limits of the Town of Bradford westerly to approximately 3.5 km west of Highway 400 as measured along Highway 9.

The primary crops grown in the Marsh are vegetables with onions and carrots predominant. It has been estimated that 50% of the carrots and onions consumed in Canada originate from the Marsh. There are also significant crops of lettuce, celery, cabbage and other greens. A review of the list of owners of the parcels within the Marsh would indicate that there is a substantial diversity in ethnic backgrounds and it is known that a large variety of specialty vegetables are produced.

The Marsh soils are valued as a medium for vegetable production because they are level and easy to work; the black soil warms up early in the spring; the soil moves with the plant and doesn’t restrict its growth; the muck soil holds the rain, irrigation water and fertilizer and releases all to the plant when needed. Also the soil does not turn to mud which allows for easy mobility during planting, cultivating and harvesting times.

The Marsh, as shown by 1920 +/- plans, was originally divided up into approximately 77 properties. There are now approximately 800 different properties within the Marsh. To indicate the complexity of the agricultural activities within the Marsh, it was estimated in the year 2000, that there were 500 houses, 350 large storage barns, 125 garages, 250 greenhouses and 20 acres of year round greenhouses.  

In 2008, the Service Board was awarded funding to dredge and upgrade the canal system to improve its function in managing the drainage in and irrigation in the Bradford Marsh.

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18 K. Smart Associates Limited, Holland Marsh Drainage System Canal Improvement Project, Volume 1, January 16, 2009 (note these references are to the Bradford Marsh).
3 PROFILE OF THE AGRICULTURE INDUSTRY IN THE HOLLAND MARSH
3.1 INTRODUCTION

As noted in Chapter 2, agricultural uses in the Holland Marsh occupy approximately 11,000 acres of land, or 48% of the total Marsh area as defined in the Greenbelt Plan. There are a number of components to the Holland Marsh, including:

- The Bradford Marsh (Bradford and King), at Highway 400 (14,100+/- acres);
- The Keswick Marsh in York Region (4,100+/- acres); and,
- Individual pockets of existing agricultural activities in Bradford (not included in the area calculations noted above).

For the purposes of this review additional areas of muck farming outside of these geographic areas (and outside of the Greenbelt) are not included because statistics were not available for those areas. The information for this chapter has been drawn from data generated by Statistics Canada using estimated values because the area defined as the agricultural portion of the Holland Marsh does not equate to a specific Census Division. This means that there will be variations in some of the figures and totals may not be consistent.

This chapter starts with a profile of the Marsh itself and then provides a comparison of the Marsh activity in the context of:

- York Region and Simcoe County and the “Marsh Municipalities”
- The Greenbelt area
- Ontario

Additional tables and figures related to the Statistics Canada information are provided in Appendix 3.

3.2 PROFILE OF THE HOLLAND MARSH

3.2.1 Farmland Area

Figure 1 summarizes the area of farmland in the Marsh in 2001 and 2006. These figures reflect a significant increase in farmland over the 5 year period, especially in the Keswick area where farmland area has more than doubled. This can be attributed to efforts that have been occurring to bring land back into production in the Keswick area. The ability to continue increasing productive area is limited however, because of the environmental controls that restrict production to areas which have been under production previously.
Figure 1 – Farmland Area in the Holland Marsh

<table>
<thead>
<tr>
<th>Farmland Area (Acres)</th>
<th>2001</th>
<th>2006</th>
<th>Difference</th>
<th>% Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bradford Marsh</td>
<td>6,856</td>
<td>8,119</td>
<td>1,263</td>
<td>18.4%</td>
</tr>
<tr>
<td>Keswick Marsh</td>
<td>1,035</td>
<td>2,800</td>
<td>1,765</td>
<td>170.5%</td>
</tr>
<tr>
<td>Holland Marsh</td>
<td>7,891</td>
<td>10,919</td>
<td>3,028</td>
<td>38.4%</td>
</tr>
</tbody>
</table>


3.2.2 Number of Farms and Types of Holdings

Although there was a significant increase in farmland area between 2001 and 2006, the actual number of farms only increased by three. There was a decrease in the sole proprietorship and partnership operations and an increase in the number of family corporations. The number of non-family corporations only increased by one; this form of operation remained incidental in the Marsh.

The pattern of ownership in the Marsh is consistent with ownership patterns that prevail for other forms of agriculture in Ontario. Given the economics of farming, corporate farming by other than family corporations, is rare. The formation of family corporations allows more flexibility in ownership arrangements and access to more flexible tax options and is often precipitated by the shifting of responsibility from one generation to the next.
**Figure 2 - Total Number of Farms by Farm Operating Arrangements in the Holland Marsh, 2001 and 2006**

<table>
<thead>
<tr>
<th>Farm Operating Arrangement</th>
<th>2001</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Farms</td>
<td>90</td>
<td>93</td>
</tr>
<tr>
<td>Sole Proprietorship</td>
<td>45</td>
<td>42</td>
</tr>
<tr>
<td>Partnership Without Written Agreement</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>Partnership With Written Agreement</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Family Corporation</td>
<td>21</td>
<td>30</td>
</tr>
<tr>
<td>Non-Family Corporation</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

The incidence of rental land in the Marsh is relatively high. According to Figure 3 the rate of rental land was at 43% in 2001, and rose to 44% in 2006. While this is consistent with rental rates in the GTA, and lower than the average rate in York, it is much higher than the average rental rate in Ontario. This is somewhat surprising given the fact that the uses that can be established on lands in the Marsh are relatively restricted. It may be due to the capital cost of acquiring land or to availability.

**Figure 3** - Total Number of Farms by Total Farm Areas in the Holland Marsh, 2001 and 2006

<table>
<thead>
<tr>
<th>Total Area - Acres</th>
<th>2001</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Farms</td>
<td>90</td>
<td>93</td>
</tr>
<tr>
<td>Area of Land Operated By This Operation</td>
<td>7,891</td>
<td>10,919</td>
</tr>
<tr>
<td>Area Owned</td>
<td>4,407</td>
<td>6,115</td>
</tr>
<tr>
<td>Area Rented or Leased From Others</td>
<td>3,380</td>
<td>4,770</td>
</tr>
<tr>
<td>Area Crop Shared From Others</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

3.2.3 Farm Size

As would be expected given the intensive nature of the production in the Marsh, farm size is relatively small. Average farm size is 117 acres as compared to the provincial average of 233 acres. Even this average is misleading; the majority of Marsh farms are clustered in the 10 – 69 acre category. It is also notable, however, that this smaller acreage category and the category of 70 to 129 acres experienced a decrease in the number of operations, while each of the categories of over 130 acres experienced an increase. Two new operations of in excess of 1,120 acres were reported in 2006. There was also growth in the category of operations under 10 acres.

**Figure 4 - Total Number of Farms by Farm Areas in the Holland Marsh, 2001 and 2006**

<table>
<thead>
<tr>
<th>Farm Areas</th>
<th>2001</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Farms</td>
<td>90</td>
<td>93</td>
</tr>
<tr>
<td>Under 10 Acres</td>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td>10 - 69 Acres</td>
<td>44</td>
<td>39</td>
</tr>
<tr>
<td>70 - 129 Acres</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>130 - 179 Acres</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>180 - 239 Acres</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>240 - 399 Acres</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>400 - 559 Acres</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>560 - 759 Acres</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>760 - 1,119 Acres</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1,120 Acres +</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>


The smaller farm size is possible because of the high per acre value that is related to fruit and vegetable production. Typically, average gross farm receipts per acre are higher in areas dominated by fruit and vegetable production, allowing a larger return from a smaller area. For example, the other area that is characterized by smaller average farm size is Niagara on the Lake (60 acres in 2001) which is dominated by fruit production.
3.3 PRODUCTION PROFILE

Although, as shown on Figure 5, the production profile in the Marsh is dominated by carrots and onions, the Marsh is the source of a large variety of produce. Root vegetables do well and tend to dominate because the loose organic soil allows them to grow easily and therefore uniformly.

*Figure 5 - Total Area of Vegetables in the Holland Marsh by Product Type*

![Pie chart showing the distribution of vegetables](image)

(Data provided by the Holland Marsh Growers’ Association)

Over time, changes in demand and consumption have been reflected in the production profile for the Marsh. Recently, production of mixed greens and Chinese vegetables has been increasing. After losing most of the market share to producers in Quebec, lettuce is starting to make a comeback, although at a fraction of its past levels. The growing market for local food and interest in fresh product may help to open up some new opportunities.
As shown in Figure 6, greenhouses have a significant presence in the Marsh. In 2006, the area covered by greenhouses was approximately 10.5 acres representing 4% of the total greenhouse area\textsuperscript{19} in the province at that time. Of this area, approximately 45% was dedicated to vegetable production, 55% to floriculture. This is in contrast to the general production profile in the Marsh where, based on gross farm receipts, less than 1% of the value of production is generated by floriculture.

Between 2001 and 2006, there was a slight increase in the area under cover but the most significant change was a shift from floriculture to vegetable production. This is consistent with the general trend in Ontario which between 2001 and 2006 experienced a 46% increase in the area of greenhouse vegetable production but only a 13% increase in the area dedicated to floriculture.

Greenhouse production has an important role in the Marsh. It allows growers to get a head start on the season by starting plants under cover that can then be moved to the field when weather conditions permit. It can also permit the production of multiple crops which in turn increases productivity.

**Figure 6 - Total Greenhouse (ft\(^2\)) in the Holland Marsh, 2001 and 2006**

<table>
<thead>
<tr>
<th>Greenhouse Products - ft(^2)</th>
<th>2001</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Area Under Glass, Plastic or Other Protection</td>
<td>453,055</td>
<td>457,805</td>
</tr>
<tr>
<td>Greenhouse Flowers</td>
<td>328,972</td>
<td>250,621</td>
</tr>
<tr>
<td>Greenhouse Vegetables</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Other Greenhouse Products</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>


3.4 FINANCIAL INDICATORS

With respect to gross farm receipts (GFR), there is a range in the value of operations with a consistent number of farms reporting less than $10,000 per annum in both 2001 and 2006. Notably, the number of operations in the $10,000 to $24,999 category almost tripled between 2001 and 2006. Over time, the majority of operations in the Marsh have generated in excess of $100,000 in annual GFR’s. The number of operations in the top two categories is increasing.

Figure 7 - Total Number of Farms by Total Gross Farm Receipts in the Holland Marsh, 2001 and 2006

<table>
<thead>
<tr>
<th>Total Gross Farm Receipts</th>
<th>2001</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Farms</td>
<td>90</td>
<td>93</td>
</tr>
<tr>
<td>Under $10,000</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>$10,000 - $24,999</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>$25,000 - $49,999</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>$50,000 - $99,999</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>$100,000 - $249,999</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>$250,000 - $499,999</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>$500,000 - $999,999</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>$1,000,000 - $1,999,999</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>$2,000,000 +</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Based on a conservative estimate using gross farm receipts, average per acre value of production in the Marsh in 2006 was $2,888. For the Province generally, the per acre gross farm receipts value in 2006 was $777. Because the statistics for the Marsh are based on an estimate that includes areas that are outside the Marsh but in the same census dissemination unit, the gross farm receipts generated by Statistics Canada are probably conservative. When consulted, Marsh growers estimated that the value of production actually averages approximately $5,000 per acre. This higher per acre value is reflective of the intensive nature of the agriculture and the type of production. Fruit and vegetable production generates a higher per acre return than crops such as grains and oilseeds or livestock.

Farm capital reflects on-farm investment. In the Marsh, the majority of operations report a value exceeding $200,000 with trends showing a rise in value between 2001 and 2006. Between 2001 and 2006, the number of operations having a capital value in excess of $3.5 million rose from 4 to 11. Average capital value rose from 1.03 million in 2001, to 1.7 million in 2006.

<table>
<thead>
<tr>
<th>Total Farm Capital</th>
<th>2001</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Farms</td>
<td>90</td>
<td>93</td>
</tr>
<tr>
<td>Under $100,000</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>$100,000 - $199,999</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>$200,000 - $349,999</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>$350,000 - $499,999</td>
<td>14</td>
<td>11</td>
</tr>
<tr>
<td>$500,000 - $999,999</td>
<td>25</td>
<td>22</td>
</tr>
<tr>
<td>$1,000,000 - $1,499,999</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>$1,500,000 - $1,999,999</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>$2,000,000 - $349,999,999</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>$3,500,000 +</td>
<td>4</td>
<td>11</td>
</tr>
</tbody>
</table>


Figure 8 - Total Number of Farms by Farm Capital in the Holland Marsh, 2001 and 2006

Figure 8

Average capital value rose from 1.03 million in 2001, to 1.7 million in 2006.
The breakdown of how farm capital was distributed in 2001 and 2006 is shown on Figure 9. This breakdown confirms the rise in farm capital as well as the redistribution. The only category in which there was a significant decline was in the value of combines. Given the large increases in value of all other equipment categories, it can be concluded that the value did not disappear; it was accounted for in a different category. Overall, between 2001 and 2006 there was a 42% increase in the value of farm capital.

**Figure 9 - Market Values in the Holland Marsh, 2001 and 2006**

<table>
<thead>
<tr>
<th>Market Value ($)</th>
<th>2001</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Value of Land and Buildings</td>
<td>$74,577,043</td>
<td>$135,936,319</td>
</tr>
<tr>
<td>Value of Land and Buildings Owned</td>
<td>$55,960,003</td>
<td>$84,048,077</td>
</tr>
<tr>
<td>Value of Land and Buildings, Rented or Leased from Others</td>
<td>$18,617,040</td>
<td>$51,888,242</td>
</tr>
<tr>
<td>Tillage, Cultivation, Seeding and Planting Equipment</td>
<td>$1,523,962</td>
<td>$2,054,681</td>
</tr>
<tr>
<td>Combines</td>
<td>$1,840,880</td>
<td>$419,795</td>
</tr>
<tr>
<td>Irrigation Equipment</td>
<td>$1,755,341</td>
<td>$3,566,715</td>
</tr>
<tr>
<td>All Other Farm Machinery, Workshop and Office Equipment</td>
<td>$1,899,068</td>
<td>$5,024,937</td>
</tr>
<tr>
<td>Value of Farm Machinery and Equipment</td>
<td>$17,223,145</td>
<td>$22,694,394</td>
</tr>
<tr>
<td>Value of Livestock and Poultry</td>
<td>$485,790</td>
<td>$531,050</td>
</tr>
<tr>
<td>Total Farm Capital</td>
<td>$92,285,977</td>
<td>$159,174,136</td>
</tr>
</tbody>
</table>

Figure 10 provides a comparison of expenses between 2001 and 2006. This figure reflects the fact that there are areas outside of the Marsh captured in some of the statistics since categories such as livestock are obviously not relevant to the Marsh. The numbers reveal the labour intensive nature of Marsh agriculture, as labour costs represented 33% of total costs in 2006.

Costs per acre based on these estimates, averaged $2,570 in 2006. Compared to gross farm receipts this generates a net revenue of $337 per acre. This is significantly higher than the average net revenue for Ontario, the GTA, York Region or surrounding municipalities.

**Figure 10 – Expenses in the Holland Marsh, 2001 and 2006**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fertilizer and Lime Purchases</td>
<td>$1,156,610</td>
<td>$1,423,161</td>
</tr>
<tr>
<td>Purchases of Herbicides, Insecticides, Fungicides etc...</td>
<td>$1,391,904</td>
<td>$1,731,439</td>
</tr>
<tr>
<td>Seed and Plant Purchases (excluding Materials Purchased For Resale)</td>
<td>$1,971,969</td>
<td>$2,074,585</td>
</tr>
<tr>
<td>Total Feed, Supplements and Hay Purchases</td>
<td>$183,037</td>
<td>$453,227</td>
</tr>
<tr>
<td>Livestock and Poultry Purchases</td>
<td>$1,024,60</td>
<td>$392,175</td>
</tr>
<tr>
<td>Veterinary Services</td>
<td>$46,767</td>
<td>$122,875</td>
</tr>
<tr>
<td>Custom Work, Contract Work and Hired Trucking</td>
<td>$397,104</td>
<td>$1,536,441</td>
</tr>
<tr>
<td>Total Wages and Salaries</td>
<td>$5,889,302</td>
<td>$9,124,770</td>
</tr>
<tr>
<td>All Fuel Expenses</td>
<td>$1,519,950</td>
<td>$1,778,843</td>
</tr>
<tr>
<td>Repairs and Maintenance to Farm Machinery, Equipment and Vehicles</td>
<td>$1,076,552</td>
<td>$1,505,608</td>
</tr>
<tr>
<td>Repairs and Maintenance to Farm Buildings Fences</td>
<td>$314,141</td>
<td>$364,911</td>
</tr>
<tr>
<td>Rental and Leasing of Land and Buildings</td>
<td>$853,335</td>
<td>$1,637,999</td>
</tr>
<tr>
<td>Rental and Leasing of Farm Machinery, Equipment and Vehicles</td>
<td>$106,637</td>
<td>$82,511</td>
</tr>
<tr>
<td>Repairs and Maintenance to Farm Machinery, Equipment and Vehicles</td>
<td>$1,076,552</td>
<td>$1,505,608</td>
</tr>
<tr>
<td>Electricity, Telephone and All Other Telecommunications</td>
<td>$647,670</td>
<td>$920,405</td>
</tr>
<tr>
<td>Farm Interest Expenses</td>
<td>$751,584</td>
<td>$715,932</td>
</tr>
<tr>
<td>All Other Expenses (excluding Depreciation and Capital Cost Allowance)</td>
<td>$2,192,647</td>
<td>$4,191,403</td>
</tr>
<tr>
<td>Total Farm Operating Expenses</td>
<td>$18,600,422</td>
<td>$28,056,283</td>
</tr>
</tbody>
</table>

3.5 OPERATOR PROFILE

Figure 11 provides a breakdown of the number of operators per farm. These numbers reveal a relatively high incidence of operators per farm, of which approximately one third are women. The higher number of operators could be attributed to the intergenerational partnerships that typify agriculture and which were reported in the responses to the questionnaire completed by Marsh growers. Eighty-seven percent of respondents reported that other family members were involved in their operation; with 33% reporting two, 33% reporting three, 22% reporting four and 11% reporting five.\footnote{See Appendix 3.}

For census purposes, each farm can report up to three operators so intergenerational combinations are not uncommon. Reporting multiple operators, including the older generation, can have the effect of pushing up the average age. For the Marsh, the average age of operators is reported as 53.5 years.

The age profile of farmers in the Marsh in 2006 was consistent with the age profile of Ontario farmers generally.

- 7% were under the age of 35; as compared to 9% for Ontario generally;
- 48% were between the ages of 35 and 54; as compared to 48% for Ontario generally; and
- 43% of Marsh growers were over the age of 54; as compared to 44% for Ontario generally.

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|}
\hline
Operators & 2001 & 2006 \\
\hline
Total Number of Farms & 90 & 93 \\
Total Operators & 140 & 135 \\
Number of Farms With One Operator & 45 & 50 \\
Number of Farms With Two or More Operators & 95 & 85 \\
Number of Farm Operators - Male & 105 & 100 \\
Number of Farm Operators - Female & 35 & 35 \\
\hline
\end{tabular}
\caption{Operators in the Holland Marsh, 2001 and 2006}
\end{table}

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|}
\hline
Number of Farm Operators & 2001 & 2006 \\
\hline
Total Operators & 140 & 135 \\
Under 35 Years of Age & 15 & 10 \\
35 to 54 Years of Age & 70 & 65 \\
55 Year and Over & 55 & 60 \\
Average Age of Operators & 51.3 & 53.5 \\
\hline
\end{tabular}
\caption{Number of Farm Operators, 2001 and 2006}
\end{table}

3.6 COMPARISON WITH OTHER AREAS

To fully understand the unique nature of the Holland Marsh and its contribution to agriculture in Ontario, it is important to compare it to other neighbouring agricultural areas. In this section, statistics for the Marsh are compared to similar statistics for Ontario, the Greenbelt Area, Simcoe County, York Region and the local municipalities that contain parts of the Marsh.

3.6.1 Total Number of Farms, Area of Farmland, and Gross Farm Receipts in 2006

Figure 12 provides a comparison of the percentage change in the number of farms in Ontario, the Greenbelt Area, Simcoe and York, local municipalities and the main Marsh area for the period between 2001 and 2006. What this reveals is that the Marsh is unique in that it experienced an increase in the number of farms within it during this period. All other areas, except King, experienced a decline. King experienced a small increase but at least a portion of this may be attributable to the area of the Marsh within its boundaries.

<table>
<thead>
<tr>
<th>Geographic Location</th>
<th>Number of Farms</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2001</td>
<td>2006</td>
</tr>
<tr>
<td>Ontario</td>
<td>59,728</td>
<td>57,211</td>
</tr>
<tr>
<td>Greenbelt Area</td>
<td>6,454</td>
<td>6,261</td>
</tr>
<tr>
<td>York &amp; Simcoe Total</td>
<td>3,483</td>
<td>3,374</td>
</tr>
<tr>
<td>Regional Municipality of York</td>
<td>1,020</td>
<td>972</td>
</tr>
<tr>
<td>County of Simcoe</td>
<td>2,463</td>
<td>2,402</td>
</tr>
<tr>
<td>Marsh Municipalities</td>
<td>780</td>
<td>746</td>
</tr>
<tr>
<td>Bradford West Gwillimbury</td>
<td>171</td>
<td>164</td>
</tr>
<tr>
<td>King</td>
<td>289</td>
<td>293</td>
</tr>
<tr>
<td>East Gwillimbury</td>
<td>167</td>
<td>143</td>
</tr>
<tr>
<td>Georgina</td>
<td>153</td>
<td>146</td>
</tr>
<tr>
<td>Holland Marsh</td>
<td>90</td>
<td>93</td>
</tr>
</tbody>
</table>


Figure 13 which documents changes in area, reveals a similar pattern with farmland acres. The Marsh and the municipalities with portions of it within their boundaries are the only areas that experienced an increase in farmland between 2001 and 2006.
Figure 13 – Farmland Area\textsuperscript{21}, 2001 and 2006

<table>
<thead>
<tr>
<th>Geographic Location</th>
<th>Farmland Area (ac)</th>
<th>2001</th>
<th>2006</th>
<th>2001-2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ontario</td>
<td>13,507,357</td>
<td>13,310,216</td>
<td>-1.5%</td>
<td></td>
</tr>
<tr>
<td>Greenbelt Area</td>
<td>970,262</td>
<td>932,436</td>
<td>-3.9%</td>
<td></td>
</tr>
<tr>
<td>York &amp; Simcoe Total</td>
<td>716,835</td>
<td>700,829</td>
<td>-2.2%</td>
<td></td>
</tr>
<tr>
<td>Regional Municipality of York</td>
<td>175,965</td>
<td>167,076</td>
<td>-5.1%</td>
<td></td>
</tr>
<tr>
<td>County of Simcoe</td>
<td>540,870</td>
<td>533,753</td>
<td>-1.3%</td>
<td></td>
</tr>
<tr>
<td>Marsh Municipalities</td>
<td>134,940</td>
<td>139,072</td>
<td>3.1%</td>
<td></td>
</tr>
<tr>
<td>Bradford West Gwillimbury</td>
<td>32,564</td>
<td>36,283</td>
<td>11.4%</td>
<td></td>
</tr>
<tr>
<td>King</td>
<td>42,497</td>
<td>46,051</td>
<td>8.4%</td>
<td></td>
</tr>
<tr>
<td>East Gwillimbury</td>
<td>26,216</td>
<td>27,075</td>
<td>3.3%</td>
<td></td>
</tr>
<tr>
<td>Georgina</td>
<td>33,663</td>
<td>29,663</td>
<td>-11.9%</td>
<td></td>
</tr>
<tr>
<td>Holland Marsh</td>
<td>7,891</td>
<td>10,919</td>
<td>38.4%</td>
<td></td>
</tr>
</tbody>
</table>


Figure 14 provides a summary of the gross farm receipts for the province, adjacent areas, the Marsh municipalities and the Holland Marsh in 2006.\textsuperscript{22} The significance of the Marsh can be seen from a review of these numbers which confirms that despite containing a smaller number of farms in a relatively small area, the Gross Farm Receipts generated are proportionately much higher than in other areas.

Figure 14 – Total Gross Farm Receipts per Acre, 2006

<table>
<thead>
<tr>
<th>Geographic Location</th>
<th>Farmland Area (Acres)</th>
<th>Gross Farm Receipts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total ($)</td>
</tr>
<tr>
<td>Ontario</td>
<td>13,310,216</td>
<td>$10,342,031,229</td>
</tr>
<tr>
<td>Greenbelt Area</td>
<td>932,436</td>
<td>$1,174,408,210</td>
</tr>
<tr>
<td>York &amp; Simcoe Total</td>
<td>700,829</td>
<td>$550,752,536</td>
</tr>
<tr>
<td>Regional Municipality of York</td>
<td>167,076</td>
<td>$224,119,932</td>
</tr>
<tr>
<td>County of Simcoe</td>
<td>533,753</td>
<td>$326,632,604</td>
</tr>
<tr>
<td>Marsh Municipalities</td>
<td>139,072</td>
<td>$162,928,910</td>
</tr>
<tr>
<td>Bradford West Gwillimbury</td>
<td>36,283</td>
<td>$39,620,911</td>
</tr>
<tr>
<td>King</td>
<td>46,051</td>
<td>$74,422,468</td>
</tr>
<tr>
<td>East Gwillimbury</td>
<td>27,075</td>
<td>$35,358,474</td>
</tr>
<tr>
<td>Georgina</td>
<td>29,663</td>
<td>$13,527,057</td>
</tr>
<tr>
<td>Holland Marsh</td>
<td>10,919</td>
<td>$31,535,933</td>
</tr>
</tbody>
</table>


\textsuperscript{21} Note: 2001 – Total Area of Farms – was redefined in 2006 to Total Area of Land Operated by this operation.

\textsuperscript{22} Note that the estimate of gross farm receipts generated by Statistics Canada is conservative. The Growers estimate the actual average gross farm receipts per acre at approximately $5,000.00. However to ensure consistency for comparison purposes Statistics Canada values are used.
In summary:

- In comparison with the Province, the Marsh contains:
  - 93 farms, or less than .16% of farms in the Province; and
  - 10,919 acres, or less than .08% of farm area in the Province; but generates
  - $31,535,933 in total Gross Farm Receipts, or .30% of GFR in the Province.

- In comparison with the Greenbelt, the Marsh contains:
  - 93 farms, or 1.48% of farms in the Greenbelt; and
  - 10,919 acres, or 1.17% of farm area in the Greenbelt; but generates
  - $31,535,933 in total Gross Farm Receipts, or 2.68% of GFR in the Greenbelt.

- In comparison with York Region and Simcoe County, the Marsh contains:
  - 93 farms, or 2.76% of farms in the two areas; and
  - 10,919 acres, or 1.56% of farm area in the two areas; but generates
  - $31,535,933 in total Gross Farm Receipts, or 5.73% of GFR in the two areas.

- In comparison with the Town of Bradford West Gwillimbury and the and Township of King, the Marsh contains:
  - 93 farms, or 20.4% of farms; and
  - 10,919 acres, or 13.26% of farm area in the two Municipalities; but generates
  - $31,535,933 in total Gross Farm Receipts, or 27.6% of GFR in the two Municipalities.

The significance of the Marsh for agriculture is underscored by the value of the average gross farm receipts generated per acre of land as shown on Figure 15. In 2006, the Marsh generated average gross farm receipts per acre of $2,888. This is 3.7 times larger than for the Province (at $777 per acre), 2.3 times larger than for the overall Greenbelt (at $1,260 per acre), 3.7 times larger than for York and Simcoe combined (at $786), 1.8 times higher than King Township (at $1,616) and 2.6 times higher than Bradford West Gwillimbury (at $1,092).
Figure 15 – Total Gross Farm Receipts, $ per Acre, 2006

Figure 16 – Total Gross Farm Receipts, $ per Acre, Comparing 2001 to 2006
The importance of Marsh production on a provincial basis is emphasized by the percentage of gross farm receipts attributable to vegetables that are generated in the Holland Marsh. Total gross farm receipts for vegetables in Ontario in 2006, were reported by Statistics Canada at $372 million. Annual production in the Marsh in 2006 was estimated at $29 million by Statistics Canada based on acreage and at $52 million by Marsh Growers which represents between 8% and 14% of the total annual value of vegetable production in the province.

3.6.2 Farm Size

As noted in Figure 17 the average farm size in the Marsh increased from 88 acres in 2001 to 118 acres in 2006, a 34.1 % increase. This trend is consistent with trends in agriculture generally where fewer operators are farming larger areas. It is a trend that is particularly apparent in areas where intensive production of fruit and vegetables dominates. In the Town of Niagara-on-the-Lake, for example, where the average farm size is comparable to the Marsh and where fruit production dominates, average farm size increased from 47 acres in 1996 to 60 acres in 2001.

Figure 17 – Average Farm Size, Showing Percentage Change between 2001 and 2006
As a specialty crop area, with more intensive farming activities, the average farm size in the Marsh is considerably smaller than in the other more general agricultural areas. The average size of farms in Ontario is 233 acres, or 2 times larger than the average Marsh farms. The average size of farms in the Greenbelt is 149 acres, or 1.26 times larger than the average Marsh farms.

Figure 18 summarizes average parcel size, and provides a comparison of the distributions of farms of different sizes in the Marsh and elsewhere in Ontario in 2006. This comparison emphasizes the unique farm profile that characterizes the Marsh.

Figure 18 – Total Number of Farms, by Area Classifications, 2006

<table>
<thead>
<tr>
<th>Geographic Location</th>
<th>Under 10 Acres</th>
<th>10 to 69 Acres</th>
<th>70 to 129 Acres</th>
<th>130 to 179 Acres</th>
<th>180 to 239 Acres</th>
<th>240 to 399 Acres</th>
<th>400 to 559 Acres</th>
<th>560 to 759 Acres</th>
<th>760 to 1,119 Acres</th>
<th>1,120 Acres and Over</th>
<th>Total Number of Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ontario</td>
<td>3,163</td>
<td>12,690</td>
<td>12,857</td>
<td>5,622</td>
<td>5,472</td>
<td>7,554</td>
<td>3,635</td>
<td>2,175</td>
<td>1,640</td>
<td>1,403</td>
<td>57,211</td>
</tr>
<tr>
<td>Greenbelt Area</td>
<td>646</td>
<td>2,482</td>
<td>1,288</td>
<td>422</td>
<td>407</td>
<td>486</td>
<td>222</td>
<td>122</td>
<td>112</td>
<td>74</td>
<td>6,261</td>
</tr>
<tr>
<td>York &amp; Simcoe Total</td>
<td>223</td>
<td>1,046</td>
<td>777</td>
<td>299</td>
<td>264</td>
<td>361</td>
<td>146</td>
<td>81</td>
<td>85</td>
<td>92</td>
<td>3,374</td>
</tr>
<tr>
<td>Regional Municipality of York</td>
<td>107</td>
<td>404</td>
<td>168</td>
<td>72</td>
<td>51</td>
<td>88</td>
<td>27</td>
<td>10</td>
<td>21</td>
<td>24</td>
<td>972</td>
</tr>
<tr>
<td>County of Simcoe</td>
<td>116</td>
<td>642</td>
<td>609</td>
<td>227</td>
<td>213</td>
<td>273</td>
<td>119</td>
<td>71</td>
<td>64</td>
<td>68</td>
<td>2,402</td>
</tr>
<tr>
<td>Marsh Municipalities</td>
<td>67</td>
<td>288</td>
<td>151</td>
<td>61</td>
<td>37</td>
<td>65</td>
<td>25</td>
<td>12</td>
<td>19</td>
<td>21</td>
<td>746</td>
</tr>
<tr>
<td>Bradford West Gwillimbury</td>
<td>18</td>
<td>53</td>
<td>33</td>
<td>12</td>
<td>12</td>
<td>14</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>7</td>
<td>164</td>
</tr>
<tr>
<td>King</td>
<td>27</td>
<td>131</td>
<td>56</td>
<td>22</td>
<td>9</td>
<td>20</td>
<td>11</td>
<td>2</td>
<td>10</td>
<td>5</td>
<td>293</td>
</tr>
<tr>
<td>East Gwillimbury</td>
<td>9</td>
<td>54</td>
<td>31</td>
<td>14</td>
<td>8</td>
<td>15</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>143</td>
</tr>
<tr>
<td>Georgina</td>
<td>13</td>
<td>50</td>
<td>31</td>
<td>13</td>
<td>8</td>
<td>16</td>
<td>7</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>146</td>
</tr>
<tr>
<td>Holland Marsh</td>
<td>16</td>
<td>39</td>
<td>15</td>
<td>9</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>93</td>
</tr>
</tbody>
</table>

3.6.3 Number of Farms by Size of Gross Farm Receipts

Figures 19a and 19b provide a summary of the number of farms classified by Gross Farm Receipts.

### Figure 19a – Number of Farms Classified by Gross Farm Receipts, 2001

<table>
<thead>
<tr>
<th>Geographic Location</th>
<th>Total Number of Farms</th>
<th>Under $10,000</th>
<th>$10,000 to $24,999</th>
<th>$25,000 to $49,999</th>
<th>$50,000 to $99,999</th>
<th>$100,000 to $249,999</th>
<th>$250,000 to $499,999</th>
<th>$500,000 and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ontario</td>
<td>59,728</td>
<td>15,370</td>
<td>11,378</td>
<td>7,862</td>
<td>6,542</td>
<td>9,587</td>
<td>5,493</td>
<td>3,496</td>
</tr>
<tr>
<td>Greenbelt Area</td>
<td>6,271</td>
<td>1,999</td>
<td>1,236</td>
<td>830</td>
<td>634</td>
<td>819</td>
<td>486</td>
<td>273</td>
</tr>
<tr>
<td>York/Simcoe Total</td>
<td>3,483</td>
<td>1,117</td>
<td>685</td>
<td>458</td>
<td>339</td>
<td>442</td>
<td>236</td>
<td>206</td>
</tr>
<tr>
<td>Regional Municipality of York</td>
<td>1,020</td>
<td>314</td>
<td>164</td>
<td>126</td>
<td>102</td>
<td>154</td>
<td>74</td>
<td>86</td>
</tr>
<tr>
<td>Simcoe County</td>
<td>2,463</td>
<td>803</td>
<td>521</td>
<td>332</td>
<td>237</td>
<td>288</td>
<td>162</td>
<td>120</td>
</tr>
<tr>
<td>Marsh Municipalities</td>
<td>780</td>
<td>237</td>
<td>119</td>
<td>91</td>
<td>76</td>
<td>124</td>
<td>61</td>
<td>72</td>
</tr>
<tr>
<td>Bradford West Gwillimbury</td>
<td>171</td>
<td>42</td>
<td>18</td>
<td>18</td>
<td>16</td>
<td>38</td>
<td>20</td>
<td>19</td>
</tr>
<tr>
<td>King</td>
<td>289</td>
<td>74</td>
<td>44</td>
<td>36</td>
<td>28</td>
<td>57</td>
<td>24</td>
<td>26</td>
</tr>
<tr>
<td>East Gwillimbury</td>
<td>167</td>
<td>60</td>
<td>24</td>
<td>20</td>
<td>15</td>
<td>19</td>
<td>10</td>
<td>19</td>
</tr>
<tr>
<td>Georgina</td>
<td>153</td>
<td>61</td>
<td>33</td>
<td>17</td>
<td>17</td>
<td>10</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Holland Marsh</td>
<td>90</td>
<td>17</td>
<td>5</td>
<td>12</td>
<td>9</td>
<td>21</td>
<td>12</td>
<td>14</td>
</tr>
</tbody>
</table>


### Figure 19b – Number of Farms Classified by Gross Farm Receipts, 2006

<table>
<thead>
<tr>
<th>Geographic Location</th>
<th>Total Number of Farms</th>
<th>Under $10,000</th>
<th>$10,000 to $24,999</th>
<th>$25,000 to $49,999</th>
<th>$50,000 to $99,999</th>
<th>$100,000 to $249,999</th>
<th>$250,000 to $499,999</th>
<th>$500,000 and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ontario</td>
<td>57,211</td>
<td>14,500</td>
<td>10,828</td>
<td>7,397</td>
<td>6,521</td>
<td>7,965</td>
<td>5,589</td>
<td>4,411</td>
</tr>
<tr>
<td>Greenbelt Area</td>
<td>6,260</td>
<td>1,816</td>
<td>1,239</td>
<td>762</td>
<td>686</td>
<td>763</td>
<td>504</td>
<td>490</td>
</tr>
<tr>
<td>York/Simcoe Total</td>
<td>3,374</td>
<td>998</td>
<td>731</td>
<td>423</td>
<td>341</td>
<td>383</td>
<td>273</td>
<td>225</td>
</tr>
<tr>
<td>Regional Municipality of York</td>
<td>972</td>
<td>265</td>
<td>181</td>
<td>109</td>
<td>110</td>
<td>134</td>
<td>80</td>
<td>93</td>
</tr>
<tr>
<td>Simcoe County</td>
<td>2,402</td>
<td>733</td>
<td>550</td>
<td>314</td>
<td>231</td>
<td>249</td>
<td>193</td>
<td>132</td>
</tr>
<tr>
<td>Marsh Municipalities</td>
<td>746</td>
<td>192</td>
<td>134</td>
<td>87</td>
<td>76</td>
<td>104</td>
<td>80</td>
<td>73</td>
</tr>
<tr>
<td>Bradford West Gwillimbury</td>
<td>164</td>
<td>30</td>
<td>27</td>
<td>16</td>
<td>15</td>
<td>25</td>
<td>31</td>
<td>20</td>
</tr>
<tr>
<td>King</td>
<td>293</td>
<td>65</td>
<td>41</td>
<td>35</td>
<td>33</td>
<td>30</td>
<td>36</td>
<td>33</td>
</tr>
<tr>
<td>East Gwillimbury</td>
<td>143</td>
<td>43</td>
<td>24</td>
<td>22</td>
<td>19</td>
<td>13</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>Georgina</td>
<td>146</td>
<td>54</td>
<td>42</td>
<td>14</td>
<td>9</td>
<td>16</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Holland Marsh</td>
<td>93</td>
<td>17</td>
<td>14</td>
<td>7</td>
<td>7</td>
<td>21</td>
<td>11</td>
<td>16</td>
</tr>
</tbody>
</table>


As can be seen from Figure 19b in 2006, the percentage of farms in the higher gross farm receipts categories was considerably higher in the Marsh than in any of the other areas reviewed. For gross farm receipts:

- in excess of $2,000,000 - 2.7% of the farms in the Marsh were in this category, as compared to 1.0% in Ontario, 1.5% in the Greenbelt and 2.4% in King;
- between $1,000,000 and $1,999,999 - 5.5% of the farms in the Marsh were in this category, as compared to 1.9% for Ontario and the Greenbelt. York and East Gwillimbury have a higher percentage in this range than does the Marsh;
- between $500,000 and $999,999 - 8.5% of the farms in the Marsh were in this category, as compared to 4.8% in Ontario, 4.4% in the Greenbelt and 7.9% in Bradford West Gwillimbury; and
- with respect to smaller gross farm receipts (less than $99,999), the Marsh had a smaller percentage of farms in this category than all of the other areas (except Georgina).
The distribution pattern for the 2001 period was similar.

Table 2 provides a summary of the median number of farms in relation to Gross Farm Receipts.

<table>
<thead>
<tr>
<th>Geographic Location</th>
<th>Total Number of Farms - 2001</th>
<th>Gross Farm Receipts/Median 2001</th>
<th>Total Number of Farms - 2006</th>
<th>Gross Farm Receipts/Median 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ontario</td>
<td>59,728</td>
<td>$25,000 to $49,999</td>
<td>57,211</td>
<td>$25,000 to $49,999</td>
</tr>
<tr>
<td>Greenbelt Area</td>
<td>6,455</td>
<td>$10,000 to $24,999</td>
<td>6,261</td>
<td>$25,000 to $49,999</td>
</tr>
<tr>
<td>York &amp; Simcoe Total</td>
<td>3,374</td>
<td>$10,000 to $24,999</td>
<td>3,375</td>
<td>$10,000 to $24,999</td>
</tr>
<tr>
<td>Regional Municipality of York</td>
<td>1,020</td>
<td></td>
<td>972</td>
<td></td>
</tr>
<tr>
<td>County of Simcoe</td>
<td>2,463</td>
<td></td>
<td>2,402</td>
<td></td>
</tr>
<tr>
<td>Marsh Municipalities</td>
<td>780</td>
<td></td>
<td>746</td>
<td></td>
</tr>
<tr>
<td>Bradford West Gwillimbury</td>
<td>171</td>
<td>$50,000 to $99,999</td>
<td>164</td>
<td>$50,000 to $99,999</td>
</tr>
<tr>
<td>King</td>
<td>289</td>
<td>$50,000 to $99,999</td>
<td>293</td>
<td>$50,000 to $99,999</td>
</tr>
<tr>
<td>East Gwillimbury</td>
<td>167</td>
<td></td>
<td>143</td>
<td></td>
</tr>
<tr>
<td>Georgina</td>
<td>153</td>
<td></td>
<td>146</td>
<td></td>
</tr>
<tr>
<td>Holland Marsh</td>
<td>90</td>
<td>$100,000 to $249,999</td>
<td>93</td>
<td>$100,000 to $249,999</td>
</tr>
</tbody>
</table>


### 3.6.4 Gross Farm Receipts

As noted in Figure 20, Gross Farm Receipts increased by 42.7% in the Marsh between 2001 and 2006, as compared to a 13.5% increase for the Province, a 9.3% increase in the Greenbelt, a 16.5% increase in York/Simcoe, and 16.9% in Bradford West Gwillimbury. Only in King did the percentage change in Gross Farm Receipts exceed the Marsh, at 49.4%.

**Figure 20 – Gross Farm Receipts, showing Percentage Change 2001 – 2006**

<table>
<thead>
<tr>
<th>Geographic Location</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ontario</td>
<td>13.5%</td>
</tr>
<tr>
<td>Greenbelt Area</td>
<td>9.3%</td>
</tr>
<tr>
<td>Regional Municipality of York</td>
<td>11.1%</td>
</tr>
<tr>
<td>County of Simcoe</td>
<td>16.9%</td>
</tr>
<tr>
<td>Bradford West Gwillimbury</td>
<td>49.4%</td>
</tr>
<tr>
<td>King</td>
<td>-13.9%</td>
</tr>
<tr>
<td>East Gwillimbury</td>
<td>-13.9%</td>
</tr>
<tr>
<td>Georgina</td>
<td>42.7%</td>
</tr>
<tr>
<td>Holland Marsh</td>
<td>42.7%</td>
</tr>
</tbody>
</table>
3.6.5 Farm Operating Costs and Net Revenues

Figures 21a and 21b provide a summary of farm operating costs between 2001 and 2006, both in relation to the number of farms and in operating costs per acre.

**Figure 21a – Operating Cost Per Acre ($), 2001 and 2006**

**Figure 21b – Operating Cost Per Farm ($), 2001 and 2006**
These figures reflect the extent to which the operating costs in the Marsh are higher than in the other areas reviewed. This supports the proposition that the more intensive agricultural activities in the Marsh require a considerably higher investment than in areas outside the specialty crop areas.

In 2006, operating costs in the Marsh were $2,570 per acre, 3.87 times higher than across the Province, 2.32 times higher than elsewhere in the Greenbelt, and 3.71 times higher than in York/Simcoe.

Operating costs in the Marsh, in 2001, were $2,357 per acre, 4.06 times higher than across the Province, 2.41 times higher than elsewhere in the Greenbelt, and 4.01 times higher than in York/Simcoe. This indicates that operating costs, in addition to being higher in the Marsh, are increasing faster in the Marsh than in the Province or the Greenbelt.

**Figure 22** identifies net revenue per acre in 2006, which is the difference between the gross farm receipts per acre and the operating costs per acre.

**Figure 22 – Net Revenue Per Acre ($), 2006**

These figures continue to reinforce the differences between the Marsh and other agricultural areas, evident in both the higher gross farm receipts and higher operating costs. From a net revenue perspective, the Marsh shows net revenue of $318 per acre, 2.8 times larger than the Province (at $113), 2.05 times larger than the Greenbelt (at $155), and 3.38 times larger than York/Simcoe (at $94). It is also 2.3 times higher than Bradford West Gwillimbury ($136) and 1.24 times higher than King ($256).
3.6.6 Farm Capital Data

Figure 23 summarizes farm capital data for the Holland Marsh and surrounding areas. The value of farm capital has risen for all of the areas but the percentage increase in the Marsh has been higher. Average capital value per operation for the Marsh is higher than in Ontario. The numbers indicate values are higher in York Region, King Township and the Town of Bradford West Gwillimbury, but this may be due to the fact that the values for the Marsh are included in these values.

Figure 23 – Average Capital ($) 2001 and 2006

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ontario</td>
<td>$845,998</td>
<td>$1,142,032</td>
</tr>
<tr>
<td>Greenbelt Area</td>
<td>$1,024,608</td>
<td>$1,332,815</td>
</tr>
<tr>
<td>Regional Municipality of York</td>
<td>$2,013,707</td>
<td>$2,259,774</td>
</tr>
<tr>
<td>County of Simcoe</td>
<td>$845,138</td>
<td>$1,258,807</td>
</tr>
<tr>
<td>Bradford West Gwillimbury</td>
<td>$1,123,343</td>
<td>$1,280,769</td>
</tr>
<tr>
<td>King</td>
<td>$2,055,304</td>
<td>$2,411,934</td>
</tr>
<tr>
<td>East Gwillimbury</td>
<td>$1,124,469</td>
<td>$1,650,012</td>
</tr>
<tr>
<td>Georgina</td>
<td>$1,108,617</td>
<td>$1,249,678</td>
</tr>
<tr>
<td>Holland Marsh</td>
<td>$2,055,304</td>
<td>$1,711,350</td>
</tr>
</tbody>
</table>

3.6.7 Land Ownership

Land tenure is a measure that provides insight into the forces impacting an agricultural area. High incidents of rental land can be indicative of non-farm ownership of land by various groups including speculators, retirees or non-farm rural residents. In areas that are under pressure for development, the price of land can exceed productive value, thereby precluding the purchase of it to expand agricultural operations. Rental of land is a more affordable alternative that allows farmers access to the land without the capital outlay to acquire it. Because land that is actively farmed is eligible for a significantly reduced property tax rate, non-farm owners are motivated to rent the land. However, because rental arrangements are often short term and informal, operators can be reluctant to make the investments in the land required to maintain optimal productivity or to cultivate crops that require several years to come to maturity.

These issues should not be as significant in the Marsh as in other areas. The very nature of the area and the uniqueness of the soil establish the highest and best use as agriculture and should minimize speculative activity. The Province’s designation of the area as one of two “Specialty Crop Areas” in Ontario removes any options for using the land for purposes other than agriculture.
It is interesting to note therefore, that the rate of rental land in the Marsh is still considerably higher than in Ontario generally. Reasons for this may include high cost of land making acquisition challenging for new operators, retired growers may be reluctant to give up ownership, or there may be other forces at work. Discussions with the growers and responses to the questionnaire that was circulated did not provide additional insight into this issue.

**Figure 24 – Farmland Area (Acres) by Tenure, 2006**

<table>
<thead>
<tr>
<th>Geographic Location</th>
<th>Total Area (Acres)</th>
<th>Area Owned (Acres)</th>
<th>Percentage of Total Area</th>
<th>Total Area Rented or Leased From Others (Acres)</th>
<th>Percentage of Total Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ontario</td>
<td>13,310,216</td>
<td>9,313,544</td>
<td>70.0%</td>
<td>3,767,400</td>
<td>28.3%</td>
</tr>
<tr>
<td>Greenbelt Area</td>
<td>932,436</td>
<td>537,956</td>
<td>57.7%</td>
<td>372,737</td>
<td>40.0%</td>
</tr>
<tr>
<td><strong>York &amp; Simcoe Total</strong></td>
<td><strong>700,829</strong></td>
<td><strong>424,142</strong></td>
<td><strong>60.5%</strong></td>
<td><strong>275,751</strong></td>
<td><strong>39.3%</strong></td>
</tr>
<tr>
<td>Regional Municipality of York</td>
<td>167,076</td>
<td>86,568</td>
<td>51.8%</td>
<td>75,529</td>
<td>45.2%</td>
</tr>
<tr>
<td>County of Simcoe</td>
<td>533,753</td>
<td>337,574</td>
<td>63.2%</td>
<td>200,222</td>
<td>37.5%</td>
</tr>
<tr>
<td><strong>Marsh Municipalities</strong></td>
<td><strong>139,072</strong></td>
<td><strong>73,815</strong></td>
<td><strong>53.1%</strong></td>
<td><strong>62,758</strong></td>
<td><strong>45.1%</strong></td>
</tr>
<tr>
<td>Bradford West Gwillimbury</td>
<td>36,283</td>
<td>18,239</td>
<td>50.3%</td>
<td>17,429</td>
<td>48.0%</td>
</tr>
<tr>
<td>King</td>
<td>46,051</td>
<td>23,131</td>
<td>50.2%</td>
<td>19,530</td>
<td>42.4%</td>
</tr>
<tr>
<td>East Gwillimbury</td>
<td>27,075</td>
<td>15,507</td>
<td>57.3%</td>
<td>12,874</td>
<td>47.5%</td>
</tr>
<tr>
<td>Georgina</td>
<td>29,663</td>
<td>16,938</td>
<td>57.1%</td>
<td>12,925</td>
<td>43.6%</td>
</tr>
<tr>
<td>Holland Marsh</td>
<td>10,919</td>
<td>6,680</td>
<td>61.2%</td>
<td>4,558</td>
<td>41.7%</td>
</tr>
</tbody>
</table>


### 3.6.8 Farm Type

In most areas, the farm profile is varied. In York Region, as shown in **Figure 25a** based on number of operations, there are a variety of farm types.

**Figure 25a – Number of Farms by Farm Types in Regional Municipality of York, 2006**
Based on gross farm receipts however, the profile shifts as shown in Figure 25b with vegetables being the number one commodity followed by greenhouse. Undoubtedly the Marsh contributes to the prominence of the vegetable sector in York Region.

Figure 25b – Percentage of Gross Farm Receipts for the Regional Municipality of York, 2006

Within the Marsh itself, the production profile is quite homogeneous with vegetable production, specifically carrots and onions accounting for the vast majority of production. As previously shown on Figure 5, there is a small amount of floriculture in some greenhouses and a variety of vegetable production. The Growers’ Association has expressed interest in expanding the production profile and gaining back market share for products such as lettuce and greens that over time has been lost to other areas. However, overall carrots and onions have and will continue to dominate as the growing medium for them is ideal.
ROLE OF THE HOLLAND MARSH IN ONTARIO’S AGRICULTURAL ECONOMY
4.1 INTRODUCTION

As the statistics provided in the previous chapter confirm, the Holland Marsh is a significant component of agricultural production in Ontario. To further understand the importance of the Marsh, an economic impact analysis was conducted to quantify the contribution production in the Marsh makes to the provincial economy. A full copy of the economic impact analysis is contained in Appendix 4.

The term “economic impact analysis” is self-explanatory. While many approaches exist, the objective of an economic impact analysis is to quantify all of the economic impacts that stem from the activities of a specific industry or cluster in a given economy. This chapter summarizes the results of an analysis of the provincial economic impacts stemming from activities in the Holland Marsh. The methodology employed and the results achieved are discussed below.

4.2 METHODOLOGY

4.2.1 Measuring Fruit and Vegetable Production in the Holland Marsh

Given that the area of agricultural production in the Marsh is not a defined census division, it was difficult to obtain specific economic data. All values generated were based on certain assumptions and therefore would be impacted by certain biases. To address this and to ensure that the analysis accurately captured the economic profile of the Marsh, several indicators based on acreage and estimated value of production were used.

Gross farm receipts and farm cash receipts, both generated using average provincial values for acres under production, were used with the expectation that these estimates are conservative. These two values, generated based on acreage but using different techniques, were used as a cross check against each other. The fact that values reported are comparable confirms that this value of production is reliable.

Productive value was used as an alternative value, specific to the Marsh. This value was an estimate of the value of sales per acre for Marsh product provided by growers in the Marsh and was much higher than the Statistics Canada values.

Since the grower based estimate has not been statistically validated, it was used to inform the process but not as a definitive value. This considerably higher value could be explained by higher productivity in the Marsh, however efforts to obtain specific yield numbers for the Marsh were unsuccessful. The only statistics found that deal with yield were those produced by the Ontario Ministry of Agriculture Food and Rural Affairs (OMAFRA) on a county and regional basis. These figures confirm that the per acre yields for carrots and onions are higher in York Region which contains more than 75% of the Marsh agricultural area, than in other vegetable producing regions of the province. This higher yield could support a higher per acre productive value.

---

23 Note the full economic impact analysis report is attached to this report as Appendix 4.

24 Average yield for carrots in 2006 for York Region was 33.3 lbs per acre as compared to the provincial yield of 33 lbs per acre. Average yield for onions was 38.1 lbs per acre in York Region; 37 lbs per acre for Ontario.
Table 3 summarizes the estimates used.

**Table 3 - Estimates of Fruit and Vegetable Production in the Holland Marsh, 2006**

<table>
<thead>
<tr>
<th>Estimated Total Fruit &amp; Vegetable Production in the Marsh, 2006</th>
<th>Scenario 1 - Estimated Farm Cash Receipts</th>
<th>Scenario 2 - Estimated Gross Farm Receipts</th>
<th>Scenario 3 - Grower’s Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>$29,074,000.00</td>
<td>$31,740,000.00</td>
<td>$51,800,000.00</td>
<td></td>
</tr>
<tr>
<td>Estimated Vegetable Production in the Marsh, 2006</td>
<td>$28,869,000.00</td>
<td>$31,535,000.00</td>
<td>$51,595,000.00</td>
</tr>
<tr>
<td>Estimated Fruit Production in the Marsh, 2006</td>
<td>$205,000.00</td>
<td>$205,000.00</td>
<td>$205,000.00</td>
</tr>
</tbody>
</table>

### 4.2.2 Conceptualizing the Structure of the Fruit and Vegetable Production in the Holland Marsh

Figure 26 presents a schematic representation of the fruit and vegetable production cluster in Ontario and its relationship to the broader provincial economy. At the heart of the cluster are the farmers who grow fruits and vegetables in Ontario. Growers in the Holland Marsh are a sub-set of this provincial cluster.

The fruit and vegetable production cluster in the Holland Marsh is connected to the broader provincial economy in many ways. Members of the cluster interact with the provincial economy through the purchase of necessary inputs and the sale of output or produce. The nature of these interconnections between the cluster and the broader provincial economy determines the magnitude of the cluster’s total economic impact on the provincial economy. Changes in the cluster (positive or negative) will be transmitted on to the rest of the provincial economy through economic (backward and forward) linkages (and vice versa).
Figure 26 - Conceptualizing the Fruit and Vegetable Production Cluster in the Province of Ontario
4.2.3 Measuring the Provincial Economic Impact of Fruit and Vegetable Production in the Holland Marsh

The methodology used to measure the provincial economic impact of fruit and vegetable production in the Holland Marsh consisted of several steps including:

1. Use primary and secondary data sources to assemble an estimate of the input and output structures of the fruit and vegetable production cluster in Ontario based on assumption that this provincial structure applies to producers located in the Marsh;

2. Develop a custom economic impact model for the Province of Ontario that treats the fruit and vegetable components of the provincial agricultural cluster separately; and

3. Make use of input and output structures developed in stage 1 above, to implement the impact model developed in stage 2, and to translate observed levels of fruit and vegetable productive activity in the Holland Marsh into total impacts on industry output, labour income, and Gross Domestic Product (GDP) at the provincial scale.
4.2.4 Articulating Input and Output Structures for the Fruit and Vegetable Components

To measure the provincial economic impact of operations in the Holland Marsh, the nature of this cluster’s interaction with all other components of the provincial economy must be delineated. In the absence of detailed local information regarding the structure of production in the Marsh, blended average input structures were developed for the broader provincial production cluster using a combination of operator input (primary data) and information taken from OMAFRAs Enterprise Budgets. This information was then used to construct estimates of the input and output structures of the fruit and vegetable components of the provincial cluster (see Figure 26). As noted, this approach assumes that the fruit and vegetable production cluster in the Marsh is structurally identical to the provincial fruit and vegetable production cluster.

These input and output structures were used to separate the activities of the fruit and vegetable production cluster in Ontario from the overall provincial agricultural cluster, and to represent these separately in a set of synthetic Input-Output tables for the Province of Ontario.

4.2.5 Develop a Custom Economic Impact Model for Ontario that Treats Fruits and Vegetable Operations Explicitly

In order to estimate the total provincial economic impact associated with the Marsh production cluster, a stylized provincial Input-Output model was used. The model took as input, information regarding the output levels and input- and output-structures for each of the fruit and vegetable components in the Marsh. It then generated corresponding estimates of the total provincial economic impact of these activities in terms of industry outputs, GDP (or value added) and labor income. The impact model is based on the most recent Input-Output data available for the Province of Ontario, 2005, and treats household consumption demand, interregional trade and inter-industry transactions as similarly generated variables. The model, for a given level of demand for the output of the fruit and vegetable production cluster, will generate a total economic impact profile by industry in Ontario, which includes direct, indirect and induced effects.

25 The OMAFRA website notes that these enterprise budgets are offered to aid producers in evaluating the economics of production decisions. The Enterprise Budgets are based on detailed tax filer data collected by the Canada Customs and Revenue Agency (CCRA) and provide a sterilized view of how “average” farming operations of various types (e.g., potato farming or strawberry farming) interact with the broader economic system. These interactions are described in terms of the nature of all input purchases made in producing a standard unit of a given commodity, as well as the nature of the outputs sold (e.g., fresh peaches or processing peaches). http://www.omafra.gov.on.ca/english/busdev/bear2000/Budgets/oeb.htm.

26 These tables are synthetic insofar as they did not originally include separate fruit & vegetable components, but rather one industry called “Crop and Animal Production”. The data used for this analysis split this aggregate into three sub-components – Fruit, Vegetable and Other Agriculture.

27 It is important to reiterate the fact that our assumption is that the provincial input- and output-structures represent a reasonable estimate of the structures specific to producers in the HM.
4.2.6 TRANSLATE PRODUCTION INTO TOTAL ECONOMIC IMPACTS

Table 3 above presents three values for production in the Marsh in 2006. The impact model was used to translate these levels of production activity in the Marsh into estimates of the associated total economic impacts including all direct, indirect and induced effects across all industries in Ontario.

Total Output Multipliers measure the stimulatory effect of each industry in the economy (inclusive of direct, indirect and induced effects) on all industries in the economy. Generally speaking, the larger the multiplier for a given industry, the more connected that industry is to other industries in the economy, and hence the greater is its stimulatory effect. All industries in Ontario, with one exception, possess Total Output Multipliers that are in excess of 2.0. This means that for each of these industries, a one dollar increase in the demand for their outputs will translate into more than two dollars in output response across all linked industries in the economy. Based on the estimated input- and output-structures discussed earlier, the fruit and vegetable cluster exhibits total output multipliers of 2.85 and 2.79 respectively. It can be concluded then that each dollar of output from provincial fruit and vegetable cluster stimulates a total output response across all provincial industries of between $2.79 and $2.85, including the original $1.00 shock.

Based on this analysis it is estimated that the fruit and vegetable production sub-sectors of the provincial economy rank 4th and 7th out of 27 industries in terms of stimulatory potential. By extrapolation, it can be concluded that the same pattern exists for elements of the cluster located in the Holland Marsh.

Total Output Multipliers can be used to rank industries within an economy in terms of their potential to stimulate spin-off economic activity. Those industries with the largest multipliers are theoretically, the ones which stand to generate the largest economy-wide impact, and hence the largest social and economic benefit. By extension, those industries with the largest multipliers are those most worthy of protection, nurturing and study. While there are certainly limits to this argument, the fact remains that fruit and vegetable production in Ontario, including the significant production in the Holland Marsh, by virtue of its ranking in the upper quartile in terms of multiplier size, would qualify as a “key industry” in Ontario, one which is certainly worthy of protection, nurturing and study.

The total economic impact of any industry is defined as the sum of its direct, indirect and induced economic impacts in the host economy.

Direct impacts - Impacts that stem from the direct input requirements of the industry in question.

Indirect impacts - Direct input purchases stimulate additional rounds of spending as input providers purchase inputs from their input suppliers to produce their outputs and so on. These additional rounds of spending stimulated by the direct input purchases of the industry under study are referred to as the indirect effects.

Induced impacts - Those additional rounds of spending that stem from income earned by workers in the various industries in the economy that are impacted directly and indirectly by the initial activities of the fruit and vegetable sector.28

---

28 When an industry is called upon to provide inputs to the fruit and vegetable industry, it too must draw inputs from its suppliers (see Figure 1). All industries buy labour to conduct their business, and a portion of the income earned by labour is spent in the economy (e.g., to buy manufactured items, services, consumables etc.), and this additional consumption demand must be met with additional industrial output. It is this additional industrial output, induced by the consumption behaviour of workers, which constitutes the induced effect of an initial shock.
Total Output Impact – The sum of the direct, indirect and induced impacts and represent the gross impact which provides the overall economic impact.

Labour Income Impact – The income earned by workers in Ontario through the direct, indirect and induced impacts associated with the activities of the fruit and vegetable production cluster in the Holland Marsh.

Overall Impact - The sum of the direct, indirect, induced output and labour income impacts. That is, one can think of labour income as being the dollar value of the total amount of labour sold by the ‘household sector.’ In this sense, labour income is a measure of the total output of another industry – the ‘household industry’ – that can be added to the total output impact across all industries. It is important, however, to clearly distinguish the relative magnitudes of the labour income and industrial output components.

Gross Domestic Product – can be thought of as the net contribution of the fruit and vegetable cluster in the Holland Marsh to the provincial economy (i.e., the value added by producers in the Holland Marsh).

4.3 ECONOMIC IMPACT

Table 4 summarizes the overall total direct, indirect, induced output, labour income and GDP impacts for three estimates of the magnitude of production activity in the Holland Marsh in 2006.

Using the most conservative estimate of productive value of just over $29 million, Table 4 shows the total output impact on the provincial economy from the Marsh would be in excess of $81 million or $35.5 million in GDP with nearly $14 million in labour income. The most optimistic scenario, of nearly $52 million translates into a provincial total output impact of approximately $145 million, and GDP and labour income impacts of nearly $58 million and $24 million respectively.

---

29 The household sector is made up of all households in a geographic unit (in this case, the Province of Ontario) that sell labour in return for wages and salaries. The wages and salaries, therefore, reflect the quantity and quality of the work performed by the household industry. The household sector purchases inputs from the rest of the economy in the form of personal consumption purchases (non-durable through durable), and the extent of these purchases is a function of level of demand for the economy’s principal products. When thought of in this way, total labour income can be added to the total impact experienced by traditional industries to provide an estimate of the overall impact.
Table 4: Total Provincial Economic Impact of Fruit and Vegetable Production in the Holland Marsh, 2006
(All Figures in Thousands of 2006 Dollars)

<table>
<thead>
<tr>
<th>Scenario 1</th>
<th>Scenario #2</th>
<th>Scenario #3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Marsh Fruit and Vegetable Output Estimates</strong></td>
<td><strong>Based on Farm Cash Receipts</strong></td>
<td><strong>Based on Gross Farm Receipts</strong></td>
</tr>
<tr>
<td><strong>Fruit &amp; Vegetable Production Activity Level in the Marsh, 2006</strong></td>
<td><strong>Total Output Impact</strong></td>
<td><strong>Direct Output Impact</strong></td>
</tr>
<tr>
<td>Fruit and Vegetable Production Combined, 2006</td>
<td>$29,074.00</td>
<td>$81,107.40</td>
</tr>
<tr>
<td>Vegetable Production, 2006</td>
<td>$28,869.00</td>
<td>$80,522.86</td>
</tr>
<tr>
<td>Fruit Production, 2006</td>
<td>$205.00</td>
<td>$584.54</td>
</tr>
<tr>
<td><strong>Based on Gross Farm Receipts</strong></td>
<td><strong>Based on Grower’s Estimate of Value of Production per Acre</strong></td>
<td></td>
</tr>
<tr>
<td>Fruit and Vegetable Production Combined, 2006</td>
<td>$31,740.00</td>
<td>$88,543.54</td>
</tr>
<tr>
<td>Vegetable Production, 2006</td>
<td>$31,535.00</td>
<td>$87,959.00</td>
</tr>
<tr>
<td>Fruit Production, 2006</td>
<td>$205.00</td>
<td>$584.54</td>
</tr>
</tbody>
</table>

It is important to underscore the fact that the economic impacts estimated here relate ONLY to the activities of the producers themselves, and not to those of users of this industry’s products (e.g., food processors, packagers, shippers, etc.). Taken in isolation, fruit and vegetable production in the Holland Marsh is responsible for the creation of somewhere between $35 million and $58 million in GDP in Ontario each year and a total industry output or economic impact (total output impact plus labour) of between $95 million and $169 million.

Figure 27 shows how the total impact experienced by each industry, in response to the operations of the fruit and vegetable cluster, is comprised of direct, indirect and induced effects. This figure reveals considerable variation across industries in Ontario in terms of the composition of the total impact assigned to each in response to the operations of the Holland Marsh production cluster. Following the progression from left to right it is apparent that the total impact associated with the production in the Marsh shifts from being largely direct, to being more indirect and induced, thus differentiating those sectors which are directly linked to the cluster (through the provision of inputs to it) from those which are more indirectly connected to it (i.e., via the satisfaction of demands generated further down the value chain).
Figure 27: Provincial Direct, Indirect, Induced and Total Impacts by Industry Associated with Fruit and Vegetable Production in the Holland Marsh, 2006

Figure 28 presents this same information for the 27 industry aggregates that comprise the provincial economy (albeit for only one estimated activity level - $29.07 million). It is important to note that due to the nature of the impact model, differing estimated fruit and vegetable activity levels have no effect on the relative importance of industries in terms of their potential to be stimulated (in terms of direct, indirect or induced effects) by fruit and vegetable activity. Figure 28 clearly shows that while all industries in the economy receive some degree of stimulus from the activities of the Holland Marsh fruit and vegetable production cluster, the bulk of the total impact (nearly 78 percent) associated with this production is confined to five industries:

1. Vegetable production (a total impact of $30.16 million inclusive of the initial input of $29.07 million);

2. Manufacturing (a total impact of nearly $13 million);

3. Other Agricultural Production (which includes everything in the NAICS industry “Crop and Animal Production” that is not produced by the fruit and vegetable cluster – a total impact of nearly $9.40 million);
4. Finance, Insurance, Real Estate and Rental and Leasing (a total impact of nearly $8.10 million); and

5. Professional, Scientific and Technical Services (with a total output impact of nearly $2.40 million).

Figures 27 and 28 clearly show that fruit and vegetable production in the Holland Marsh stimulates a complex chain of economic transactions between all sectors in the provincial economy.

**Figure 28:** Decomposition of Sectoral Total Impacts in Terms of Direct, Indirect and Induced Components in the Holland Marsh.
4.4 SUMMARY
This analysis confirms that the Holland Marsh generates substantial industry output, labour income and value added annually, all of which have a significant impact on the Ontario economy. Based on a range of probable values, the significant stimulatory effect of the Marsh is clear to see. Table 4 summarizes the GDP impacts associated with each of the different estimates of production activity in the Marsh and confirms that production in the Marsh generates in the range of $35 to $58 million in Gross Domestic Product annually in Ontario30, and somewhere between $95 million and $169 million of annual economic activity in the provincial economy as a whole.

30 The GDP figure reported in Table 4 measures only the value added by producers in satisfying the direct, indirect and induced requirements associated with the operation of the fruit and vegetable cluster in the Marsh.
5  HUMAN RESOURCE ISSUES
5.1 INTRODUCTION

In addition to the unique land base, another variable that is critical to ongoing production in the Marsh is the growers. The land base is fixed and finite; the human resource component is not. In this section, the issues and trends associated with human resources are discussed.

5.2 DEMOGRAPHIC PROFILE

As noted in Chapter 3, there were 135 farm operators in the Marsh in 200631, a decline from 140 farm operators in 2001. Of the 135 operators, 100 were male and 35 were female.

The decline in the number of operators, when considered in conjunction with the increase in area under production between 2001 and 2006, confirms that the trend across Ontario to larger agricultural operations is present in the Marsh. This trend to fewer operators working larger acreages could be attributed to a number of factors. On the positive side, technology has resulted in the development of machinery and techniques that allow fewer operators to farm larger areas. On the negative side, despite significant increases in the cost of inputs to production, the price per pound paid for produce has either stagnated or declined. Figure 29 illustrates the fluctuations in price, noting that the price per pound for carrots in 2007 was lower that it was in 2002, and onions in 2007 were worth 2.8 cents less per pound than they were in 1998. Therefore operators must farm larger areas and increase their productivity to maintain their income level.

Figure 29 – Fluctuations in price for Onions and Carrots (cents/lb) 1998-2007

31 Statistics Canada defines a farm operator as “those persons responsible for the day to day management decisions made in the operation of census farm”.

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In completing the Agricultural Census, each farm can report up to 3 operators. This explains why there were 42 more operators reported in 2006 by Statistics Canada than there were number of farms. The responses to the questionnaire\textsuperscript{32} administered to growers, also confirms that the majority of operations have more than one family member working on the farm. Of the respondents, 87% reported that two or more family members worked on the farm, 53% were reported as working full time.

The average age of farm operators in the Marsh in 2006 was 53.5 years; in 2001 it was 51.3 years. Figure 30 provides a breakdown of operators by age. The age profile of operators in the Marsh is consistent with the provincial profile where the average age of farm operators is significantly higher than that of the general working population. There is no noticeable difference between the average age of operators in the Marsh and in the surrounding areas.

Figure 30 – Characteristics of Farm Operators, 2001 and 2006

Much has been made of the advanced average age of the farm population. To assess how serious the situation really is, a more detailed breakdown of age by sales class was obtained. Since specific figures for the Holland Marsh were not available, the statistics provided here in Figures 31, 32 and 33 are for Ontario, York Region and Simcoe County, and are referenced to provide insight into trends. These figures show that as the value of production rises, the average age of the operator tends to fall. In the lower value range, the majority of operators are over 55 years in age. In the sectors that generate in excess of $100,000 per annum in sales, however, the majority of operators in 2006 were between 35 and 54 years of age and the average age was 49.4 years. In the class that generates in excess of $500,000 in sales per year, the majority of operators were between 35 and 55 years of age and the average age was 48.5 years.

\textsuperscript{32} See Appendix 3.
This relationship makes sense. Farmers as a group tend to continue in the business for as long as they are able. Their level of productivity or involvement with the farm may drop, but their status as an operator remains constant. Up to three operators can be reported per farm. This approach of allowing multiple operators per farm can skew the age profile. Older operators may not be as active but continue to be registered as farm operators. Therefore it is possible to have three generations registered as operators with a resultant wide spread in age. Often a younger person is involved with the farm, or the land is rented out but the older operator remains an operator and will be reported as such. This may skew the age profile and result in a higher average age for operators.

The number of females reported farming in the Marsh is consistent with the provincial level where approximately 28% of operators are females. In the Marsh in 2006, 26% of operators were female.

Figure 31 – Average Age of Farm Operators by Sales Class and Age Distribution – Ontario, 2006

<table>
<thead>
<tr>
<th>Ontario</th>
<th>All Operators</th>
<th>Under 35 Years</th>
<th>35 - 54 Years</th>
<th>Over 55 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales Class</td>
<td>Number</td>
<td>Average Age</td>
<td>Number</td>
<td>Average Age</td>
</tr>
<tr>
<td>Under $2,500</td>
<td>5,870</td>
<td>54.6</td>
<td>385</td>
<td>28.4</td>
</tr>
<tr>
<td>$2,500 - $4,999</td>
<td>4,245</td>
<td>54.5</td>
<td>275</td>
<td>28.7</td>
</tr>
<tr>
<td>$5,000 - $9,999</td>
<td>9,760</td>
<td>54.6</td>
<td>645</td>
<td>28.6</td>
</tr>
<tr>
<td>$10,000 - $24,999</td>
<td>14,935</td>
<td>54.7</td>
<td>1,015</td>
<td>28.9</td>
</tr>
<tr>
<td>$25,000 - $49,999</td>
<td>10,215</td>
<td>54.4</td>
<td>795</td>
<td>28.5</td>
</tr>
<tr>
<td>$50,000 - $99,999</td>
<td>9,130</td>
<td>53.5</td>
<td>755</td>
<td>28.7</td>
</tr>
<tr>
<td>$100,000 - $249,999</td>
<td>11,680</td>
<td>50.3</td>
<td>1,265</td>
<td>28.7</td>
</tr>
<tr>
<td>$250,000 - $499,999</td>
<td>8,995</td>
<td>48.5</td>
<td>1,115</td>
<td>28.8</td>
</tr>
<tr>
<td>$500,000 +</td>
<td>7,595</td>
<td>48.5</td>
<td>830</td>
<td>29.0</td>
</tr>
<tr>
<td>All Sales Classes</td>
<td>82,410</td>
<td>52.6</td>
<td>7,070</td>
<td>28.7</td>
</tr>
</tbody>
</table>


Figure 32 – Average Age of Farm Operators by Sales Class and Age Distribution – York Region, 2006

<table>
<thead>
<tr>
<th>York</th>
<th>All Operators</th>
<th>Under 35 Years</th>
<th>35 - 54 Years</th>
<th>Over 55 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales Class</td>
<td>Number</td>
<td>Average Age</td>
<td>Number</td>
<td>Average Age</td>
</tr>
<tr>
<td>Under $2,500</td>
<td>100</td>
<td>56.0</td>
<td>5</td>
<td>28.8</td>
</tr>
<tr>
<td>$2,500 - $4,999</td>
<td>75</td>
<td>55.4</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>$5,000 - $9,999</td>
<td>180</td>
<td>57.7</td>
<td>10</td>
<td>30.3</td>
</tr>
<tr>
<td>$10,000 - $24,999</td>
<td>260</td>
<td>56.1</td>
<td>15</td>
<td>28.5</td>
</tr>
<tr>
<td>$25,000 - $49,999</td>
<td>145</td>
<td>57.5</td>
<td>5</td>
<td>26.8</td>
</tr>
<tr>
<td>$50,000 - $99,999</td>
<td>155</td>
<td>54.8</td>
<td>5</td>
<td>30.3</td>
</tr>
<tr>
<td>$100,000 - $249,999</td>
<td>185</td>
<td>52.7</td>
<td>15</td>
<td>29.9</td>
</tr>
<tr>
<td>$250,000 - $499,999</td>
<td>130</td>
<td>50.8</td>
<td>5</td>
<td>32.1</td>
</tr>
<tr>
<td>$500,000 +</td>
<td>160</td>
<td>51.1</td>
<td>15</td>
<td>31.4</td>
</tr>
<tr>
<td>All Sales Classes</td>
<td>1,395</td>
<td>54.7</td>
<td>75</td>
<td>29.9</td>
</tr>
</tbody>
</table>

What is somewhat different about the Marsh is the intergenerational nature of operations. Although intergenerational working arrangements are common in agriculture, they are particularly notable in the Marsh. In the questionnaire administered to operators, 50% indicated that the next generation was working on the farm and 13.3% reported that the next generation would be taking over the operation. Despite this, only 21% of respondents have a succession plan in place. This failure to implement succession planning is not unique to the Marsh; it is a trend that affects agriculture generally. When asked if the next generation would be taking over the farm, 13% said yes, 33% said no, and 53% did not know. Given the aging profile of farmers, the lack of certainty about who will be taking over the farms is a concern.

The age distribution in the Marsh is also similar to the provincial breakdown. As shown in Table 5 the majority of operators are under the age of 54 with 48% in the 35 to 54 year category and 7% in the under 35 years category.

Table 5 – Farm Operators by Age Class, 2001 and 2006

<table>
<thead>
<tr>
<th>Geographic Location</th>
<th>Total Number of Operators</th>
<th>Gender</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male 2001</td>
<td>Male 2006</td>
<td>Female 2001</td>
</tr>
<tr>
<td>Ontario</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greenbelt Area</td>
<td>9,300</td>
<td>9,070</td>
<td>6,705</td>
</tr>
<tr>
<td>York &amp; Simcoe Total</td>
<td>4,885</td>
<td>4,795</td>
<td>3,600</td>
</tr>
<tr>
<td>Regional Municipality of York</td>
<td>1,445</td>
<td>1,400</td>
<td>1,065</td>
</tr>
<tr>
<td>County of Simcoe</td>
<td>3,440</td>
<td>3,395</td>
<td>2,535</td>
</tr>
<tr>
<td>Marsh Municipalities</td>
<td>1145</td>
<td>1090</td>
<td>820</td>
</tr>
<tr>
<td>Bradford West Gwillimbury</td>
<td>265</td>
<td>250</td>
<td>190</td>
</tr>
<tr>
<td>King</td>
<td>415</td>
<td>410</td>
<td>310</td>
</tr>
<tr>
<td>East Gwillimbury</td>
<td>235</td>
<td>215</td>
<td>170</td>
</tr>
<tr>
<td>Georgina</td>
<td>230</td>
<td>215</td>
<td>150</td>
</tr>
<tr>
<td>Holland Marsh</td>
<td>140</td>
<td>135</td>
<td>105</td>
</tr>
</tbody>
</table>

Despite the apparent lack of succession planning, there is a long established history of successive generations taking over the farm operation in the Marsh. Of the respondents 56% indicated that they were the third generation operating in the Marsh, 25% were the second generation and less than 19% were first generation. Given that the Marsh has only been farmed since 1934, and that most settlers arrived after the Second World War, this means that many of today’s operators are descendents of the original settlers in the Marsh. The names of many of the current directors on the Holland Marsh Growers’ Association appear in histories written about the Marsh.\(^{33}\)

Although the Marsh was originally dominated by Dutch immigrants, over time the ethnic profile has changed. People of Hungarian, German, Polish, Czechoslovakian, Ukrainian and Italian descent settled on the Marsh after the initial wave of Dutch settlers. Today they are joined by growers of Portuguese, Chinese and Japanese descent.\(^{34}\)

### 5.3 OPERATOR EMPLOYMENT PROFILE

Figures 34a & b provide a breakdown of the average number of hours spent by operators working on the farm during 2001 and 2006. Of the total number of operators, approximately 60% reported working in excess of 40 hours per week on the farm. This compares with 43% of farmers in Ontario generally, 41% in the GTA and 43% in York Region. Sixty percent of Marsh farmers indicated that they did not do any work off of the farm.


\(^{34}\) Ibid., pg 134 -135.
Figure 34a – Average Hours per Week Spent Working for Agricultural Operations, 2001

Figure 34b – Average Hours per Week Spent Working for Agricultural Operation, 2006
As indicated on Figure 35, less than 15% of operators in the Marsh reported working more than 40 hours per week off the farm. This is a significantly lower percentage than in other areas of Ontario. In 2006, in Ontario generally, the percentage of farmers who reported working more than 40 hours off of the farm was 22%.

**Figure 35** – Average % of Hours per Week Spent Working for Non-Farm Work (not related to agricultural operation), 2001 and 2006

These figures, supplemented by the survey information, confirm that farm employment is the main occupation of the majority of operators in the Holland Marsh. A number of operators supplement their farm income with employment off the farm but the percentage is lower than in other agricultural areas.

### 5.4 LABOUR FORCE CHARACTERISTICS

Specific statistics about the labour force in the Marsh are difficult to obtain. Based on input from the growers, it was determined that the labour force characteristics are consistent with those in other horticultural areas of the province.

The labour requirements for horticulture are quite different from other agricultural sectors. Horticulture\(^{35}\) is much more labour intensive than other sectors and therefore the number of workers per operation is much higher. This results in higher costs for labour in the horticulture sector in comparison to other agricultural sectors.

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\(^{35}\) Horticulture includes the growing of fruits, berries, nuts, vegetables, sod, nursery and greenhouse product.
Employment in the horticultural sector tends to be divided into: primary operators, who have ownership in the farm; employees, with technical skills and managerial expertise; and labourers. With respect to the first two categories, employment issues tend to be associated with the aging of the farm population, lack of succession planning, unreliable incomes, cost of acquiring land and setting up operation, the ability to offer competitive wage rates and difficulty in attracting employees with non-farm backgrounds to jobs in agriculture. Despite this, and although the skills required to work in agriculture are multiple and varied, the first two categories of workers tend to view employment in agriculture as a desirable life style choice rather than just a job.

The third type of employee, the farm labourer is more difficult to recruit. Not only is work on a horticultural operation physically hard, it is seasonal. The farms are geographically remote and it is often difficult for employees to get there. In response to a question about recruiting this level of employee, the majority of respondents (56%) indicated they had experienced difficulties.

An alternative source of labour that is used by certain approved commodity groups\textsuperscript{36} is the Caribbean and Mexican Seasonal Agricultural Workers Program (CMSAWP) run by the Foreign Agricultural Resource Management Services (FARMS), an organization created as the result of a strategic alliance between Human Resources Development Canada (HRDC) and industry representatives. This program allows authorized operators to bring workers in for a period of time each year. The types of operations that benefit from this program are fruit, vegetable and horticultural which require intensive manual labour on a seasonal basis. Many of the Marsh operators participate in this program.

The use of off shore workers must be justified to HRDC prior to participation. Before being allowed to participate, operators must attempt to find Canadians to fill the jobs. This process is designed to ensure that off shore labour does not eliminate jobs for Canadians.

Over time, the growers have found that workers provided through the “Caribbean Commonwealth and Mexican Seasonal Agricultural Workers Program” are hard working and extremely reliable. The same workers often come year after year and stay for a period of up to 8 months. Over time, other members of the same family often join the program and come to work on the same farm, building strong intergenerational relationships. These workers are considered by the growers to be critical to the ongoing success of their industry. The labour they provide is hard manual labour which Canadian workers are often reluctant to do. The migrant workers not only provide labour, they also spend a significant portion of their wages in Ontario, thereby providing an economic spin off in the economy. In a study conducted by FARMS in 1995, based on gross wages paid to workers of $69 million, it was determined that the impact on the rural local economy made by participants in the CCMSAW program at the time was approximately $33.6 million.\textsuperscript{37}

Eighty-six percent of the respondents to the questionnaire reported using off shore labour and confirmed that this source of reliable employees is critical to the success of their operation. The source of the labour is split between Mexico, Jamaica and Trinidad. The tasks these employees perform include harvesting, planting,

\textsuperscript{36} In 2002 the commodities with access to the off shore program included apples, flowers, fruit, greenhouse, nursery, tobacco vegetable and ginseng.

\textsuperscript{37} FARMS, The Quest for a Reliable Workforce, The Horticultural Gateway. 1995, pg 5.
weeding and tilling. All of the operators indicated that to the extent possible they hire the same workers year after year and form relationships with them. Inspected and approved accommodation for the workers is provided, normally on the farm.

5.5 EDUCATION AND TRAINING

Most farmers in the Marsh, and certainly the majority of the directors of the Holland Marsh Growers’ Association, have post secondary education. Farming today is a complicated and sophisticated occupation. In addition to the skills associated with planting, nurturing and harvesting a crop, operators must be certified to manage herbicides, to implement integrated pest management, abide by approved health and safety requirements and have the management, economic and marketing skills to get the crop to market. At this level, the training and programs required to provide the skills operators need are readily available. The Marsh growers are fortunate to have the Muck Research Station available to provide support for this very specialized type of agriculture.

For employees, the skills identified by growers as being essential included machine and equipment operation, a secondary school diploma and “dedication”. For labourers, given the continuity in the supply of workers who come year after year to the same operations, training is ongoing and can be provided on site.

5.6 SUMMARY

The Holland Marsh shares many of the human resource traits that characterize other agricultural sectors. The number of operators is declining with fewer operators farming larger areas. The number of female operators is rising. The average age of operators is also rising, but the age profile for operators in the higher economic categories is lower. Despite the aging profile, succession planning appears not to be a priority.

The horticultural sector differs from other types of agricultural in requiring a significant amount of labour. Individuals are required who are willing to work physically hard for long hours on a part time or seasonal basis. Programs such as the off shore labour program help address this need.
6. TRENDS, ISSUES, AND OPPORTUNITIES
6.1 INTRODUCTION

The Holland Marsh is a unique and irreplaceable resource, the “crown jewel” of horticulture in Ontario. Within the shadow of the fastest growing urban area in Canada, the Marsh continues to produce the majority of the Province’s carrots and onions and contributes an ever expanding cornucopia of horticultural products in its role as Ontario’s “salad bowl”.

This report has confirmed that the economic impact of just the primary production in the Marsh, on far less than 1% of Ontario farmland, is in the range of $95 million to $169 million annually. When combined with the economic activity associated with packing, processing, shipping and retailing the produce, the Marsh is a significant component of the Ontario economy.

Aside from its economic contribution, the Marsh is a critical component of Ontario’s food system. Not only are growers able to provide a wide variety of produce in response to changing markets, the Marsh is a major source of vegetables that are essential to all diets.

At this time, when the public is re-awakening to the value of locally grown produce, the future prosperity of the Marsh should be assured. There are, however, issues impacting the area. Many of these issues are common to agriculture in Ontario generally, but some are specific to the Marsh. To ensure that the area continues to thrive, these issues need to be understood and addressed. The purpose of this chapter is to highlight the trends from the statistical analysis, summarize certain specific issues noted in conducting the research for this report, and identify some opportunities that could support production in the Marsh.
6.2 TRENDS

From the statistical analysis that was undertaken, it is apparent that despite the finite land supply, production in the Marsh is expanding. The amount of land under cultivation and the number of farms is increasing. This is in contrast to the situation in the province generally, where the area of farmland and number of farms continues to decline.

The value of production in the Marsh is rising and the range of products is increasing. Gross farm receipts per acre are more than double the provincial average and continue to increase. Operations are increasing in size, allowing operators to capitalize on economies of scale. Total farm capital is increasing. Net revenue per acre in the Marsh is higher than in surrounding areas but lower than in the other specialty crop area in Niagara.

From a business structure perspective, the trends in the Holland Marsh are consistent with what is happening generally in Ontario agriculture. Farms are getting larger but continue to be family run businesses with personal involvement in all aspects of the operation. Multiple family members are involved in the farm operations. Corporate farming of large acreages with absentee ownership is not a factor in Ontario nor is it a factor in the Marsh.

With respect to employment, horticultural production is by its nature more labour intensive than other forms of agricultural production. The work associated with it is physically demanding and seasonal. Finding Canadians who are prepared to do this work is an ongoing challenge, so many growers participate in the off shore labour program to meet their needs. Workers are part of the economic spin-off generated from the Marsh as they buy goods and services both to consume locally and to send home to family.

The more labour intensive nature of horticulture differentiates this sector from other forms of agriculture. Operators incur higher labour costs and additional expenses in housing and caring for workers.

Although the ethnic profile in the Marsh was once dominated by Dutch settlers, over time it has become more diverse. Immigrants from Italy, Germany and other European countries came to the Marsh in the later part of the 20th century and more recently have been joined by Chinese and Japanese. This ethnic mix has resulted in a broadening of the variety of crops that are being grown in the Marsh as production evolves to respond to the changing demands of different ethnic groups.

The average age of operators is rising and succession planning is not a priority. On a positive note, however, the statistics confirm that there are multiple operators on individual farms, many of whom are younger. There is also a decrease in the average age profile of growers for operations generating higher returns.

Government support for the Marsh appears to be strong. In 2005, with the enactment of the Greenbelt Plan, the Marsh was designated as a Specialty Crop Area and placed under enhanced protection for agriculture. Municipal planning documents have been or are in the process of being amended to support this increased protection.
In 2008, all three levels of government, federal, provincial and municipal, committed funding to finance the upgrading of the Holland Marsh drainage system, a system that is integral to successful operations in the Bradford Marsh.

The Muck Research Station, dedicated to research to support muck farming, has been a significant resource for producers. The work done by scientists at the Station led to the introduction of integrated pest management systems to decrease the use of nutrients. Research at the Station, focused on the development of improved farming techniques, has significantly expanded the life expectancy of the Marsh.

In support of the ongoing viability and promotion of the Marsh, the Friends of the Greenbelt Foundation provided funding to facilitate establishment of the Holland Marsh Growers’ Association to represent the interests of “muck” farmers in the Marsh and surrounding areas. The Association, which became active in the summer of 2008, has made great strides in representing the interests of growers with packers and retailers, providing input on research needs, promoting Marsh product, encouraging product diversification and raising issues with various levels of government. In the fall of 2008, the Association introduced the brand “Holland Marsh Gold” at the Royal Winter Fair, to identify and promote Marsh grown local produce.

Despite the many positive trends evident in the Marsh, there are some worrying trends.

Financial viability is an ongoing challenge for farmers. The price paid for agricultural products has not kept pace with the increase in the price of inputs. As noted in this report, the price per pound for carrots in 2007 was lower that it was in 2002, and onions in 2007 were worth less per pound than they were in 1998. This trend of stagnant or declining prices is consistent across the production profile for the Marsh. In a time that has seen rapid increases in costs of fuel, fertilizer, machinery, instability in the value of the Canadian dollar, an increase in minimum wage, fierce completion from abroad and an increasingly concentrated grocery market, the prices being paid to the farmer have stagnated or decreased.

Although the rate of rental land is lower in the Marsh than in surrounding municipalities, at 42% it is higher than in Simcoe County (37.5%) or in Ontario (28%) as a whole. This could be symptomatic of the capital cost of acquiring land which is an impediment to expanding operations or simply a disinclination on the part of current land owners to sell. Regardless of the reason, constraints on the supply of land restrict the ability of growers to expand. This is difficult when commodity prices are stagnant and growers must expand or increase productivity to maintain their income. This problem is exacerbated in the Marsh as the area available for production is finite and today’s environmental regulations are such that obtaining permission to bring additional land into production would be extremely challenging, if not impossible.
6.3 ISSUES

Although the Marsh itself is an outstanding resource and many agricultural operations are currently prosperous, there are issues of concern that could affect the longer term viability of agriculture in the area. Many of these issues are common to agriculture generally, some are specific to horticulture and others are specific to the Marsh itself. Given the importance of the Marsh’s contribution to the provincial food supply and to the economy of Ontario, it is essential that these issues be understood and addressed. A healthy and prosperous agricultural community in the Marsh benefits all residents of Ontario.

The growers themselves are taking steps to address issues impacting them. The Holland Marsh Growers’ Association was formed in response to an identified need for an organization to represent grower interests. The vision statement for the Association sums up this need:

*The Holland Marsh Growers’ Association (HMGA) is dedicated to improving economic conditions for its farmer members; fostering a new era of co-operation amongst farmers, packers, and retailers while promoting our high-value food and unique region to local consumers.*

What follows is an overview of the most pressing issues impacting the Marsh that were noted by growers during the preparation of this report. Addressing these issues, in consultation with the growers, will help ensure that the Marsh will flourish in the future.

6.3.1 Land Use

Assigning a Specialty Crop Area designation to the Holland Marsh has added an additional layer of protection to the agricultural land use within its boundaries and may be perceived to have addressed all the land use issues associated with the Marsh. This is not the case. Although the “specialty crop area” designation is helpful, there are still issues associated with both neighbouring uses and the extent of the area that can be farmed, which are impacting operators.

Only a portion of the Holland Marsh is under production. The balance of the area is wetlands. Wetlands provide essential services such as storing, purifying and supplying fresh water, absorbing pollutants, and supporting numerous species of plants and wildlife. Given environmental restrictions, it is unlikely that additional muck areas with potential for agriculture will be brought into production. Even in the existing Marsh, where areas have not been worked for periods of time, there are issues with returning areas to production. This restricts farmers’ options for expansion and limits flexibility in following accepted agricultural practices such as crop rotation or allowing areas to lie fallow. All of the land currently under production, land that has history of production and other muck land outside of the Marsh must be carefully protected and consistently worked to retain its agricultural rights.

In response to this issue, discussions should be initiated with various regulatory agencies to determine if there could be flexibility to maximize the muck area under production. Using the resources of the Muck Crops Research Station it may be possible to establish controls that protect environmental values but also allow...
flexibility for and expansion of the agricultural area. The Marsh is a unique and highly productive resource. In managing it, the benefits of maintaining a local food supply should be weighed against environmental controls.

The Marsh is located in the Greater Golden Horseshoe, the fastest growing area in Ontario. Rapid growth in the surrounding communities of Newmarket, Schomberg, and Bradford has created problems in the Marsh. Permissions to locate incompatible uses in close proximity to the Marsh detracts from the agricultural integrity of the area. Increased population causes congestion on the roads which makes the movement of farm equipment difficult and stressful. There are also safety and operational problems created by commuters using the roads through the Marsh. Clearing of rural land for urban development increases runoff and sedimentation. The current issue of sedimentation in the drainage canals, built to serve the Marsh, is largely a result of increase runoff from urban development and a reduction in the attenuation that naturally occurs on rural land.

In addition to the direct impacts of development, there are indirect impacts which also have negative consequences. The subtle change from a rural oriented to an urban oriented environment can fragment the sense of community and the rural environment.

All of these factors create a challenging situation for growers who must balance the negative impacts of living close to urban development with the benefits. Various levels of government are addressing these problems through planning controls, social programs, infrastructure design and economic development programs. Organizations such as the Greater Toronto Area Agricultural Action Committee (GTA AAC) and the Holland Marsh Growers’ Association can help with this, by encouraging municipalities to implement effective controls and educating the public so they understand, appreciate and work to accommodate the requirements necessary for farmers to work efficiently.

6.3.2 Environmental Management

Farmers have always been stewards of the land. Not only do they secure their livelihood from the land; they live on it and therefore develop a strong understanding of and relationship with it. To be successful they must respond to the forces of nature in a way that will not negatively impact the resource. In response to this requirement, the agricultural sector has developed a comprehensive process, the environmental farm plan, to
ensure their operations will be environmentally sustainable. This is a comprehensive process that integrates all of the various forces and factors associated with responsibly managing the land.

Despite this, farmers continue to be subject to numerous regulations, some enacted in response to actions unrelated to agriculture and without proper consultation with the farm community. Implementation is handled by different, unrelated agencies. Responding to these regulations takes time, can cost money and often negatively impacts productivity.

Natural heritage policies, designed to maintain or create habitat, can increase the population of certain species that have a negative impact on crops. Expanding natural heritage designations can impact the size of productive areas through requirements for increased setbacks and restrictions on certain uses. All of these actions have the potential to complicate the business of farming and negatively impact farm income.

Cooperation between government agencies that allows agencies such as OMFRA to effectively represent agricultural interests is essential. Involvement of the farm community in the development and implementation of standards and controls ensures that their interests are addressed. There are pilot projects being implemented in other parts of Ontario that actively involve farmers in environmental management. Discussions could be initiated between government agencies and the Growers’ Association to determine if these programs would be appropriate in the Marsh.

Management of water, whether related to irrigation, drainage or runoff, is increasingly complex with different agencies having responsibility for different aspects. Having to deal with multiple agencies complicates the process for farmers, and their established rights for drainage and access to water for irrigation are sometimes overlooked. In the Bradford Marsh, management of the drainage system is coordinated through one Board with municipal and grower representation. Other parts of the Marsh do not benefit from this type of coordinated management.

The supply of water for the Marsh needs to be managed appropriately with a coordinated policy to allow agriculture efficient access to and use of this critical resource. To achieve this in all areas of the Marsh, consideration could be given to expanding the mandate of the Drainage Board.

In the last several years there has been a growing tendency to attribute certain environmental problems to agriculture. For example, responsibility for elevated phosphorus levels in Lake Simcoe is often unduly attributed to the use of fertilizer in the Marsh. Research conducted by the Muck Crops Research Station refutes this. Their findings indicate that phosphorus levels in water from the Marsh are comparable to levels associated with rainwater. The use of fertilizer and pesticides in the Marsh has been significantly reduced over time by the introduction of integrated pest management, a process that is naturally based and designed to work with the natural environment. Production methods are constantly being improved to ensure they are in balance with the natural environment. The Muck Crops Research Station is currently undertaking a major research project to examine the quality of water coming off the Marsh. Results of this and other studies of the Marsh should be widely disseminated to correct misconceptions about the environmental impacts of muck farming.
6.3.3 Agricultural Infrastructure

Farmers benefit from different types of infrastructure to support agriculture. The drainage system that supports the Bradford section of the Marsh is an outstanding example of this. Production in that area would never have occurred without the system. The canals not only manage water levels, they provide a source of irrigation. Managing water within a contained system also allows monitoring of water quality to manage any potential negative impacts on the receiving body.

Agriculture and horticulture in particular, benefit greatly from certain types of infrastructure. Three phase power and natural gas support enhanced growing seasons and the use of advanced technology. Roads designed to facilitate the movement of farm equipment and manage traffic conflicts, improve safety and ease of operation. At the current time there is an ongoing issue in the Marsh with commuter traffic using the local roads. Some focus on providing agriculture supportive infrastructure and protecting it for agriculture use, would be helpful.

The GTA AAC has been working with the Regions in the GTA to have agriculturally supportive infrastructure included as part of municipal capital planning. The Holland Marsh Growers’ Association is represented in this group, and should ensure that their particular requirements are factored into this initiative.

6.3.4 Food Distribution

Due to the nature of the products that dominate Marsh production, the retail market for the produce tends to be concentrated in the hands of large retailers who sell in volume. In Ontario this means that the market is limited to three large retail conglomerates. Growers have identified this as a major problem as it leads to: low prices for product, requirements to provide product continuously 12
months a year that are difficult to meet, limits on the types of production, delays between shipping product and obtaining payment and stiff international competition.

The current public interest in local food may provide an opportunity to diversify and develop alternative markets for the produce. However, to take advantage of the demand for local food, growers must be able to access the market on a regular and reliable basis. While recent initiatives including funding of more farmers’ markets are helpful, the effectiveness of such initiatives is limited. Farmers markets have a specific set of problems which include low sales volumes, seasonality, the need to get the product to the market, and the requirement for labour to manage the stands. Farmers markets have not removed the need for large volume producers to rely mainly on the large retail chains to buy the majority of the produce.

There is a bundle of solutions that may help resolve some of the issues associated with a market dominated by three large retailers. These include creation of alternative markets, branding to create demand for local product, and creating alternative distribution systems. Pursuing these solutions was part of the rational for creating the Growers’ Association which is now actively working on the issue. At the core of the problem is the need to develop a more equitable working relationship with the large retailers. They control up to 95% of the produce market so even if demand from other sources doubles, the retailers will still control 90% of the market. Large scale producers must deal with the large retailers so the solutions should focus on increasing demand for local product and the price paid to producers at all retail outlets, regardless of type.

6.3.5 Farm Labour

Horticulture by its nature is labour intensive. The Marsh growers identified access to reliable sources of manual labour as an essential requirement to be able to produce their crops. Over the years, the CMASA program has served growers well. Strong relationships are formed with workers, many of whom return year after year.

Changes in the system could create problems for growers. For example, increases in minimum wage levels not offset by increase in the price of produce, have a significant impact on what is already a challenging bottom line. Safety net programs which are meant to provide insurance for producers in difficult times are designed in response to the characteristics of agriculture in general and do not adequately factor in these higher costs of labour. Unlike supply managed sectors, horticultural producers cannot rely on managed prices to cover costs. In fact, they are faced with stagnant or declining prices. If Ontario wants to sustain a viable horticulture sector, the province should work with grower organizations to implement a premium based insurance program that responds specifically to the unique characteristics of the horticultural sector.
6.4 OPPORTUNITIES

Although the Marsh is facing some challenges, it is a unique agricultural resource. As emphasized in this report, it is one of the largest concentrations of horticultural production in North America. As such, if the identified challenges are met there are tremendous opportunities for growth and prosperity. In this section some of the opportunities observed during the preparation of the report are identified and discussed.

6.4.1 Proximity to Market

Strategically, the location of the Marsh in close proximity to the Greater Toronto Area is a benefit from a marketing perspective. Proximity both to the large Toronto markets and to transportation linkages to national and international markets facilitates the movement of product quickly and efficiently. The visual prominence of certain portions of the Marsh reminds consumers of its presence and importance, and relationships can be created with consumers and retailers in surrounding urban areas.

These attributes could be drawn on to create an alternative food distribution system that supports growers.

6.4.2 Local Branding

The Marsh is fortunate in that its location provides a profile amongst consumers. A portion of the Marsh can be seen from one of the busiest thoroughfares in the province, where the view is one of acres of rich black earth, sown in crops. At harvest time, the smell of onions wafting on the breeze is an advertisement in itself.

The Marsh Growers’ Association has taken advantage of this profile and developed a “Holland Marsh Gold” brand. To promote the brand and improve the profile of the Marsh, a marketing program has been established that profiles individual growers, providing consumers with the name and face of the farmer
who grew the produce they are consuming. By putting a face on producers, educating the public about the Marsh and promoting the high quality of product produced there, demand for the product can be increased. Increased demand from consumers can, in turn, attract the attention of retailers. While in its infancy, the marketing program has tremendous potential.

The Growers’ Association is also working closely with Local Food Plus (LFP), an organization that certifies local producers who employ environmentally and socially responsible food production practices, and links them with processors and local purchasers. Close to thirty growers have been certified or are in the process of being certified by LFP. In addition to helping the Growers’ Association market their produce as local and sustainable to retailers, the hospitality industry and institutions, certification may increase demand thereby helping producers receive a fairer price.

6.4.3 Market Development

Over time, the production profile in the Marsh has shifted in response to changing markets and to the changing ethnic profile of growers in the Marsh. Although carrots and onions continue to dominate, currently there are in excess of 34 different vegetables grown in the Marsh. With the large, growing, ethnically diverse market in the GTA there may be an opportunity to further diversify and develop new markets. The establishment of a Growers’ Association provides a vehicle for research into potential new markets and products.

As noted earlier, the Growers’ Association is part of the GTA AAC. In collaboration with the University of Guelph, the GTA AAC is undertaking a survey of the consumption behavior of ethnic Canadians in the GTA. This type of information can be used to identify new products that could be introduced to expand markets. Ongoing association with the GTA AAC and other agricultural groups in the Greater Golden Horseshoe is beneficial to Marsh growers in moving ahead with various programs to promote local agricultural products.

In addition to considering food products for a diverse market, there is also a growing demand for naturally based health products. Expanding the production profile to include some of these products may also be a means of expanding markets.

6.4.4 Value Added

Once a product is grown, it must be washed, packed, processed and moved before it can be sold. These activities are intrinsic to agricultural production and yet are uses which are often prohibited in agricultural areas by planning regulations. If allowed, the size and number of producers who can use them may be limited and such uses are often taxed as commercial or industrial which makes them financially beyond the reach of farmers.

The province has taken steps to address this issue by including policies in the Provincial Policy Statement to allow agriculturally related and secondary uses in agricultural areas. Creative use of regulations allows supportive uses while protecting the primary agricultural function. Regulations dealing with value added
and retention operations in the Marsh should be reviewed and updated to allow facilities that respond to today’s market and allow farmers the facilities to produce a table ready product to consume.

Work is being done in other agricultural areas in the province to develop flexible value added policies. The Province is involved in these discussions and has indicated it would welcome input about this subject to inform the upcoming review of the Provincial Policy Statement. Given the unique nature of the Marsh, the Growers’ Association should take advantage of this opportunity and provide input on any policy changes that would be helpful in supporting their unique area.

6.4.5 Research and Innovation

The Holland Marsh is fortunate to have an internationally recognized Research Station dedicated to its interests located within it. In the past the relationship between growers and researchers has led to innovative changes in production. The establishment of the Growers’ Association provides an opportunity to strengthen the relationship with the Research Station to the benefit of both parties. Growers will benefit from having relevant research to support new opportunities and the researchers will benefit from having support for research proposals to attract funding.

In addition to the Research Station, individual growers have shown considerable ingenuity in developing equipment that supports the type of production that occurs in the Marsh. There may be opportunities to build on these successes and using the unique technology, manufacture equipment for a broader market.

6.5 CONCLUSION

The Holland Marsh is a unique and prosperous component of Ontario agriculture, “the crown jewel of horticulture”, and the source of a significant percentage of the produce consumed in the province. In addition to making an annual, multimillion dollar contribution to the economy, this highly concentrated area, farmed by a skilled, specialized group of growers, has all of the attributes required to support food security in Ontario.

Despite its successes, the Marsh is experiencing pressures. As markets change, growers must adapt to new demands. With increasing pressure from escalating costs, stagnant prices, consumer issues and trade barriers, growers require informed and responsive support.

This study, by profiling the Holland Marsh, documenting its contribution to the provincial economy and highlighting opportunities and issues associated with it, is intended to provide a base for informed support. It is hoped that the information and analysis contained herein will assist in securing a long and prosperous future for the Holland Marsh.
Census Farm

Statistics Canada’s definition of a census farm has not remained constant over the years. In 1996 and 2001, a census farm was defined as an agricultural operation that produces at least one of the following products intended for sale: crops (hay, field crops, tree fruits or nuts, berries or grapes, vegetables, seed); livestock (cattle, pigs, sheep, horses, game animals, other livestock); poultry (hens, chickens, turkeys, chicks, game birds, other poultry); animal products (milk or cream, eggs, wool, furs, meat); or other agricultural products (Christmas trees, greenhouse or nursery products, mushrooms, sod, honey, maple syrup products).

Commodity (Product Type)

Statistics Canada tracks 31 commodity types by gross farm receipts ($2,500 and over). Often for confidentiality reasons this produces suppressed figures. Therefore, to provide more meaningful information these 31 types are generally combined in similar product groupings and reported on as 12 commodity categories.

The 31 commodity types are combined into the following 12 categories:

1) Dairy  
2) Cattle  
3) Hog  
4) Poultry & Egg  
5) Wheat  
6) Grain & Oilseed includes: oilseed; corn for grain; dry field pea & bean; and other small grain  
7) Field Crops includes: hay & fodder; forage seed; tobacco; potato; and other field crop  
8) Fruit  
9) Vegetable  
10) Miscellaneous Specialty includes: sheep & lamb; goat; horse & pony; fur; other livestock; mushroom; greenhouse product; nursery product & sod; and maple & Christmas tree  
11) Livestock Combination includes: cattle & hog; cattle, hog & sheep; and other livestock combination  
12) Other Combination includes: fruit & vegetable; other field crop; and all other types

*Because greenhouse is such a significant commodity group in Niagara, it is usually broken out and reported on as a separate category in the report.
Farm Capital

Statistics Canada’s definition: Farm capital includes the value of all farmland, buildings, farm machinery and equipment (including passenger vehicles used in the farm business), and livestock and poultry. Respondents report the value of their land, buildings, farm machinery and equipment as of Census Day. Values for livestock and poultry inventories reported in the census are calculated using data on average farm prices for the various types of livestock and poultry. Farm capital does not include the value of crops in the field or in storage, or farm inputs on hand, such as fertilizer and seed.

Farmland Acres (area farmed, farmland)

Includes all land owned as part of the operations including land for crops hay grazing or pasture, summer fallow, buildings and barnyards, woodlands, and marshes.

Farm Operators

Statistics Canada defines “farm operators” in 2001, 1996 and 1991, 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.

Farm Type

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. This farm type classification, referred to as "historical," is based on the Standard Industrial Classifications (SIC).

Gross Farm Receipts

Includes all receipts for agricultural products sold, marketing board payments, program and rebate payments, GST refunds, dividends from co-operatives, receipts from custom work and all other farm receipts.

Municipality

An area whose inhabitants are incorporated and whose powers are exercised by a council elected by the voters of the municipality.

Local Municipality

A city, town, village or township.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Area Municipality</td>
<td>A local municipality within a regional municipality or district.</td>
</tr>
<tr>
<td>County</td>
<td>A municipality that is a federation of the towns, villages, and townships within its boundaries. Each of the participating municipalities in the county has an elected council, and designated members of these councils combine to form the county council. County geographical boundaries are used for judicial and a number of administrative purposes.</td>
</tr>
<tr>
<td>Regional Municipality</td>
<td>A municipality created by a special act of the Ontario legislature and is a federation of all the area municipalities within its boundaries. Each of the area municipalities in the region has an elected council. Regional councils are responsible for regional-scale functions such as land-use planning, social services, major roads, and trunk sewer and water systems. The area councils are responsible for community services such as recreation, libraries, local roads and garbage collection. Regional boundaries are used for judicial and a number of administrative purposes.</td>
</tr>
<tr>
<td>NAICS</td>
<td>North American Industrial Classification System</td>
</tr>
</tbody>
</table>
| Number of Farms          | Throughout this report there are discrepancies in the number of farms figures. That is because Statistics Canada uses different classifications for reporting different sets of statistics. The two classifications of farms that were used in this report were:  
  1. The number of farms based on the definition of "Census Farm".  
  2. The number of farms reporting generation of more than $2500 in gross farm receipts per annum. A Note is included on each figure to indicate which of the two definitions of farm were used in that particular figure. In all cases the farmland acres, area of farmland is based on the definition of census farm. |
| Southern Ontario Region  | Includes: Brant County, Elgin County, Essex County, Haldimand-Norfolk (now Haldimand County and Norfolk County, 2001), Hamilton-Wentworth (now the City of Hamilton, 2001), Chatham-Kent County, Lambton County, Middlesex County, Regional Municipality of Niagara, and Oxford County. |
| x                        | When used in the report indicates that data was suppressed for confidentiality reasons.                                                                                                                  |

http://www.omafra.gov.on.ca/english/busdev/bear2000/Budgets/oeb.htm

http://www.plant.uoguelph.ca/stations/muck_crops/


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Ontario Ministry of Natural Resources, Natural Area Report, Holland Marsh (Citation Ecologistics Limited, 1982, Environmentally Significant Area Study. South Lake Simcoe Conservations Authority.)


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The Canadian Encyclopedia, “Holland Marsh”.


University of Guelph website, crop research stations

Photo Sources:
Photos provided by Jamie Reaume & Kyle Horling of The Holland Marsh Growers’ Association

PHOTOS IN SECTION 2.2 – “And the Swamp FLOURISHED – The Bittersweet Story of Holland Marsh” – Albert VanderMey

Other Photo Sources:
Page 6 – Photo – www.bing.com/maps
Page 14 – Photo - http://www.plant.uoguelph.ca/stations/muck_crops/assests/muck_station.jpg
Page 28 – Photo 1 - http://www.iaan.ca/Lettuce_pickers_Holland_Marsh_Ontario_Canada.jpg
Page 29 – Photo 1 - http://3.bp.blogspot.com/_Xq7E_pMxnCI/SGgy6rWek7I/AAAAAAAAA8s/O_33higztmk/s400/1Holland+Marsh++2.jpg
Page 29 – Photo 2 - http://farm4.static.flickr.com/3028/2930614998_1be1110738.jpg?v=0
Page 40 – Photo - http://waveworld.ca/_wsn/page5.html