Margaret Walton

Agriculture

IN THE CENTRAL ONTARIO ZONE

Issue Paper No. 1

neptis
THE ARCHITECTURE OF URBAN REGIONS

This is the first in a series of nine issue papers commissioned by the Neptis Foundation for consideration by the Central Ontario Smart Growth Panel established by the Government of Ontario.

Walton surveys the current state of agriculture in the Central Ontario Zone, noting its important contribution to the Ontario economy. She notes that farms require more than good soil, they need an appropriate micro-climate and access to affiliated services, and therefore when a farm is lost in one place, it usually cannot be recreated elsewhere. Agriculture currently competes for land with urban development, recreational land uses, transportation corridors, and aggregate extraction, and thousands of acres of prime farmland are lost each year. Walton argues that maintaining agriculture means more than preserving land; it requires support for the industry as a whole, including tax reform, research funding, ways to resolve land use conflicts, public education, and measures than ensure long-term financial security for farmers.

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Research for the series has been coordinated by Dr. Pamela Blais, of Metropole Consultants.

Neptis is an independent, privately-funded, registered charitable foundation, based in Toronto, Canada, that supports interdisciplinary research, education and publication on the past, present and future of urban regions.

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Introduction

On November 1, 2002, Margaret Walton of Planscape presented a draft paper on agricultural issues to the Central Ontario Smart Growth Panel and Strategy Sub Panel. This paper is the finalized version of the draft paper that was presented. It is submitted to the Panel to assist in their deliberations on a strategy for growth in Central Ontario.

In preparing and finalizing this report extensive reliance was placed on the work done by Planscape throughout the Golden Horseshoe both with and for the agricultural community. Planscape has extensive experience in analyzing and understanding the economics of agriculture and the related implications for land use.

It is acknowledged that one of the most effective tools for preserving agricultural land is economic prosperity for the industry. The current economic pressures on agriculture, including low commodity prices and international farm subsidies, reduce the effectiveness of this tool. However, in establishing land use policy, the cyclical nature of the economy must be acknowledged and balanced against the long-term societal benefits of preserving an agricultural land base.

The importance of managing agricultural land is elevated by the fact that, in addition to providing a base for economic activity and allowing production that could not occur elsewhere in Ontario to cont inue, agricultural land in urbanizing regions enhances quality of life. It contributes to green space, wildlife habitat, rural character and access to fresh, high quality, locally grown produce.

In preparing this report, an attempt has been made to balance all of these considerations.

The Central Ontario Zone- The Study Area

Early in 2002, the Province established five Smart Growth panels to provide advice to the Minister of Municipal Affairs. The Central Ontario panel represents a region extending from Niagara to Northumberland, north to Haliburton and Georgian Bay. This region, which is shown on **Figure 1**, currently has a population of 7.5 million and 3.7 million workers and is expected to grow by approximately 3 million people overthe next 30 years with a relat-

Figure 1
Central Zone Smart Growth Zone

Source: Ontario Smart Growth. "A New Vision". Toronto: Queen's Printer for Ontario, 2002.
ISBN 0-7904-3285-1

ed increase of 2 million jobs.

In this paper, the region is divided into the "outer ring" and the "core"area. The outer ring refers to Brant, Haldimand-Norfolk, Hamilton, Niagara, Dufferin, Simcoe, Waterloo, Wellington, Haliburton, Kawartha Lakes, Northumberland, and Peterborough. The GTA or "core" area consists of the City of Toronto and the Regions of Durham, York, Peel, and Halton. For reasons of confidentiality, agricultural statistics for the City of Toronto are included in the figures for York Region.

Haliburton is part of the zone, but because only 1.3% of its land area is farmed, it is excluded from some of the analysis. Where it has been excluded, the exclusion is noted.

Agriculture and the relationship to smart growth

Ontario Smart Growth includes the goal of "Protecting and Enhancing the Environment." This goal will be achieved through "protecting the quality of air, water and land across Ontario by steering growth pressures away from significant agricultural land and natural areas."[1]

Inherent in the goal of achieving sustainability in agriculture is the provision of a safe, secure, high-quality food supply.

Including agricultural land in this goal confirms it as a recognized natural resource to be protected. Inherent in achieving sustainability, is the ability to provide a safe, secure, high-quality food supply. To achieve this, it is not sufficient to just protect the land. Support for the agricultural industry as a whole must also be addressed.

It is not sufficient just to protect the land. Support for the agricultural industry as a whole is needed.

This paper explores this position, addresses how it should be incorporated in the smart growth strategy, comments on associated issues, and makes recommendations to support and implement the strategy. In doing so, the following topics are addressed:

- the definition of "significant" agricultural land;
- the location of significant agricultural lands in the Central Zone;
- the relative significance of different types of agricultural land;
- the location of particularly significant agricultural lands;
- uses that compete with agriculture for land;
- preserving agricultural lands in light of competing demands;
- agriculture in urbanizing areas;
- protection strategies for agriculture;
- the positive and negative implications of protecting agricultural land;
- the major barriers to a healthy agricultural industry;
- the ingredients of a healthy agricultural industry;
- the time frame within which agricultural land should be protected;
- key trends and issues affecting agriculture over the next three decades; and
- agricultural factors that should be included in an smart growth policy.

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1. www.mah.gov.ca/inthenews/backgrnd/20020425-5e.asp

Agriculture in the Central Ontario Zone

Of the approximately 9.2 million acres that make up the Central Ontario Zone, 4.1 million acres or 44.2% was classified as farmland by Statistics Canada in 2001.

Agriculture is the most significant land use in the Central Ontario Zone. Of the approximately 9.2 million acres that make up the Central Ontario Zone, 4.1 million acres or 44.2% was classified as farmland by Statistics Canada in 2001. If the County of Haliburton, which contains very little agricultural land, is excluded, more than half of the zone is farmland. In the area outside the four regions of the Greater Toronto Area (GTA), 55.2% of the land is farmed; 42% of the land in the GTA (excluding the City of Toronto) is farmed.

Table 1 presents a breakdown of the percentage of land farmed in each of the individual regions or counties in the zone during the period from 1986 to 2001.

Although the number of farms in Ontario hasdecreased by 25% since 1986, the actual amount of farmland in the province has decreased by only 6%, because of the consolidation of farms.

The number of farms in Ontario has dropped sharply over time. **Table 2** confirms a decrease of 25% in the number of farms between 1986 and 2001. However, this statistic by itself is misleading. If the number of acres of farmland is considered, rather than the number of farms, the decrease in the area being farmed is only about 6%. This is the result of the trend toward amalgamation of farm operations.

The rate of change in farmland acres varies from one municipality to another. In areas subject to less growth pressure the number of farmland acres has not decreased significantly, in some areas it has even increased. In areas experiencing more intense growth pressure, the decrease in farmland acres is more significant.[2]

The greatest loss of farmland has occurred in the Greater Toronto Area, which lost 16.5% of its farmland between 1991 and 2001.

There is a correlation between proximity to Toronto and decrease in acres farmed. The greatest loss of farmland has occurred in the GTA. Between 1991 and 2001, 34,639 acres of farmland went out of production in York, 25,043 acres went out of production in Peel, 20,047 acres went out of production in Halton, and 27,882 acres went out of production in Durham.

A total of 107,611 acres was taken out of agricultural production in the GTA in 15 years. The rate of change for the study area between 1986 and 2001 is shown in **Table 2**.

The proportion of land under production that is rented rather than owned is often an indicator of the stability of the industry. In 1986, 68.8% of the 4.3 million acres being farmed in the region was owned; 31.2 % was rented. In 2001, 61.6% of the 4.1 million acres of farmland was owned and 38.4% was rented. **Table 3** lists the amount of owned vs. rented land by region and the per-

2. Statistics Canada changed the definition of farmland several times between 1986 and 2001, making absolute comparisons impossible. Trends should be reviewed, rather than absolute numbers.

Table 1: Percentage of Land Farmed in Acres Against the Total County/District Acreage for 1986 to 2001

Counties & Districts	Total County/District Acreage	Area Farmed in acres	% of Land Farmed in acres	Area Farmed in acres	% of Land Farmed in acres	Area Farmed in acres	% of Land Farmed in acres	Area Farmed in acres	% of Land Farmed in acres
	Acreage	1986	1986	1991	1991	1996	1996	2001	2001
Brant	226,494	158,945	70.2%	166,626	73.6%	177,287	78.3%	158,693	70.1%
Haldimand	698,265	522,205	74.8%	500,855	71.7%	530,464	76.0%	515,099	73.8%
Hamilton	277,084	145,083	52.4%	138,382	49.9%	147,980	53.4%	138,879	50.1%
Niagara	444,349	236,942	53.3%	215,939	48.6%	229,832	51.7%	232,817	52.4%
Dufferin	368,221	213,403	58.0%	190,961	51.9%	222,183	60.3%	193,162	52.5%
Halton	242,908	118,805	48.9%	115,036	47.4%	109,187	44.9%	98,758	40.7%
Peel	311,962	129,476	41.5%	115,352	37.0%	120,026	38.5%	104,433	33.5%
Simcoe	1,186,064	550,073	46.4%	506,424	42.7%	550,393	46.4%	540,870	45.6%
Waterloo	331,777	237,954	71.7%	229,467	69.2%	234,406	70.7%	225,800	68.1%
Wellington	657,106	472,085	71.8%	468,993	71.4%	484,516	73.7%	471,389	71.7%
Durham	598,428	358,168	59.9%	337,222	56.4%	336,857	56.3%	330,286	55.2%
Haliburton	1,117,573	17,873	1.6%	16,674	1.5%	16,145	1.4%	13,976	1.3%
Kawartha Lakes	757,821	371,511	49.0%	353,778	46.7%	378,692	50.0%	360,690	47.6%
Northumberland	517,235	298,342	57.7%	292,600	56.6%	274,809	53.1%	253,665	49.0%
Peterborough	974,193	272,634	28.0%	270,782	27.8%	261,673	26.9%	258,642	26.5%
York	424,682	210,604	49.6%	190,274	44.8%	193,686	45.6%	175,965	41.4%
CENTRAL ZONE TOTAL	**9,134,162**	**4,314,103**	**47.2%**	**4,109,365**	**45.0%**	**4,268,136**	**46.7%**	**4,073,124**	**44.6%**

Notes:

* All Haldimand County statistics include Norfolk County.

- Statistics Canada has amalgamated Toronto farms into the York Region statistics for confidentiality reasons.
- Statistics Canada changed the definition of farmland several times between 1986 and 2001, making absolute comparisons impossible. Trends should be reviewed rather than absolute numbers.

Source: Agricultural Statistics for Ontario 1986, 1991, 1996.

centage change that has occurred since 1986. What is notable, is the rate of change in the ratios of rented to owned land in various parts of the region. Again there is a correlation between proximity to urban areas and a higher percentage of rented land.

A review of gross farm receipts presents a different picture of the state of the industry. In 1986, the 27,444 farms in the zone generated more than $2.1 billion in gross farm receipts. In 2001, the 21,893 farms generated more than $3.5 billion in gross farm receipts. Since 1996, the value of gross farm receipts in the zone has increased by 24.4 %.

Despite the loss of land, gross farm receipts rose from $2.1 billion in 1986 to $3.5 billion in 2001, an increase of almost 40%. Even when higher costs of production are taken into account, it is clear that fewer farmers are producing more on less land today than they were 15 years ago.

This seems to confirm that farmers are more productive and better off today than they were 15 years ago. However, the costs of production and inflation must be considered when reviewing these statistics. After adjusting the values to the 2001 value, the increase in value in real dollars between 1991 and 2001 is approximately 8.9 %. The relative increase is less marked, but it remains true that fewer farmers are producing more, on a smaller land base.

Although agriculture is not a major employer, it does represent a significant work force. In the four regions of the GTA, for example, in 1996, agriculture accounted for 15,000 direct jobs and 35,000 agriculturally related jobs.[3]

3. Greater Toronto Area, Agricultural Economic Impact Study, p. 4.14.

Table 2: Rate of Change in Number of Farms, Area Farmed, and Gross Farm Receipts for 1986 to 2001.

Counties & Districts	Number of Farms				Rate of Change	Area Farmed in Acres (ac)				Rate of Change	Gross Farm Receipts ($'000)				Rate of Change
	1986	1991	1996	2001	1991-2001	1986	1991	1996	2001	1991-2001	1986	1991	1996	2001	1991-2001
Brant	988	1,010	984	817	-23.6%	158,945	166,626	177,287	158,693	-5.0%	90,946	116,154	146,952	144,282	19.5%
Haldimand	3,300	3,066	2,985	2,602	-17.8%	522,205	500,855	530,464	515,099	2.8%	316,033	378,276	453,102	541,431	30.1%
Hamilton	1,393	1,225	1,228	1,026	-19.4%	145,083	138,382	147,980	138,879	0.4%	110,032	158,733	181,942	222,342	28.6%
Niagara	3,147	2,706	2,672	2,266	-19.4%	236,942	215,939	229,832	232,817	7.2%	257,141	318,968	408,323	511,395	37.6%
Dufferin	1,079	1,023	1,039	898	-13.9%	213,403	190,961	222,183	193,162	1.1%	61,549	65,383	79,733	78,423	16.6%
Halton	834	744	720	619	-20.2%	118,805	115,036	109,187	98,758	-16.5%	86,046	129,432	129,314	141,473	8.5%
Peel	824	711	689	522	-36.2%	129,476	115,352	120,026	104,433	-10.5%	55,332	75,630	77,086	116,537	35.1%
Simcoe	3,007	2,709	2,773	2,463	-10.0%	550,073	506,424	550,393	540,870	6.4%	194,996	266,464	264,885	293,933	9.3%
Waterloo	1,642	1,618	1,590	1,444	-12.0%	237,954	229,467	234,406	225,800	-1.6%	223,904	257,866	301,385	379,602	32.1%
Wellington	2,851	2,849	2,810	2,616	-8.9%	472,085	468,993	484,516	471,389	0.5%	251,007	320,100	373,124	433,776	26.2%
Durham	2,218	2,090	2,001	1,709	-22.3%	358,168	337,222	336,857	330,286	-2.1%	163,828	192,886	208,169	233,891	17.5%
Haliburton	89	96	87	69	-39.1%	17,873	16,674	16,145	13,976	-19.3%	421	1,242	773	729	-70.4%
Kawartha Lakes	1,726	1,668	1,710	1,516	-10.0%	371,511	353,778	378,692	360,690	1.9%	67,931	74,408	79,848	86,119	13.6%
Northumberland	1,555	1,514	1,366	1,104	-37.1%	298,342	292,600	274,809	253,665	-15.3%	83,217	114,901	121,646	123,299	6.8%
Peterborough	1,400	1,430	1,369	1,202	-19.0%	272,634	270,782	261,673	258,642	-4.7%	51,856	66,960	66,832	69,576	3.8%
York	1,391	1,210	1,211	1,020	-18.6%	210,604	190,274	193,686	175,965	-8.1%	135,115	152,347	170,403	178,963	14.9%
TOTAL	**27,444**	**25,669**	**25,234**	**21,893**	**-17.2%**	**4,314,103**	**4,109,365**	**4,268,136**	**4,073,124**	**-0.9%**	**2,149,354**	**2,689,750**	**3,063,517**	**3,555,771**	**24.4%**

	# Farms	Area (acres)	GFR
86-01 Change	**-5,551**	**-240,979**	**$1,406,417**
86-01% Change	**-25.4%**	**-5.9%**	**39.6%**

Notes:

* All Haldimand County statistics include Norfolk County.

- Statistics Canada amalgamates Toronto farms into the York Region statistics for confidentiality reasons
- Statistics Canada changed the definition of farmland several times between 1986 and 2001, making absolute comparisons impossible. Trends should be reviewed rather than absolute numbers.

Source: Agricultural Statistics for Ontario 1986, 1991, 1996.

The food produced by the farms in the zone supports a huge industry of food processors that serves both domestic and international markets. In 2001, Ontario exported more than $7 billion of agri-food products and the agri-food industry employed more than 600,000 people.

In 2001, Ontario exported more than $7 billion of agri-food products and the industry employed more than 600,000 people.

Between 1991 and 1996 there was a decline of 6% in the number of jobs in agriculture and in agricultural services. A combination of factors could account for this: the recession that affected agriculture in the early 1990s, the decline in the number of farms as they amalgamated or underwent a change in land use, and the aging of the farmer population.

This summary of the status of agriculture in the zone is cursory. To truly understand the trends affecting agriculture, a detailed analysis of all components of the industry is required. However, it is sufficient to confirm that agriculture is a major industry in the Central Ontario Zone. It is the largest user of land in the zone, and in most of the regions and counties, it occupies the majority of the land base. It generates huge revenues and employs a significant number of people directly and indirectly. It provides fresh, high-quality food to the growing number of residents in the area. The level of productivity continues to rise while the land base continues to erode. Successfully managing this industry will be a critical challenge for Smart Growth.

Between 1991 and 1996, the number of jobs in agriculture and in agricultural services declined by 6%, probably because of the recession of the early 1990s, the decline in the number of farms, and the aging of the farmer population.

Table 3: Farm Land Area Classified by Tenure, by Counties & District for 1986 to 2001.

Counties & Districts	Total County/District Acreage	Farmland Owned (acres)				Rate of Change	Farmland Rented (acres)				Rate of Change
	Acreage	1986	1991	1996	2001	1986-2001	1986	1991	1996	2001	1986-2001
Brant	226,494	112,235	113,771	113,459	99,802	-12.5%	46,710	52,855	63,828	58,891	20.7%
Haldimand	698,265	365,625	350,822	346,192	337,032	-8.5%	156,580	150,033	184,272	178,067	12.1%
Hamilton	277,084	93,484	87,180	84,847	79,399	-17.7%	51,599	51,202	63,133	59,480	13.2%
Niagara	444,349	165,453	150,702	147,355	141,716	-16.7%	71,489	65,237	82,477	91,101	21.5%
Dufferin	368,221	145,233	125,920	141,441	107,851	-34.7%	68,170	65,041	80,742	85,311	20.1%
Halton	242,908	59,635	52,974	48,987	45,823	-30.1%	59,170	62,062	60,200	52,935	-11.8%
Peel	311,962	65,157	55,985	56,304	48,069	-35.5%	64,319	59,367	63,722	56,364	-14.1%
Simcoe	1,186,064	376,765	330,934	337,978	319,179	-18.0%	173,308	175,490	212,415	221,691	21.8%
Waterloo	331,777	167,625	159,081	161,305	154,890	-8.2%	70,329	70,386	73,101	70,910	0.8%
Wellington	657,106	349,936	344,604	330,908	325,163	-7.6%	122,149	124,389	153,608	146,226	16.5%
Durham	598,428	238,412	228,606	212,064	207,446	-14.9%	119,756	108,616	124,793	122,840	2.5%
Haliburton	1,117,573	14,498	13,318	13,738	11,807	-22.8%	3,375	3,356	2,407	2,169	-55.6%
Kawartha Lakes	757,821	277,399	261,050	255,620	237,333	-16.9%	94,112	92,728	123,072	123,357	23.7%
Northumberland	517,235	220,837	205,166	188,287	168,903	-30.7%	77,505	87,434	86,522	84,762	8.6%
Peterborough	974,193	210,922	206,829	190,685	175,276	-20.3%	61,712	63,953	70,988	83,366	26.0%
York	424,682	106,098	91,847	86,173	75,136	-41.2%	104,506	98,427	107,513	100,829	-3.6%
CENTRAL ZONE TOTAL	**9,134,162**	**2,969,314**	**2,778,789**	**2,715,343**	**2,534,825**	**17.1%**	**1,344,789**	**1,330,576**	**1,552,793**	**1,538,299**	**12.6%**

Notes:

* All Haldimand County statistics include Norfolk County.
- Statistics Canada amalgamates Toronto farms into the York Region statistics for confidentiality reasons.
- Statistics Canada changed the definition of farmland several times between 1986 and 2001, making absolute comparisons impossible. Trends should be reviewed rather than absolute numbers

Source: Agricultural Statistics for Ontario 1986, 1991, 1996.

The definition of significant agricultural land

The Smart Growth goals refer to "steering growth away from significant agricultural land." Before decisions can be made on how to do this, there must be agreement on what constitutes "significant" agricultural land.

Prime agricultural land is defined in the Provincial Policy Statement as specialty crop land and land classified in the Canada Land Inventory as having Class 1, 2, or 3 soil. Municipalities may use more rigorous definitions than the PPS.

In Ontario, significant agricultural land is defined in a number of ways. Historically, the Ontario Food Land Guidelines and more recently, the Provincial Policy Statement (PPS), require the protection of "prime agricultural land" for agriculture. Prime agricultural land is defined as:

> *…land that includes specialty crop lands and/or Canada Land Inventory Class 1,2 or 3 soils in this order of priority for protection. growth policy.*

Specialty crops lands are defined as:

> *…areas where specialty crops such as tender fruits, grapes or other fruit crops, vegetable crops, greenhouse crops and crops from agriculturally developed organic soil lands are predominantly grown usually resulting from:*
>
> - *soils that have suitability to produce specialty crops or lands that are subject to special climatic conditions or a combination of both; and/or*

- *a combination of farmers skilled in the production of specialty crops and of capital investment in related facilities and services to produce, store or process specialty crops.*

These definitions in the PPS identify land that must be considered for protection in regional and local planning policies. Municipalities can be, and often are, more rigorous in the definition of prime land. They cannot be less rigorous than the PPS.

Using the Canada Land Inventory (CLI) as a starting point for identifying prime agricultural land is reasonable. In this system, land is classified based on its potential for agricultural production. Class 1 lands are the most productive and have the fewest constraints. Classes 2 to 7 are applied to lands subject to increasing constraints (topography, slopes, soil depth, drainage, stoniness, climate, fertility, permeability) that decrease the land's productive capacity. Organic soils such as those in the Holland Marsh, are in a separate category and qualify as specialty lands under the definitions in the PPS. The CLI designations for the zone are shown on **Figure 2**.

Land in Classes 1, 2, and 3 may have pockets of Class 5 and 6 land which are not protected. Farmers need large contiguous areas to farm efficiently. Protecting Classes 1 to 3 and allowing intervening areas to be developed can fragment anagricultural area.

The problem with using the CLI for designating land is that the CLI classification is based on the ability to grow common field crops. It does not take into account local conditions or the varying requirements of different crop types that may elevate the importance of certain land for agriculture, whatever its CLI designation. The material available as the basis for establishing the appropriate designation varies by age and region. For some areas very detailed current soil data is available, in othe rs it is not.

Use of just the CLI does not account for factors such as the critical mass or access to support services required for agriculture to be successful. Classes 1, 2, and 3 land may be interrupted by pockets of Class 5 and 6 land which are not protected. For optimal production, farmers need large contiguous areas, not fragmented fields. Protecting Classes 1 to 3 and allowing intervening areas to be developed fragments an agricultural area, introduces conflicts, and reduces the critical mass of agricultural activities required for efficient operations. A more comprehensive approach to designation is needed.

Alternative methods for assessing land include the Agroclimatic Resource Index (ACRI), which considers growing season length, temperature, and moisture as well as soil quality.

Alternative methods for assessing land do exist and in some municipalities have been implemented. The Agroclimatic Resource Index (ACRI), for example, provides a measure of land capability. It is calculated by considering growing season length, temperature, and moisture as they relate to forage yields. Using this system, it can be determined that from 1966 to 1976, a census area in Alberta experienced a net gain in total farmland of 76,704 hectares with an ACRI of

FIGURE 2

CENTRAL ONTARIO SMART GROWTH ZONE

- Agricultural Soil Classification (CLI) and Crop Heat Units (CHUs) -

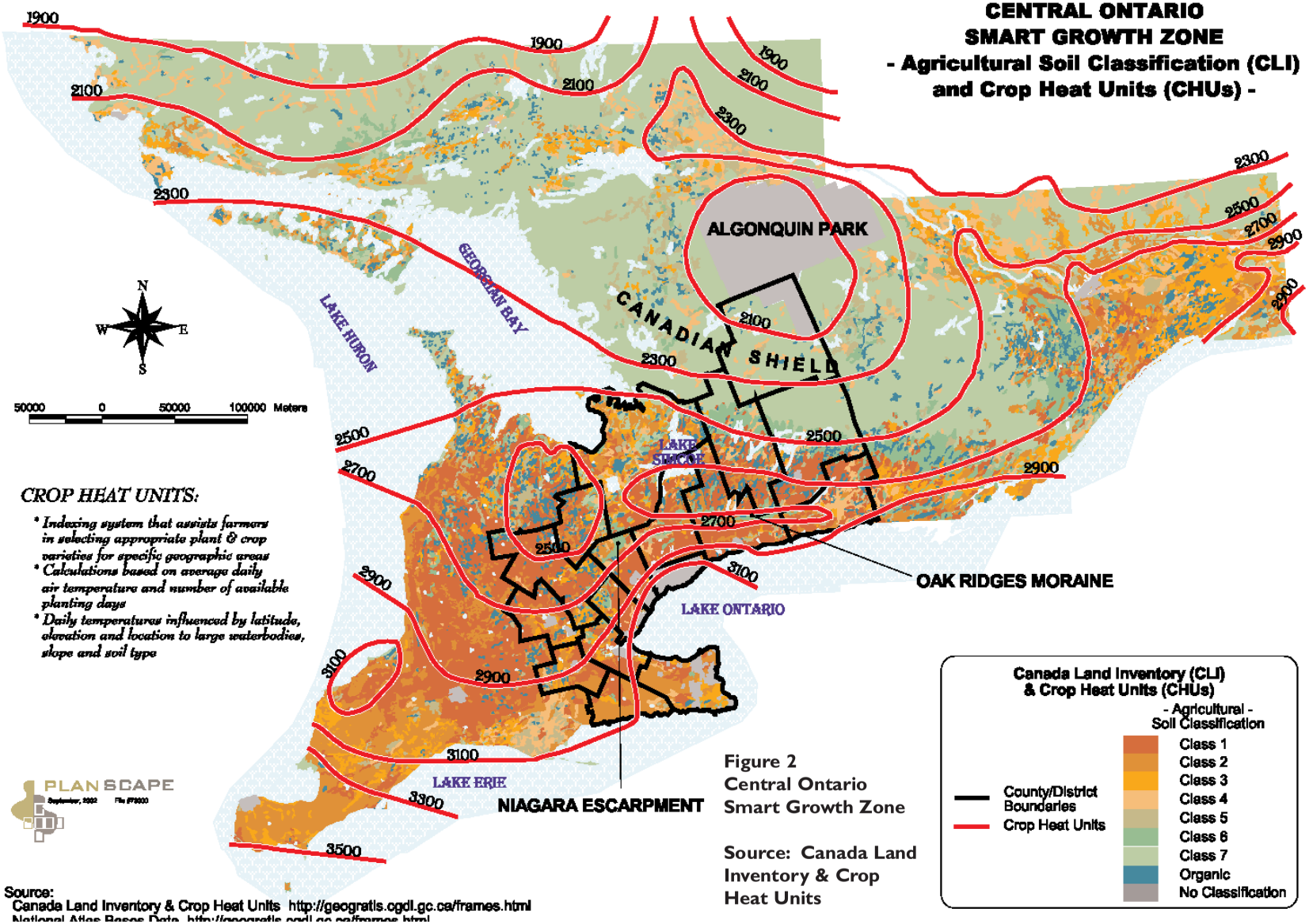


Figure 2
Central Ontario
Smart Growth Zone

Source: Canada Land Inventory & Crop Heat Units

Source:
Canada Land Inventory & Crop Heat Units http://geogratis.cgdi.gc.ca/frames.html

1.2. During the same period York and Peel Regions reported a loss of 41,079 hectares with an ACRI value of 2.5. Multiplying the area by the index shows that these changes represent a net loss in capacity. Land gained in Alberta multiplied by the index equates to 92,045 ACRI. In York and Peel, the relative value of land lost is 102,698 ACRI. This type of calculation needs to be done to understand the relative value of the land in terms of productive capacity.

The Ontario Ministry of Agriculture and Food has developed a more comprehensive process for identifying significant agricultural land. In introducing this process the Ministry made the following comment about the process of evaluation based on the Canada Land Inventory "..the methodology has long been perceived by some as subjective and qualitative. Implementation and replication at the local municipal level has been variable". [4]

LEAR process responds to the need for a more comprehensive evaluation of agriculutural value.

The new approach, entitled "The Land Evaluation and Area Review (LEAR) System for Agriculture combines land evaluation with an area review. The land evaluation includes rating of the soils within the study area; the area review generates ratings that factor in social, economic and environmental elements. The system can be modified to reflect specific local conditions but has sufficient rigor to protect its integrity. It is intended to be used for comprehensive planning reviews, not to evaluate specific applications. This is consistent with the need to evaluate agricultural land on a comprehensive, not an ad hoc basis.

A more comprehensive evaluation of agricultural land, including all the factors that contribute to agricultural capacity, should be done at the provincial or even national level.

Local municipalities have always had the option to implement a more rigorous analysis and designation of prime land. Many have done so and have implemented policies that are fairly stringent in protecting large contiguous agricultural areas. Niagara is an example of where this has been done quite successfully. However municipal policies can be challenged and the challenge substantiated by the PPS. Because of thefragmented geographic nature of the municipal structure, a municipally based approach does not result in a comprehensive evaluation across the zone.

Given the fundamental societal value of agriculture and the fact that the land base is limited, a more comprehensive evaluative process is appropriate. Introduction of the LEAR system could be the beginning of this. It allows the CLI to be a starting point, with other conditions that contribute to agricultural capability being factored in. This type of evaluation should be done on a provincial, or even national basis, resulting in a tiered policy framework based on a comprehensive and progressively more rigorous evaluation. The detailed

4. Ontario Ministry of Agriculture and Food, "A Guide to the Land Evaluation and Area Review System for Agriculture" June 2002.

municipal evaluations could then fit into this comprehensive framework. A broad picture of productive capability, and a firm basis upon which to establish what land is significant would result.

Where are significant agricultural lands located?

Central Ontario contains a significant amount of Canada's Class 1 land. Unfortunately, this is also one of the fastest growing regions of the country.

Figure 2 shows the CLI classifications and heat units for southern Ontario. It is important to remember that prime agricultural lands, Classes 1, 2, and 3 and specialty croplands, are a very limited resource in Canada. Only 5% of the Canadian land mass is made up of prime land. Only 0.5% of it is Class 1. The Central Ontario Zone is fortunate to contain a significant portion of this very limited resource. Unfortunately, it occurs in one of the fastest-growing regions of the country.

This conflict is easily explained. Ontario was initially an agrarian society. Settlement was most successful in good agricultural areas. The successful agricultural communities attracted service industries and the area grew. When development occurred, level farmland with good soils provided the best sites for development. The very resource that attracted settlement, is ultimately being consumed by it.

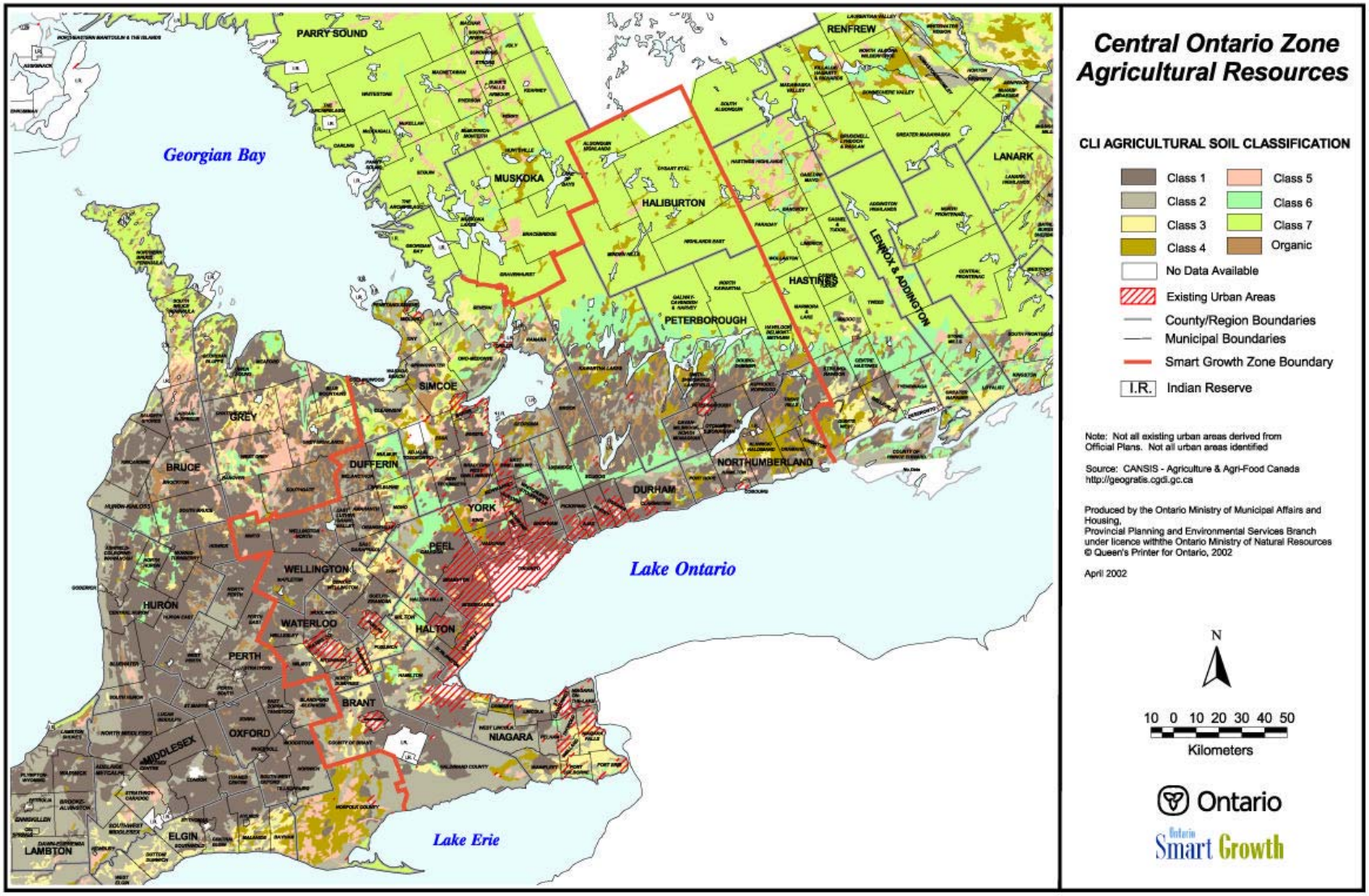
Much prime agricultural land is located where development pressures are greatest. The area around Kitchener-Waterloo, Hamilton, and the urban centres along Lake Ontario are almost exclusively Class 1 land. The Oak Ridges Moraine, which recently had a higher level of protection assigned to it, is not prime agricultural land.

As **Figure 2** shows, the prime agricultural land in the Central Ontario Zone is located south of the Canadian Shield, along the Lake Ontario shoreline, and down into western Ontario. Soils analyses done for southern Ontario have confirmed that over 50% of the land in the central zone qualifies as prime agricultural land. [5] Over 20 % of the land qualifies as Class 1.

Figure 3 is a map of the soil classifications for the Central Ontario Zone with urban areas overlaid. The prime agricultural land is located where development pressures are greatest. The area around Kitchener-Waterloo, Hamilton, and the urban centres along Lake Ontario are almost exclusively Class 1 land. Urban development has spread along the shoreline of Lake Ontario in Niagara and Hamilton, where the tender fruit and grape lands are located. The Oak Ridges Moraine, which was recently assigned a higher level of protection, is not prime agricultural land. It appears on **Figure 2** as the turquoise swath of Classes 5, 6, and 7 land.

Identification of prime land on **Figure 3** is based on the CLI. Other factors that elevate certain areas for production are not factored in. These factors include

5. Douglas Hoffman, Acreages of Soil Capability Classes for Agriculture in Ontario, Report No. 8, University of Guelph, 1975.


Central Ontario Zone
Agricultural Resources
CLI AGRICULTURAL SOIL CLASSIFICATION
Class 1
Class 2
Class 3
Class 4
Class 5
Class 6
Class 7
Organic
No Data Available
Existing Urban Areas
County/Region Boundaries
Municipal Boundaries
Smart Growth Zone Boundary
I.R. Indian Reserve
Note: Not all existing urban areas derived from Official Plans. Not all urban areas identified
Source: CANSIS - Agriculture & Agri-Food Canada
http://geogratis.cgdi.gc.ca
Produced by the Ontario Ministry of Municipal Affairs and Housing,
Provincial Planning and Environmental Services Branch
under licence withthe Ontario Ministry of Natural Resources
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April 2002
N
10 0 10 20 30 40 50
Kilometers
Ontario
Ontario Smart Growth
Georgian Bay
Lake Ontario
Lake Erie
PARRY SOUND
MUSKOKA
HALIBURTON
RENFREW
LANARK
LENNOX & ADDINGTON
HASTINGS
PETERBOROUGH
SIMCOE
GREY
BRUCE
DUFFERIN
NORTHUMBERLAND
DURHAM
YORK
PEEL
WELLINGTON
HURON
WATERLOO
HALTON
PERTH
BRANT
OXFORD
NIAGARA
MIDDLESEX
ELGIN
LAMBTON

critical mass of agricultural operations and activities, access to services, markets and research facilities and skilled work force. Most of these attributes are also present in the zone and should be factored into a locational analysis. If this were done, it is likely that the presence of significant land would be even higher in the zone, making management of the resource an even more critical component of the Smart Growth strategy.

Analysing land based on soil quality alone ignores other important factors in agricultural production. A critical mass of activities, as well as access to services, markets, and research facilities, and the presence of a skilled work force also affect productivity.

Are certain types of agricultural land more significant than others?

The CLI provides a basic classification of land that broadly maps the best to the worst land from an agricultural productivity perspective. However, as noted previously, other factors also differentiate productive ability. Temperature, orientation, wind, erosion, presence of microclimates, and levels of precipitation contribute to the ability to grow certain crops. The Niagara Escarpment for example creates a microclimate that allows the production of crops that will not grow elsewhere.

Orientation, temperature, wind, erosion, presence of microclimates, and levels of precipitation also affect crop growth.

In addition to geography, economic and social conditions can also assist in the success of agriculture. Proximity to market; transportation resources; a critical mass of agricultural operations and activities; access to services, markets and research facilities; the presence of a skilled work force and lack of conflict also support the industry.

The Niagara Escarpment creates a microclimate that allows the production of crops that will not grow elsewhere. If that land is lost, the ability to grow those crops will be lost.

Combinations of circumstances mean specific areas have a unique ability to grow specific crops. Certain crops would not be economic to grow elsewhere. Being located in an established agricultural area allows farmers to share resources, ensures access to services, and generally makes the business of farming easier to conduct. Local government policies can help or hinder farming depending on the flexibility and the degree of understanding of the industry. In establishing a strategy that includes agriculture as a viable industry, all these factors must be considered.

Other distinctive agricultural regions in Ontario include the apple-producing areas along the Lake Ontario shoreline and Holland Marsh. Ontario also has organic and herb farms and important greenhouse operations.

Some people assume that if agricultural land is bought up, the farmer can simply move further from the urban area and start an operation elsewhere. This is not necessarily the case. Agricultural land varies considerably in quality. The ability to produce certain crops successfully is based on many location-specific factors. Once the location is lost, the ability to produce is also lost.

Being located in an established agricultural area allows farmers to share resources, ensures access to services, and generally makes the business of farming easier to conduct.

Farmland must be managed to retain its optimal growing capability. Years of management go into the development of productive farmland. A significant investment of time and money is required. Through experience, farmers learn

to understand the unique characteristics of specific pieces of land. These advantages are lost upon relocation. Relocation is not easy for farmers. As the average age of farmers increases, there is increased reluctance to move and start again.

If agricultural land is developed, a farmer cannot necessarily start an operation elsewhere. The ability to produce certain crops successfully is based on many location-specific factors. Also, years of management go into the development of productive farmland. This advantage is lost upon relocation.

Farming is a tremendously complicated occupation. To be successful, farmers must be skilled in a multitude of disciplines, all of which are enhanced by experience. When a farmer leaves the land, this skill set is lost. In ranking the significance of different land for agriculture, all these issues must be factored in.

The location of certain unique lands, such as the grape-producing regions and the tender fruit lands, are well known. Knowledge about the location of other unique lands exists in the farming community, the research community, and government agencies. However, this information is fragmented. It needs to be drawn together and used as the basis for a provincial debate on which, where, why, and how agricultural resources should be protected and which, where, and why certain ones will not.

Information about the location of unique agricultural lands is fragmented. It needs to be drawn together and used as the basis for a provincial debate on which, where, why, and how agricultural resources should be protected.

Agricultural policy should be based on a clear understanding and agreement of its implications. Lands that are unique need to be identified. When deciding to take areas out of production, policy makers need a clear understanding of the implications of that decision.

What other uses compete with agriculture for land?

Urban development. Competition for land in the rapidly urbanizing areas in the GTA and around existing urban centres is intense. Pressure for residential, industrial, and commercial development is obvious and constant. Less obvious is competition for land for golf courses, aggregate extraction, transportation corridors, service corridors, wetland complexes, and open space facilities. All of these uses result in the loss to agriculture of much larger areas than just those actually being occupied by new development. Inherent conflicts between these uses and agriculture negatively impact the ability to farm efficiently.

Agriculture competes for land not only with residential, industrial, and commercial uses, but also with golf courses and other recreational facilities, transportation and service corridors, aggregate extraction, open space, and wetland complexes.

As an area is urbanized, conflicts arise. Increased traffic, complaints about farm operations and the use of farm machinery, restrictions on when and how farmers can operate, and the closing of agricultural services usually accompany urban forms of development. The character of the community gradually changes from agricultural to urban.

Residential development leads to increased traffic, restrictions on farming, and the eventual cessaction of agricultural operations.

Recreational uses. Introducing recreational activity into an agricultural area

can also create conflicts. Trespassing and crop damage occur when the public has access to areas near farms. Lighting from sports facilities can affect operations such as greenhouses. Additional traffic on the roads makes it difficult and dangerous to move agricultural equipment.

Introducing recreational activities into agricultural areas can lead to crop damage by trespassers, problems caused by high-intensity lighting of sports facilities, or heavy demands on the water.

Spreading of manure and hours of operation become issues. Spraying of herbicides and pesticides on golf courses or other areas can lead to conflicts. Demands for water by other land uses can have significant impacts on agriculture.

Aggregate extraction. Aggregate resources are protected for long-term use under the PPS. This creates a direct conflict with agricultural land in cases when the aggregates are located under prime land. Although agricultural land is supposed to be rehabilitated once the aggregate is removed, rehabilitation for agriculture is often not feasible. The land is often redeveloped for recreational or residential development, which is easier to accommodate after rehabilitation. While the aggregate operation is functioning, off-site impacts such as dust, noise, traffic and impact on the water table can adversely affect agriculture.

Aggregate extraction leads to off-site impacts such as dust, noise, traffic, and lowering of the water table, all of which affect farming.

Green space. Environmental issues also need to be balanced. To date, agriculture has been granted special status under Section 2.3.4 of the PPS. However, as environmental controls such as setbacks from water courses, nutrient management, and preservation of wetland complexes, wildlife corridors, and natural heritage features are introduced, restrictions on agriculture are tightened. The policies for the Oak Ridges Moraine and the Niagara Escarpment are obvious examples. Both have imposed restrictions on activities that have traditionally been part of farming. To be successful, farmers need flexibility to respond to changes. As flexibility is lost through tightened regulations and as the required procedures become more complicated, the ability to farm successfully is reduced.

Environmental regulations may restrict farming operations. To be successful, farmers need flexibility to respond to changes, but flexibility is lost through tightened regulations.

Transportation corridors. Transportation corridors are a mixed blessing. Often the construction of better roads allows more efficient movement of equipment, reduces conflicts with motorists, and allows better access to markets. However, if roads are not designed with the agricultural community in mind, conflicts can increase. Slow-moving equipment conflicts with fast-moving commuter traffic. The type of roads constructed are not conducive to moving agricultural equipment. Transportation corridors may sever properties and result in land going out of production.

Transportation corridors sever properties and often take land out of production. Slowmoving equipment also conflicts with fastmoving commuter traffic.

Development tends to follow infrastructure, so the future viability of an

area for agriculture is put at risk by new corridors and services. As with other development, because of the lack of constraints, the most costeffective development locations are often the best agricultural land. The impact of the Queen Elizabeth Way on the tender fruit lands is an obvious example of the negative impact that a transportation corridor can have on an agricultural resource.

Where does agriculture fit in relation to competing demands for land?

Agricultural land is a limited resource that, once lost, cannot be replaced. Therefore the obvious response to this issue is that protection of agricultural land should have highest priority. Ontario has a good agricultural resource base supported by a sufficient supply of water, a world-class work force, modern technology, environmental controls, and an infrastructure to manage the product. This resource should be protected through coordinated actions by all three levels of government.

It would be shortsighted to let the agriculture industry decline and rely on external food supplies that are neither of the same quality as locally grown food nor within the control of Ontarians.

A healthy agricultural industry and the ability to feed the local population should be a priority. The food produced in Ontario is of the highest quality, grown by a sophisticated work force under controls that are transparent and in the public interest. It would be shortsighted to let this industry decline and rely on imported food supplies that may not be of the same quality and are not within the control of Canadians. The land upon which the industry is based must be protected and the conditions to support the industry must be in place. This is the responsibility of both provincial and municipal governments.

To protect agriculture, it is not enough to just protect the land. The farming community needs to have some certainty that it can continue to operate under a clear and consistent set of rules, protected from conflict, and with a reasonable return for the product it produces. Unfortunately, neither the federal nor the provincial government has a clearly articulated agricultural policy. There needs to be a public debate about agriculture and decisions need to be made about the future of the industry. If we want to maintain the ability to produce our own food, we must create the environment in which it can happen. Preservation of agriculture requires federal and provincial support for farmers as well as for farms.

To protect agriculture, it is not enough to just protect the land. Farmers need some certainty that they can continue to operate under a consistent set of rules, and can earn a reasonable return for the products they produce. But neither the federal nor the provincial government has a clearly articulated agricultural policy.

Protecting the land is one element of this debate. You can build a house almost anywhere; you cannot grow a peach anywhere. As part of the creation of federal or provincial policy on agriculture, there needs to be a review of what is grown where, what can be grown where, how much needs to be grown to sat-

isfy the population's needs, and what strategy is required to achieve stated goals. Once this information is available, it needs to be evaluated in reference to competing uses. Until these steps have been taken, controls need to be in place to ensure that if and when the debate does occur, there is still a resource to manage.

You can build a house almost an where; you cannot grow a peach anywhere.

Is there a place for agriculture in an urbanizing area?

Although numerous conflicts can arise between agriculture and nonagricultural development, there are also many benefits to co-existence. These benefits exist on a number of levels. There is an environmental benefit to having agricultural land use close to urban development. For example, over a full growing season, an average hectare of corn in Ontario removes 22 tonnes of carbon dioxide from the air. [6] The fencerows and woodlots maintained as part of farm operations act as wildlife corridors and habitats for many species. Without farmland, the linkages that species need to survive in urbanizing areas would not exist. Loss of birds and animals would have a significant negative effect on the quality of life in urban areas.

Non-agricultural development can benefit from proximity to agriculture. For example, an average hectare of corn in Ontario removes 22 tonnes of carbon monoxide from the air during the growing season.

The trend in the GTA has been to replace traditional crops with specialty crops that require, and are required by, an urban market. Time-sensitive products such as herbs need to be grown close to their markets. Both producer and consumer benefit from "just-in-time" delivery. Having a productive, viable agricultural industry nearby allows urban residents to enjoy the benefits of a plentiful, nutritional food supply geared to urban tastes. Growth opens markets and stimulates demand for product. The farmers in the Central Ontario Zone have shown great flexibility in responding to these markets. For example, about 90% of the Asian vegetables produced in Ontario are produced in the Holland Marsh.

City dwellers benefit from living near sources of fresh produce and time-sensitive crops such as herbs. They also enjoy access to pickyour- own farms and the opportunity to enjoy farm-based tourism.

Pick-your-own businesses and agriculturally-related tourism can be very successful around urban areas. The customers are not so much consumers of product as they are consumers of experience. They want the opportunity to drive to the country and understand where food comes from and how it is produced. The role of the agricultural community as a part of the rural landscape is an important benefit to an urban region. It is a part of the broader open space system that provides a more tranquil environment as well as education about agriculture to urban residents.

6. Ontario Corn Producer's Association (OCPA) homepage– Corn & Climate Change

Linkages between agriculture and urban living are growing. There is a growing trend in the restaurant business to feature local produce. Restaurant owners establish relationships with farmers that benefit both parties and allow consumers access to fresh local products.

Not only does the urban population benefit from the existence of a strong agricultural community, the agricultural community can also benefit from proximity to urban areas; access to services and research facilities in urban areas enhances farmers' ability to operate; access to large and sophisticated markets helps stabilize production; access to transportation services is critical to reaching markets; and access to services such as gas and hydro support operations such as greenhouses. What is needed is a way to balance conflicts to allow both groups to take advantage of the benefits.

Farmers near large cities benefit from access to large, sophisticated markets, as well as access to research facilities, services such as gas and hydro, and transportation links.

How can agriculture be protected from growth pressure?

The most effective way to protect agriculture from growth pressures is to ensure that the industry is healthy, that a good living can be made from agriculture, and that the land base is secure. The first two requirements must be addressed through economic policy, the marketplace, and the efficiency of the farmer. Techniques to address the third requirement include:

Protecting agriculture from growth pressures means ensuring that the industry is healthy, that a good living can be made from agriculture, and that the land base is secure.

- legislation to protect farmland;
- definition and enforcement of growth boundaries;
- legislation protecting agriculture (i.e., the Farming and Food Protection Act);
- voluntary area designation programs;
- long-term leases of agricultural land;
- clear, consistent planning policies with sufficient flexibility to allow the industry to evolve;
- conservation easements;
- property tax assessment based on productive value; and
- land stewardship programs. [7]

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7. Growing Halton's Agricultural Cluster and Farmland Base, Agricultural Policy Review & Economic Strategy, February 2002.

Ontario does have strong policies to manage growth. There is a tradition of managing growth and establishing firm growth boundaries. However the policies in the PPS allow redesignation of prime agricultural lands for "expansion of an urban area" if there are "no reasonable alternatives that avoid prime agricultural land." This weakens the growth boundaries in the long term, more quickly in the rapidly growing municipalities in the Central zone. Growth is seen as inevitable and these policies encourage incremental growth as development creeps out from the edges of established urban areas.

Planning policies that promote compact urban form in specific nonagricultural areas with non-negotiable growth boundaries can be effective in protecting agricultural land. These policies must be long term and consistently upheld to reduce pressure on agricultural land. Rather than implementing policies that address expansion of all urban areas as inevitable, where there is prime land, the boundary should be firm and growth directed elsewhere.

Ontario has little experience with programs that involve the purchase of development rights. Such programs, however, are well established in the United States.

Ontario has little experience with programs that involve the purchase of development rights. This is in part because of the underlying principles upon which any property laws are based. In the United States, where the principle of private property rights is firmly established, many such programs have been implemented. However there are Canadian examplesof programs to protect agricultural land in Quebec, British Columbia andAlberta. Study of these programs may provide some direction on effectivetools. A study currently being conducted by Guelph University on thistype should assist in identifying reasonable protection mechanisms.

What are the implications of protecting agricultural land?

There are many positive implications to protecting agricultural land.

- Transportation costs, both economic and environmental, are reduced when agricultural products are produced near markets.
- Produce is fresher when it reaches the consumer.
- A secure food supply is maintained.
- Agriculturally related leisure pursuits for the urban population can be offered within a reasonable distance of urban areas.
- Agricultural lands provide green space and natural landscape.

- Crops remove carbon monoxide from the air.
- Prohibiting urban growth on green fields encourages development of brownfields.
- Application of biosolids to farmland can benefit society by providing an economic way of disposing of urban waste while providing the farmer with inexpensive nutrients. (However, the debate over biosolids is increasingly heated. Controls must be transparent and comprehensive so the public has confidence in the science used to measure and mitigate risk.)

There are also negative implications of protecting agricultural land:

Protecting specific significant agricultural lands may divert new urban development to other locations, which may not be appropriate for the outward expansion of existing urban areas.

- By protecting specific significant agricultural lands, new urban development is diverted to other locations, which may not be contiguous to existing urban areas.
- If servicing infrastructure exists in prime areas, restricting development may not allow optimal use of the infrastructure, unless it can be adapted to agricultural needs.
- Some municipalities may be restricted in the extent of new urban development that can occur if there is significant agricultural land within their boundaries.
- Costs for development may increase on more difficult terrain (e.g., on Class 5 to 7 CLI lands), since the limitations to agricultural productivity also provide limitations to ease of construction for new urban development.

What are the major barriers to a healthy agricultural industry?

Subsidies for agriculture in other countries make foreign products cheaper than Canadian products.

Agriculture was "newsworthy" in Canada in 2002. The drought in western Canada brought to the fore the uncertainty and difficulties associated with agriculture. In addition to natural constraints, the agricultural industry in Canada and more particularly in the Central Ontario Zone faces a number of manmade barriers.

A federal policy vacuum.. Lack of a clear statement from the federal government on the importance of agriculture to the Canadian economy, and a commitment to developing a "level playing field" with respect to agriculture in other countries creates uncertainty for Canadian farmers.

Time will tell whether this will be addressed through the ongoing

federal/provincial initiative Agricultural Policy Framework, the purpose of which is to develop a comprehensive agricultural policy. In the meantime, subsidies for agriculture in other countries skew the marketplace, making foreign products cheaper than Canadian products. Free trade policies were designed to address these inequities but often seem ineffective.

Canadians enjoy some of the cheapest food in the world. The burden of this cheap food policy is often disproportionately borne by the producers. While the input costs to farming rise, prices fall. Because of subsidies in other countries, there is limited opportunity to increase the prices of agricultural products.

Canadian food producers bear a disproportionate share of the burden of Canada's cheap-food policy. While their input costs are rising, prices are falling.

The ambiguities of the Provincial Policy Statement. Like the federal government, the province does not have a clearly articulated policy on agriculture, notwithstanding the Provincial Policy Statement. The PPS is implemented on a municipality-by-municipality basis, with little consideration of its implications on a broader regional basis. The PPS is often used as a tool to justify urban expansion, rather than as a tool for preservation of high-quality agricultural land and directing growth to other locations.

The lack of federal and provincial commitment to the protection and enhancement of the agricultural industry (farmers and farms), compounded by the traditional farming "risks" of weather and markets, makes farming an uncertain business.

Lack of awareness of agriculture's importance. Many Canadians today do not understand where their food comes from. The fact that Canada is a world leader in agriculture, producing safe food using environmentally sound techniques, is not common knowledge. When faced with the choice of buying cheaper produce which may not have been subject to the same controls as Canadian produce, consumers often lack the knowledge required to make an informed choice.

The fact that Canada is a world leader in agriculture, producing safe food using environmentally sensitive techniques, is not common knowledge.

Lack of clear policies on new technology. For agriculture to evolve, adaptation to new technology is essential. This requires a public debate over issues such as genetically modified food. New technology is being implemented globally, with far -reaching consequences. Canada must decide where it stands with respect to evolving technology and then support the agricultural community in providing accessible, accurate information upon which reasonable, healthy food choices can be based.

Farming is a complicated industry and success is related to knowledge that comes with experience. Members of the younger generation are not entering the industry and the knowledge gained from working with the previous generation is not being handed on.

The aging of the farm population. The average age of farmers continues to increase. Many members of the next generation are not entering the industry.

This has significant implications. Farming is a tremendously sophisticated and complicated industry and success is in large part related to knowledge that comes with experience. When a farm is handed on to the next generation, it is not just the land that is handed on. The knowledge gained from working with the previous generation is also handed on. There is no point in protecting the land base if there is no younger generation of skilled operators to continue farming.

Decline of agricultural infrastructure. As the agricultural infrastructure in the urban fringe continues to decline, the availability of services from farm equipment to veterinary services continues to decline making it more difficult and expensive to farm.

As the agricultural infrastructure in the urban fringe declines, the availability of agricultural services – from farm equipment to veterinary services – also decreases, making it more difficult and expensive to farm.

Competition for land. As competing and conflicting land uses push into the agricultural community, it is more difficult to farm using standard farm practices. More time is spent dealing with complaints about farm practices. Right to Farm legislation has helped this situation, but not eradicated the problems. Separation of uses would be more effective in addressing conflicts.

When competing landuses push into the agricultural community, more time is spent dealing with complaints about farm practices than engaging in farm practices.

Financial barriers to new operations. The high cost of getting into farming is a major obstacle for new operators. Farm equipment, quota, property, and livestock are all expensive, and once a farm operator goes out of production, few can afford to get back in.

An inequitable tax system. The existing property tax system is uneven and inequitable when applied to agricultural land. Although there may be a preferred rate for agricultural land, the farmer still pays at the residential rate for his residence. The balance of the land is subject to property tax at a reduced rate. Because of this, the attitude of municipal politicians is often that agricultural land is a burden. However, studies confirm that, because of the minimal requirement for services generated by farmland, the taxes paid on agricultural land generate a positive tax return, while residential properties often generate a negative return.

The property tax system penalizes farmers, who pay residential tax rates for their homes, and a reduced rate for their farmland, even though it requires only minimal servicing. They pay a higher rate for any buildings classed as industrial, even if the buildings are used to add value to agricultural activities.

An inequitable assessment system. Inequities due to the assessment base also have a negative impact on agricultural land in developing areas. With market-based assessment, the value assigned to an acre of land in the area surrounding Toronto is higher than an acre of land in the outer ring. Farmers in the GTA are subject to a greater tax burden than similar operators in the outer ring. This introduces an obvious disadvantage to the farmer in the GTA who must compete for the same market with farmers who benefit from a lower assessment base. Value-added activities allow a farmer to increase his income and can be

the difference between a marginal income and a reasonable living. If the buildings associated with value added are taxed at an industrial rate, despite being for agricultural purposes, this can jeopardize the financial success of the operation.

Development practices. Developers take advantage of agricultural tax rates to reduce the cost of holding land pending development approval. Land that is close to developed areas is often purchased and then rented back to a farmer for the short term so it qualifies for the agricultural tax rate. The farmer is reluctant to make improvements to the land or spend money maintaining it for a short-term lease. The land deteriorates, adding justification to the argument that it is not viable. This process allows developers to hold land at a low cost with reduced taxes and realize a large profit when conversion to another use is approved.

Developers buy up land and rent it to farmers, who have no incentive to improve the land. The land deteriorates, justifying the argument that it is no longer viable for agriculture and should be developed.

Onerous legal requirements. The legislative controls on agriculture are significant and are increasing. Each new requirement imposed on a farmer creates a new demand for time, skills, and paperwork that adds to an already heavy load.

Reduced levels of support. Research funding and government agencies that traditionally assisted the farmers are being cut. Research facilities that were located in agricultur al areas are increasingly being centralized.

Research funding and government agencies that traditionally assisted the farmers are being cut or downsized.

Farming is essentially a small business that is becoming increasingly complex. Research and bureaucratic support that is readily available at the local level is essential to its success.

What is required to sustain a healthy agricultural industry?

Three principal, related ingredients are required to maintain a healthy agricultural industry:

1. maintaining the significant agricultural land base with a support infrastructure;
2. providing security for agricultural activities and reducing uncertainty, conflicts, and risk for the farming community;
3. providing a mechanism for the long-term succession of farm properties to

encourage the next generation to enter the industry.

A number of other items have a bearing on a healthy industry.

The public needs to be educated about the role of agriculture in the region – its extent, its opportunities, the value it adds to quality of life and the implications related to its potential loss.

The public needs to be educated about the role of agriculture in the region and the value it adds to their quality of life.

Clearly articulated federal and provincial agricultural policies will provide certainty to the farming community. Knowledgeable bureaucrats to assist with legislative requirements and a commitment to research will move the industry forward. The province should consider revisions to the property tax system to support agriculture.

Commitment to the merits of preserving the significant agricultural land base and developing the mechanisms to support the industry is required at all political levels. Planning policies that allow farmers to respond to changing markets while protecting the land base and managing conflicting uses are required. A property tax system that is based on productive value should be implemented. This should be accompanied by reasonable tax policies that support the bona fide farmer and do not punish innovation.

Long-term financial security for the farming industry is critical to ensuring that new people continue to move into farming and ensuring that pressure is taken off farmers to sell their farms for nonagricultural uses.

Long-term financial security for the farming industry is critical to ensuring that new people continue to move into farming and ensuring that pressure is taken off farmers to sell their farms for non-agricultural uses.

How long should agricultural land be protected?

The nature of the agricultural land base in the Central Ontario Zon combined with some of the best climate, water supply, and growing season in Canada, justifies long-term protection of the resource. The argument can be made that as productivity continues to increase, the area required to produce is reduced. This is partially true. However the population is growing, so there will be rising demand for products, which in turn requires more land. The land base must be carefully managed to ensure it is available as needed for future generations.

As the population increases, demand for food will increase. The land base must be carefully managed to ensure it is available as needed.

What trends will affect agriculture in the next three decades?

This is a difficult question to tackle. The key trends at the present time are both external and internal.

International competition. External trends point to ongoing agricultural subsidies in many parts of the world, which, unless countervailing subsidies are provided in Canada, result in disincentives for productive farming operations.

Emerging markets compete to produce certain products. For example, China is rapidly becoming a world leader in the production of pears and apples.

Emerging markets may bring about major shifts in production of certain products and affect the viability of growing such products locally. For example China is rapidly becoming a world leader in the production of pears and apples, which has implications for the Ontario fruit industry.

Balanced against that is an international crisis with water. At a lecture entitled Water Pollution and Environment given at Guelph University in 2000 the following comments were made:

> *The problem is that much of this groundwater use is not sustainable. Again we didn't realize the extent to which we were moving into an unsustainable situation until the last 5 or 10 years, on this large scale. If you look at any of the major agricultural regions in the world that currently depend on irrigation, and depend on groundwater for that irrigation, you find that farmers are pumping more water out than nature is putting back in. As a result water tables are dropping steadily beneath the land. Farmers are having to pump ever deeper to get the water out. This is the case in the Punjab of India, which is a major source of rice and wheat for India. It's also the case in China's north plain, which supports 40% of China's grain production, and it's the case in much of the Western United States. The Ogalalla Aquifer is essentially a non-renewable type resource. If you pump water out, very little is going in, particularly in the portion that underlies Texas. The California Central Valley provides half of all the fruits and vegetables that we eat in the United States, but heavy overpumping of groundwater is required to produce these fruits and vegetables. You see this problem of hydrologic deficit financing in North Africa, the Middle East, and anywhere you look. It's essentially drawing water down today to meet food needs today, and basically taking away some of tomorrow's supply. It is a big red flag for food security. Given the best data I could find, I've estimated that as much as 5 to 10% of our food supply today depends on this unsustainable use of groundwater. This means that 5 to 10% of the world's food supply isn't really that reliable over the long term, because you can't overpump groundwater indefinitely.* [8]

As much as 10% of the current world food supply is grown using non-renewable groundwater sources in India, China, the United States, North Africa, and the Middle East. Canadian farmers, however, have access to sustainable sources of water.

8. Malthus and the Third Millennium, The Kenneth Hammond Lectures on Environment, Energy and Resources, 2000 Series, p. 45.

Canada and the Central Ontario Zone have an accessible, sustainable supply of water. With climate change and the lack of sustainable water supplies in other parts of the world, maintaining a strong agricultural base where there are the resources for it to continue in the long term, seems prudent.

Scale of operation. Trends related to the scale of operation are changing. Farm operators are running larger farm operations, operations that may be separated from each other by significant distances. This trend allows for economies of scale in the use of equipment, but creates fragmented operations that are more diffic ult to manage and supervise. Services such as custom work become less accessible as fragmentation grows.

Farming on rented land. The increasing trend to rental land in the zone is of concern. Renting land is a disincentive to making the capital investments required to improve and maintain the land. Short-term leases discourage farmers from making the significant investments of time and money required to properly maintain land or to cultivate crops that take longer to come into production.

Legislative requirements. Lack of understanding about farm management practices, and perceptions of environmental problems at the farm can generate a complicated legislative response. This in turn increases the cost and complexity of farming and can accelerate retirements or decisions to leave farming. The Nutrient Management Act, for example, is extremely onerous for small operators. The agricultural community is concerned that its implementation will render small livestock operations uneconomic.

The Nutrient Management Act is extremely onerous for small operators and the agricultural community expects that it will lead to be a reduction in the number of livestock operations.

Aging of the work force. The rising age of farmers and the lack of incentive for the next generation to enter the industry is a concern. While fewer are doing more on larger parcels, there still needs to be a work force to carry on.

Conclusions

Agriculture is an integral part of smart growth. The ability to feed one's own population is critical to the independence of any state. Ontario is blessed with resources that have facilitated the development of a worldclass agricultural industry that provides safe, nutritious, and reliable food. The ability to feed the local population from local sources should not be underestimated.

We take agriculture for granted, assuming that it will continue in perpetuity and that as it is pushed out of one area by urban expansion, it will relocate in another area less subject to growth pressure. This assumption is false.

Perhaps because of its long-term presence in the study area, agriculture tends to be taken for granted. Many people expect that it will continue in perpetuity and

that as it is pushed out of one area by urban expansion, it will relocate in another area that is less subject to growth pressure. This assumption is false.

Agriculture is a diverse industry with very specific locational connections. Certain crops can only be grown in specific locations where the combination of a variety of factors including soil, moisture, temperature, and topography is right. When such areas are lost to agriculture, the ability to produce the crops that require that particular combination of factors is also lost. The public needs to understand that agricultural land is a nonrenewable resource requiring appropriate management techniques. Before allowing land to go out of production, decision makers must consider the implications of that decision and evaluate it in terms of the long-term loss to Ontario.

Preserving the quality of life is perhaps the most fundamental goal of smart growth. A healthy agricultural industry close to urban areas contributes to the quality of life in ways that should not be underestimated. This contribution can be evaluated in terms of:

Agriculture contributes to the quality of life in Ontario through benefits that are economic, social, recreational, historical, environmental and public-health-related.

- the national security value of being able to provide a secure and nutritious food supply;
- the economic value of a world-class industry run by experienced and knowledgeable operators;
- the social value of providing products in response to the demands of a changing ethnic population seeking alternative foods;
- the recreational value of being able to travel to pick-your-own operations and spend time in a rural setting;
- the direct environmental value of improvements to the quality of the environment;
- indirect environmental value in the preservation of green space, habitat, and wildlife corridors;
- public health value in maintaining control over the food supply and the ability to regulate how it is grown and what techniques are used to grow it; and
- historic value, in that agriculture is part of the history of the settlement of Ontario.

Benefits such as these all need to be considered during the development of a

smart growth strategy.

The challenge of the smart growth initiative will be to establish an environment that will allow the continued existence of a healthy agricultural industry. Competing demands for land will have to be balanced against the benefits of maintaining a healthy agricultural base. To date, the Ontario government has supported a policy that nominally protects agricultural land. However, when faced with demands for urban expansion, growth has usually taken precedence. This trend is eating away at the resource. Hard decisions must be made about what will be protected, where it will be protected, how it will be protected, and whether a healthy agricultural industry is a government priority.

The Ontario government supports policies that nominally call for the protection agricultural land. However, when faced for demands for urban expansion, growth takes precedence.

This will not be an easy task; forecasting is never easy. The agricultural industry has advanced greatly in the past few decades. What was not possible 20 years ago is now routine. Crops that were unheard-of are now common, growing seasons can be extended, land that had little value 20 years ago is now some of the most profitable land in production. Agricultural policies must be flexible enough to accommodate further changes. The basic building blocks, including land and work force, must be preserved and allowed to respond to advances in technology. When an opportunity arises, the land and personnel must be there to seize on it.

Agricultural policies must be flexible enough to accommodate change. After all, crops that were unheard-of 20 years ago are now common, growing seasons are being extended, land that once had little value is now among some of the most profitable land in production.

For the agricultural community, uncertainty is a major issue. Farmers are used to dealing with uncertainty related to weather, they expect it and are prepared for it. What they do not expect and cannot deal with is ongoing economic uncertainty, uncertainty related to the legislative context within which they must work, uncertainty about land use controls or environmental regulations. The pervasive pessimism among even the most successful farmers needs to be addressed. The average age of farmers is rising and the pessimistic attitude discourages the younger generation from entering the sector.

Regulation of this sector is often rigid. Traditionally, issues have been compartmentalized and dealt with individually. This is the antithesis of what a successful farm operation requires, where issues are inter-related and need to be considered together. Rigid regulations that are slow to change preclude the flexibility the industry needs to be successful. To preserve agriculture, it is not enough to preserve the land; society must also preserve the farmer. For this to happen, farmers must operate in an environment where they are certain of the rules and can respond quickly to changing local, national, and international markets.

Farmers are used to dealing with uncertainty related to weather. What they cannot deal with is ongoing economic uncertainty, uncertainty about the legislative context within which they work, or uncertainty about land use controls and environmental regulations.

The Smart Growth panel has a difficult job. To respond to the mandate of

"steering growth pressures away from significant agricultural lands", a strategy that is both rigorous and flexible is required. Rigour will be required to withstand the considerable pressures on agricultural land and the agricultural community. Flexibility is needed to provide an environment in which farmers can operate successfully.

Recommendations

The Smart Growth panel should promote the protection of a strong agricultural industry in the Central Ontario Zone. To do so, the panel should call for the strengthening of provincial policy to support agriculture. The policy should:

- define prime land and prime areas rigorously;
- prohibit urban development in prime areas and direct development to areas of low capability land;
- promote a nodal form of development with compact communities and firm growth boundaries;
- create a flexible property tax policy to provide incentives for bona fide agricultural operations and disincentives to land speculation;
- enforce Right to Farm legislation rigorously;
- recognize the positive contribution agriculture can make to quality of life in an urban areas;
- protect the service infrastructure for agriculture;
- plan infrastructure to minimize adverse impacts on agriculture and structure services to respond to the requirements of agriculture; and
- design regulations and planning controls to allow farmers flexibility in operation.

To achieve this the following recommended actions could be considered. The policies are grouped according to an appropriate implementation time frame and in reference to the process under which implementation could be achieved.

Long term Comprehensive Provincial Policy

Recommendation #1: The province should articulate an agricultural policy that endorses protection of prime agricultural resources.

Policy should be developed to articulate the provincial commitment to agriculture as a land use, an economic activity, an environmental benefit and a social imperative.

Commitment to protecting prime resources extends beyond the protection of prime land. It incorporates those services and resources that contribute to the success of agriculture. It promotes protection of contiguous areas to prevent fragmentation and "nibbling away" at the resource.

Elements of an agricultural policy exist in the PPS, in legislation such as the Right to Farm, and in positions taken on issues such as nutrient management, environmental management plans, and management of water resources. All these elements need to be drawn together, and a comprehensive policy articulated that lays out how the province will support the agricultural industry. This policy should be based on the position that high-quality agricultural land is a non-renewable, limited resource that deserves the same level of ongoing protection as natural heritage features and aggregate reserves. It should go beyond just the protection of land and articulate how the province will support the agricultural industry as a whole.

Short term Recommendations to Manage Agricultural Land to be Implemented through Revisions to the Provincial Policy Statement.

Recommendation #2: The definition of prime land should be expanded.

The CLI should continue to be the basis of the definition, but it should be expanded to include the other factors that contribute to production capacity. This has been done effectively in a number of municipalities where an evaluation of local conditions has been used to expand designations. The LEAR program developed by OMAF is an excellent process that incorporates consideration of local conditions including land quality, climate, service infrastructure, proximity to market, and critical mass of operations. Other measures such as the Agroclimatic Resource Index should be applied. The consistency in the definition across the province is critical.

Recommendation #3: This expanded definition should form the base for more rigorous protection of prime land. Protection should be achieved through tightening of the PPS to:

Protection should be achieved through tightening of the PPS to:

- prohibit urban development in prime areas, without exception;
- prohibit expansion onto prime land;

- designate new growth nodes in areas away from prime agricultural land;
- impose separations from agricultural areas, not from specific uses, to allow flexibility for agricultural operations; and
- incorporate Right to Farm policies.

Recommendation #4: The expanded definition should be the basis for the creation of agricultural reserves or protection areas that are identified and treated as natural constraints and given the same level of protection afforded to resources such as aggregate reserves, significant wetlands, and other natural features.

As areas are evaluated, prime areas should be mapped and protected. This process can be done through the Official Plans at the municipal level. Elements of this mapping already exist in the Official Plans in effect in the zone. This mapping can be used as the starting point, then strengthened and enhanced through application of the more detailed evaluation process. As mapping is produced and refined, provincial level resource maps can be developed.

These areas need to be identified within the broader regional context, not just at the local municipal level. The relative value of the land specifically and in the context of surrounding uses should be addressed. Areas need to be of a size that justifies maintaining the infrastructure required to serve the agricultural community. Provisions must be made to allow development of services, uses, and value-added activities related to farming.

Recommendation #5: The environmental value of agricultural land (for example, as carbon sinks, wildlife corridors, or protected woodlots) should be reflected in policy.

The current approach in the PPS that recognizes agriculture as having superior rights in natural heritage areas should be continued.

Short term Recommendations to Manage Growth - to be Implemented through Revisions to the Provincial Policy Statement.

Recommendation #6: Any smart growth strategy should promote a nodal form of growth with compact communities and strongly defined growth boundaries.

In the medium to long term, growth should be directed to communities outside prime agricultural areas. Opportunities exist in the Central Ontario

Zone to direct new growth away from prime agricultural areas. These can be identified now using only the CLI definition of prime land. As the definition is expanded, other areas will be identified. Communities outside prime areas should be designated as growth centres, and regional growth principles should address overall increased densities of development, higher density development around specific transit/transportation nodes, and the development of "satellite" communities. A nodal growth pattern should be established that focuses growth on lands with lower productive values in areas where expansion can occur away from prime land and prime areas.

Protecting agricultural land will lead to a different regional structure from that which would occur if urban expansion continued in its present pattern. A more nodal community development pattern should replace the incremental growth that has been occurring in the Central Ontario Zone. Provincial commitment is required to direct growth (both population and employment) to areas outside the prime agricultural protection areas.

Recommendation #7: Existing Official Plans should be reviewed to determine how much growth can be accommodated within existing designated areas and where growth should go..

A report recently completed by IBI Group predicts that approximately 1,069 square kilometres of land will be consumed by urban development in the zone over the next 30 years. Of this area, 92% or 987 sq km of it is prime land; 69% or 733 sq km is Class 1 land. Given that the loss of productive land affects a much larger area than just the specific site, this level of loss is unacceptable. If the practice of allowing development on prime land continues, the resource will soon be gone. In a province with large amounts of land that are unsuitable for agriculture, policy should rigorously protect what little agricultural land there is. Development should be directed to non-productive areas. Existing policies should be reviewed and amended to achieve this.

Recommendation # 8: The impact on agriculture of decisions related to the expansion of infrastructure should be addressed.

Highway and service corridors attract development because of improved service levels. Establishing infrastructure in prime agricultur al areas results in the degradation of the resource. Corridors should be directed to areas of lower productivity that can accommodate nodal growth. When infrastructure is designed, provision should be made for appropriate construction to

facilitate use by the agricultural industry.

The Province Should Make a Long term Commitment to Education and Research and Development Support for Agriculture.

Recommendation #9: Ongoing research on the special characteristics of many farm products and specialty farm areas should be undertaken, to:

- **refine identification of the significant areas;**
- **determine their tolerance to urban encroachment (or their ability to coexist); and**
- **establish their ultimate level of protection.**

Specialty farm areas need to be identified within the broader regional context and not just at the local municipal level. They need to be large enough to maintain the infrastructure required to serve the agricultural community. Provisions must be made to allow development of services and value-added activities related to farming. Non-farm uses will continue to exist in agricultural areas. This is not necessarily a bad thing if the uses are rural in nature and local residents understand the reality of agricultural life. To achieve this, Right to Farm regulations must be comprehensive and rigorously implemented. Massive change or redevelopment should not be permitted in agricultural areas.

Recommendation #10: Research should be ongoing to identify and support opportunities for the farm community to continue to make a good living from farming.

This goal can be achieved through implementation of property tax and planning programs that recognize value-added activities as part of agriculture, provision of services (irrigation/transportation facilities) geared to agriculture, streamlining of approvals and regulations and generally allowing farmers flexibility in the ability to respond to the market.

Recommendation #11: Employment programs that promote agriculture and accommodate the handing down of skills and knowledge should be implemented.

Farming is a tremendously sophisticated industry. The level of skill required to operate a successful farm is extraordinary. These skills have traditionally been transferred over time as the younger generation takes over. Recently, the economic uncertainty and pressures affecting agriculture have

resulted in fewer farmers entering the profession. If this continues, as older farmers retire, the lifetime of learning they have acquired will be lost and will not be replaced.

Recommendation #12: Consumer education and education of urban-based elected representatives (at the local, provincial, and federal levels) should be part of any smart growth strategy for agriculture.

There is a huge amount of misinformation and misunderstanding about agriculture. Urban residents need to understand agriculture, appreciate it, and live in harmony with it. Consumers need to be educated about the value and quality of home -grown products, so a "Buy Canadian" response becomes automatic. If the resource is valued and understood by the population as a whole, there will be a stronger commitment to support it.

Canadians are now an urban-based community. Understanding of agriculture, its contribution to quality of life and importance as a component of the economic self sufficiency is no longer there. Education programs at all levels need to address this lack of understanding.

Property Tax Reform at the Provincial Level

Recommendation #13: Tax policies should create an equitable environment for agricultural land.

Land should be assessed on the basis of productive value, not market sales. Where land is being held for speculation and rented for agricultural use in the interim, any benefit derived from the agricultural tax should be taxed back if the land changes use. Flexible tax policies that ease the burden on farmers should be implemented. Value-added operations should be treated as bona fide agricultural uses and taxed accordingly. Assessment should be based on ability to generate income or production value. The information required to do this is accessible through the provincial crop insurance data and it could be done at the municipal level

Cooperate with the Federal Government

Recommendation #14: The province should actively participate in the federal initiative to develop an Agricultural Policy Framework.

Participation in this initiative should be proactive to encourage broadening the pillars that make up the Agricultural Policy Framework. While the five established pillars are excellent they are narrowly based. They should be broadened to include acknowledgement of the environmental and social

benefits that agriculture provides in urban areas.

Recommendation #15: The federal government should establish an agricultural policy to address the economic uncertainties plaguing agriculture.

Federal and provincial policies to promote local product and mitigate the impact of foreign subsides should be considered.

Summary

Development pressures are intense in the Central Zone and many in the agricultural community are experiencing difficult times. None of the objectives identified in this paper will be easy to achieve and not all are achievable through Smart Growth. However elements of all of them need to be addressed in a Smart Growth strategy. Canada's agricultural industry is one of the best in the world, supported by good land, abundant water and an educated, advanced work force. Agricultural contribution to our health, environment, quality of life, and economy is immeasurable. We owe it to ourselves and to future generations to manage this resource so it will flourish.

Despite Canada's limited capability for agriculture, its agricultural industry is one of the best in the world. We owe it to ourselves and to future generations to manage this resource so it will flourish.