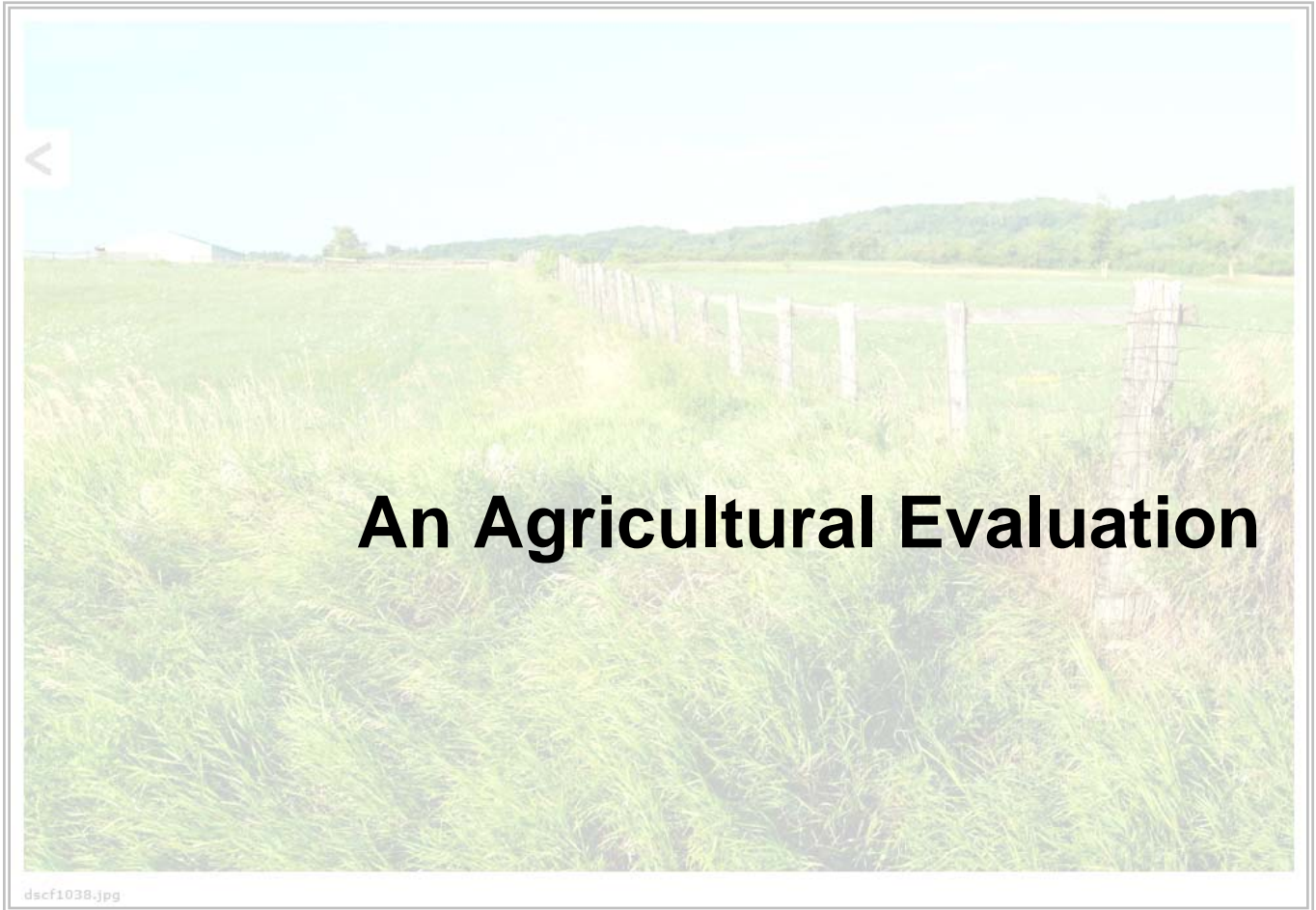


Phase 3

Sustainable Halton Report 3.03



An Agricultural Evaluation

April 7, 2009



PLANSCAPE
Prepared by:
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Executive Summary

This report is the continuation of the agricultural assessment that was done as part of Phase 1 of the Sustainable Halton exercise and responds to the following questions:

- What are the characteristics of agriculture in Halton and how are they changing?
- What is the nature of the resource as quantified through a Land Evaluation Area Review (LEAR) analysis?
- What is the relationship between agriculture in the Greenbelt and the Primary Study Area (PSA)?
- What are the implications of the enhanced Natural Heritage System (NHS) and aggregate policies?

AGRICULTURAL PROFILE: 2006

Overall the changes that were noted in Halton's agricultural profile between 2001 and 2006 do not represent significant shifts. Rather they represent an ongoing decline consistent with what is apparent in other areas dealing with the pressures and uncertainties associated with growth. By addressing these pressures and defining directions for growth, the Sustainable Halton process could stabilize the situation and create the circumstances necessary to sustain a healthy and stable agricultural sector. The ongoing strength of the Gross Farm Receipts (GFR) generated in Halton and the fact that average net revenue per acre continues to exceed the provincial average are positive signs and underscore the value of the agricultural resource in Halton.

LEAR EVALUATION

To identify areas of prime production potential within Halton, a Land Evaluation/Area Review (LEAR) evaluation for the Region was conducted and confirmed that with the exception of very few isolated pockets, the land in the Halton PSA is all prime agricultural land. The LEAR also confirmed that there is a significant amount of prime agricultural land in the Greenbelt above the Escarpment, interspersed amongst areas with lower scores. Therefore in developing policy and determining which areas are to be protected and which will be designated for urban development, consistency with the policies in the 2005 Provincial Policy Statement (PPS) and the Growth Plan is required.

SPECIALTY CROP EVALUATION

A process to evaluate specialty crop production was undertaken to respond to the direction of the PPS. This process confirmed that lands with the potential to produce specialty crops do exist in Halton.

The findings of the specialty crop evaluation are important in understanding the agricultural resource in Halton. However, without a definitive evaluation process, it would be premature at this time to identify specialty crop areas. Therefore, the process undertaken responded to the requirement to undertake an evaluation of specialty crops and to identify potential specialty crop production, but did not identify specialty crop areas as defined in the PPS.

ROLE OF THE GREENBELT

There is a sizable agricultural presence in the Greenbelt Area in Halton with links to the PSA. Maintaining a strong rural community in the Greenbelt, will provide support for agriculture in other rural areas in Halton. A large cluster of agricultural operators in the Greenbelt will facilitate interaction with producers in the PSA, and support the infrastructure required to service the agricultural sector as a whole.

CONCLUSIONS

The analysis done for this report leads to a number of conclusions.

- The LEAR conducted confirmed that PSA and the areas shown on Map 4 are prime agricultural area as defined in the PPS.
- Agriculture in Halton continues to be a productive sector.
- The uncertainties associated with the future of agriculture in Halton are having an impact on the sector that is evident in changes in commodity profiles.
- There is some shifting in the commodity profile to the production of crops geared to a readily available urban market. The Region has been supportive of this change to local food production through the "Simply Local" program and through its participation in the GTA Agricultural Action Committee.
- Halton does have specialty crops many of which are located in the Greenbelt.
- There are scattered locations where specialty crop production is occurring in the PSA, notably in east Milton.
- Certain areas of east Milton where there is specialty crop production are characterized by smaller lot sizes and fragmentation.
- Without a definitive evaluation process, it would be premature at this time to identify specialty crop areas.
- The Greenbelt contains areas of prime agricultural land.

Sustainable Halton Phase 2: An Agricultural Evaluation

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1. INTRODUCTION

This report is the continuation of the agricultural assessment that was done as part of Phase 1 of the Sustainable Halton exercise. Sustainable Halton is the process through which the Region is updating its Official Plan to bring it into conformity with the Growth Plan for the Greater Golden Horseshoe. Halton has chosen to respond to the Provincial requirement to address growth for the period between 2021 and 2031 by creating a vision for Halton that will become the foundation for the future.

The conclusion of the Phase 1 agricultural assessment "Agricultural Countryside Vision" was that agriculture is an important component of Halton's vision for the future. Building on the current vision articulated in Section 28 of the Regional Official Plan, a strong agricultural sector in both the Greenbelt and the PSA is deemed to be integral to Halton's goal of maintaining environmental sustainability and quality of life. To determine how best to support a sustainable agricultural presence, the following questions needed to be answered:

- What are the characteristics of agriculture in Halton and how are they changing?
- What is the nature of the resource?
- What is the relationship between agriculture in the Greenbelt and the PSA?
- What are the implications of the enhanced Natural Heritage System (NHS) and aggregate policies?
- Should a permanent agricultural area be designated in the PSA?
- What tools are required to support an ongoing viable agricultural sector?
- What policies are required to ensure that agriculture can co-exist successfully with an enhanced NHS and protected aggregate resources?
- How should the relationship between agriculture in the Greenbelt and the PSA be enhanced?
- How should other rural uses be addressed?
- Is there an optimal size for an agricultural area? and,
- Where should this area be?

The first four of these questions are dealt with in this report. The additional questions will be dealt with in a separate report, using the analysis contained in this report.

2. AGRICULTURAL PROFILE: 2006

The Phase 1 report, "Sustainable Halton - Agricultural Countryside Vision" contained a profile of agriculture in Halton based on the 2001 Statistics Canada, "Census of Agriculture". Since the Phase 1 report was completed, the 2006 Census of Agriculture has been released. Therefore to determine if, and how agriculture in Halton is

changing, an update of the statistical profile is appropriate. As with the profile provided in the Phase 1 report, all of the statistics in this section deal with farms and land under production; they do not factor in land use designations¹.

All of the statistics in the sector are taken from the Census of Agriculture which is conducted every five years by Statistics Canada and is the basic source of agricultural data used by all levels of government.²

2.1. Provincial Ranking

Halton is one of the smaller regions in the province. Of the 49 upper tier municipalities that constitute Ontario, Halton ranks 46th in terms of geographic area. Despite its relatively small size and the amount of urban development contained within its boundaries, in 2006, provincially, Halton continued to rank 34th in number of farms, 39th in farm land acres and 25th in amount of gross farm receipts generated.

2.2. Number of Farms and Area of Farmland

As noted in the Phase 1 report, the change in number of farms over time in Ontario is often higher than the change in farmland acres. This is due to the trend to farm amalgamation. Fewer operators are farming larger areas. This trend was apparent in Halton during the period from 1976 to 2001 as shown on **Figure 1**, when there was an ongoing increase in average farm size from 122 acres in 1976 to 160 acres in 2001. However during the period between 2001 and 2006, although the average farm size continued to increase provincially, in Halton it decreased from 160 acres to 157 acres.

This overall decline was due to decreases in average farm size in Milton and Halton Hills; Oakville and Burlington continued to experience an increase in average farm size. In Oakville, where the rural area is designated for urban expansion, the increase in farm size is probably due to the fact that much of the available rural land is rented for cash crop operations. These types of operations tend to occupy larger land areas. A higher incidence of cash cropping is common where land is designated for future development. It is often held by non farm owners who want to qualify for the agricultural property tax rebate. This rate is only available if land is under production, so non farm owners often rent land to farmers. Although the fact that land is held by non farmers does represent a vulnerability in the agricultural sector, having rental land available at a reasonable cost is a benefit because it allows farmers to expand their operations without the capital cost of acquiring land.

¹ All statistics are taken from 2006 Statistics Canada Census of Agriculture unless otherwise referenced.

² In 2001, land area was calculated using the definition of Total Area of Farms; in the 2006 the Land Tenure data was revised significantly, its new format does not permit comparisons with 2001 data.

Figure 1 Average Farm Size (acres) in the Regional Municipality of Halton by Local Municipality, 1976 to 2006

Geographic Location	Census Years							Percentage of Change			
	1976	1981	1986	1991	1996	2001	2006	1976 - 2006	1976-1991	1991 - 2001	2001 - 2006
Reg Mun of Halton	122	133	142	155	152	160	157	28.7%	27.0%	3.2%	-1.9%
Burlington	111	117	122	131	110	128	135	21.6%	18.0%	-2.3%	5.5%
Oakville	184	193	184	134	228	165	274	48.9%	-27.2%	23.1%	66.1%
Milton	108	124	123	120	120	124	120	11.1%	11.1%	3.3%	-3.2%
Halton Hills	132	143	169	206	195	215	201	52.3%	56.1%	4.4%	-6.5%

Source: Statistics Canada, Census of Agriculture, 1976, 1981, 1986, 1991, 1996, 2001, 2006

Statistics for number of farms and farmland acres between 2001 and 2006 are contained in Figures 2 and 3. It should be noted that Statistics Canada changed the definition of farmland between 2001 and 2006 so comparison of actual value is not possible. During the period between 2001 and 2006 the statistics indicate that, Halton experienced a decline in the number of farms and a decline in area of farmland.

Figure 2 Number of Farms in the Regional Municipality of Halton by Local Municipality (Percentage of Change), 1976 to 2006

Geographic Location	Number of Farms							Percentage of Change			
	1976	1981	1986	1991	1996	2001	2006	1976 - 2006	1976-1991	1991 - 2001	2001 - 2006
Reg Mun of Halton	1,035	969	834	744	720	619	566	-45.3%	-28.1%	-16.8%	-8.6%
Burlington	191	160	130	112	113	95	79	-58.6%	-41.4%	-15.2%	-16.8%
Oakville	68	57	63	31	42	27	21	-69.1%	-54.4%	-12.9%	-22.2%
Milton	428	426	365	322	309	271	260	-39.3%	-24.8%	-15.8%	-4.1%
Halton Hills	348	326	276	279	256	226	206	-40.8%	-19.8%	-19.0%	-8.8%

Source: Statistics Canada, Census of Agriculture, 1976, 1981, 1986, 1991, 1996, 2001, 2006.

Figure 3 Farmland Area in the Regional Municipality of Halton by Local Municipality (Percentage of Change), 1976 to 2006

Geographic Location	Farmland Acres (ac)				
	1976	1986	1991	2001	2006
Reg Mun of Halton	125,792	118,805	115,036	98,758	88,899
Burlington	21,267	15,916	14,616	12,117	10,641
Oakville	12,534	11,574	4,145	4,455	5,759
Milton	46,120	44,775	38,778	33,531	31,116
Halton Hills	45,871	46,540	57,497	48,655	41,383

Source: Statistics Canada, Census of Agriculture, 1976, 1981, 1986, 1991, 1996, 2001, 2006.

However, overall there is a downward trend in area of farmland. In the period between 2001 and 2006, Halton Hills appears to have experienced the largest decline.

2.3. Gross Farm Receipts

Gross farm receipts (GFR) are one measure of productivity. On the basis of this measure, productivity in Halton is very good; the Region continues to have very high agricultural productivity as expressed in terms of gross farm receipts per acre. In 2001, Halton ranked fourth in the province after Niagara, Hamilton and Waterloo; in 2006, the Region slipped to 5th in the province when Essex County, home to a significant greenhouse sector, moved from 5th to 2nd in provincial ranking. Provincially, the average gross farm receipts per acre in 2006 were \$777; in Halton the value was \$1,485.

Within the Region, Halton Hills GFR per acre in 2006 were \$1,396, slightly lower than the 2001 level of \$1,433; Milton declined from \$1,646 per acre to \$1,302; Oakville was \$549; and Burlington increased from \$1,979 to \$2,877 per acre. Halton Hills was responsible for generating the majority of the GFR in Halton in 2001 (57%) with Milton accounting for 24%, Burlington for 17% and Oakville 2%. In 2006, the percentage distribution changed to Halton Hills 44%, Milton 31% and Burlington 23%. Oakville remained at 2%. Figure 4 lists the GFR for the Region by Local Municipality in 2006.

Figure 4 Total Gross Farm Receipts (excluding forest product sold) per Acre for The Regional Municipality of Halton by Local Municipality, 2006

Geographic Location	Farmland Area (ac)	Gross Farm Receipts	
		Total (\$)	Per Acre (\$)
Reg Mun of Halton	88,899	\$132,041,893	\$1,485
Burlington	10,641	\$30,613,802	\$2,877
Oakville	5,759	\$3,160,422	\$549
Milton	31,116	\$40,515,672	\$1,302
Halton Hills	41,383	\$57,751,997	\$1,396

Source: 2006 Statistics Canada, Census of Agriculture - Special Order.

Statistics which are helpful in understanding the nature of the agricultural sector in an area are gross farm receipts by economic category. This breakdown is given in Figure 5.

Figure 5 Number of Farms Classified by Gross Farm Receipts in the Regional Municipality of Halton by Local Municipality, 2006

Geographic Location	Number of Farms							
	Total	\$0 to	\$25,000 to	\$50,000 to	\$100,000 to	\$250,000 to	\$500,000 to	\$1,000,000 and over
		\$24,999	\$49,999	\$99,999	\$249,999	\$499,999	\$999,999	
Reg Mun of Halton	566	274	69	77	51	54	24	17
Burlington	79	41	7	10	12	4	1	4
Oakville	21	9	1	2	3	6	0	0
Milton	260	131	37	32	15	23	16	6
Halton Hills	206	93	24	33	21	21	7	7

Source: 2006 Statistics Canada, Census of Agriculture - Special Order.

Numerous very small operations are included in the statistics for farms and farmland. These are generally the life style or hobby farms whose operators do not rely on agriculture for a living. To fully understand the strength of the industry it is important to look beyond these operations and consider the number of farms generating gross farm receipts of significant value.

In 2006, as in 2001, based on the number of operations in Halton, the majority of farms continued to be in the classes that generated \$50,000 in gross farm receipts or less. In parallel with the decline in number of farms between 2001 and 2006 there was a decline in the number of farms in each economic category with the exception of \$50,000 to \$99,000 category. In the highest category, \$500,000 plus, the number of farms declined in all areas except Milton. In Milton, the number of operations in the category increased from 16 to 22. In the 2006 Census, Statistics Canada increased the number of categories reported, by including categories of \$1 million to \$2 million and for \$2 million plus. Four of the operations generating over \$1 million in GFR were in Burlington, 6 in Milton and 7 in Halton Hills.

In considering GFR, it is also important to consider both trends and expenses. With respect to trends, as shown in Figure 6, the GFR's generated have continued to increase in Burlington, Milton and Oakville. However there was a significant decline in Halton Hills. This is consistent with the decreases in the number of operations with higher economic returns shown in Figure 5. It may also be related to the decline in dairy operations experienced in Halton Hills between 2001 and 2006.

Figure 6 Gross Farm Receipts (excluding forest product sold) in the Regional Municipality of Halton by Local Municipality (Percentage of Change), 2001 and 2006

Geographic Location	Gross Farm Receipts (\$)		Percentage of Change
	2001	2006	
Reg Mun of Halton	141,473,312	132,041,893	-6.7%
Burlington	23,974,891	30,613,802	27.7%
Oakville	3,009,463	3,160,422	5.0%
Milton	34,419,693	40,515,672	17.7%
Halton Hills	80,069,265	57,751,997	-27.9%

Source: 2001 & 2006 Statistics Canada, Census of Agriculture - Special Order.

On the expense side (as outlined in Figure 7), farm operating expenses declined in Halton between 2001 and 2006. However, expenses continued to represent a significant percentage of the GFR's generated annually and in Oakville, represented 100% of the value of GFR's. The situation in Oakville reinforces the conclusion that the land is farmed for tax purposes. The level of expenses that is reported will be partially attributable to the type of farming that is occurring and partially attributable to the cost of land. It will also be affected by the fact that many of the operations are not primary businesses but lifestyle choices that are funded by off farm income.

Figure 7 Farm Operating Expenses and Operating Costs in the Regional Municipality of Halton by Local Municipality, 2001 and 2006.

Geographic Location	Farmland Area (ac)		Farm Operating Expenses (\$)		Operating Costs	
	2001	2006	2001	2006	Per Acre (\$)	
					2001	2006
Reg Mun of Halton	98,758	88,899	123,410,370	108,315,374	1,250	1,218
Burlington	12,117	10,641	22,698,362	26,040,401	1,873	2,447
Oakville	4,455	5,759	2,565,469	3,163,270	576	549
Milton	33,531	31,116	31,626,728	31,097,507	943	999
Halton Hills	48,655	41,383	66,519,811	48,014,196	1,367	1,160

Source: 2001 Statistics Canada - Catalogue No. 95F0301XIE; 2006 Statistics Canada, Census of Agriculture - Special Order.

To understand the economic position of farms in Halton, a comparison of GFR per acre versus operating expenses per acre is helpful. This breakdown is given on **Figure 7a** and confirms that farms in Halton generate higher average net revenue per acre than farms in Ontario and the GTA. Burlington (\$430), Milton (\$303) and Halton Hills (\$236) are notably higher than the provincial average of \$113 per acre, Oakville, as noted above has average net revenue per acre of zero.

Figure 7a Comparison of Gross Farm Receipts and Operating Expenses (per acre) of Ontario, GTA and Region of Halton by Local Municipality, 2006

Geographic Location	GFR Per Acre	Operating Costs	
		Operating Costs Per Acre	Net Revenue
Ontario	\$777	\$664	\$113
GTA	\$999	\$863	\$136
Halton Region	\$1,485	\$1,218	\$267
Burlington	\$2,877	\$2,447	\$430
Oakville	\$549	\$549	\$0
Milton	\$1,302	\$999	\$303
Halton Hills	\$1,396	\$1,160	\$236

Source: 2006 Statistics Canada - Census of Agriculture - Special Order.

The higher rate of revenue is tempered by the capital costs associated with farming in Halton. The impact of the cost of land continues to be reflected in the farm capital statistics as shown in **Figures 8 and 9**. Figure 8 confirms that average capital farm value continues to be well over \$1.5 million in Burlington and Milton, over \$2 million in Halton Hills and has risen to over \$4 million in Oakville.

Figure 8 Farm Capital Data in the Regional Municipality of Halton by Local Municipality, 2001 and 2006

Geographic Location	Number of Farms		Farm Capital (\$)		Average Farm Capital (\$)	
	2001	2006	2001	2006	2001	2006
Burlington	95	79	\$151,934,228	\$142,748,947	\$1,599,308	\$1,806,949
Oakville	27	21	\$69,381,172	\$87,631,734	\$2,569,673	\$4,172,940
Milton	271	260	\$333,815,444	\$424,992,751	\$1,231,791	\$1,634,588
Halton Hills	226	206	\$454,849,890	\$507,531,623	\$2,012,610	\$2,463,746

Source: 2001 Statistics Canada - Catalogue No. 95F0301XIE; 2006 Statistics Canada, Census of Agriculture - Special Order.

On a provincial basis, Halton continues to have one of the highest farm capital values per acre and ranks third after Peel and York at \$13,081 per acre, up from \$10,227 per acre in 2001. As noted in the Phase 1 report, these very high values are symptomatic of the challenges facing farmers in Halton. Competition for land and speculation drive up land prices which impacts the supply, the capital required to start and maintain an operation and ongoing costs such as land taxes. Land acquisition for agriculture becomes increasingly difficult when prices are driven by speculation rather than productive value. Operators are competing with farmers in the province who have much lower costs therefore even if they are extremely productive the return on invested capital can be problematic.

Figure 9 Farm Capital per Acre, a Comparison of Various Municipalities, Counties and Districts, 2006

Geographic Location	Farm Capital (\$)	Farmland Area (ac)	Farm Capital Per Acre (\$)
Ontario	\$65,336,796,501	13,310,216	\$4,909
Peel Region	\$1,899,013,166	95,289	\$19,929
York Region	\$2,196,500,117	167,076	\$13,147
Halton Region	\$1,162,905,055	88,899	\$13,081
Niagara Region	\$2,411,945,808	231,728	\$10,409
City of Hamilton	\$1,150,076,588	133,205	\$8,634
Waterloo Region	\$1,854,827,886	226,384	\$8,193
Oxford County	\$3,343,431,050	415,974	\$8,038
Essex County	\$2,559,092,935	329,776	\$7,760
Perth County	\$3,760,488,182	498,161	\$7,549
Durham Region	\$2,276,879,803	326,702	\$6,969
Wellington County	\$3,282,276,494	485,862	\$6,756
Brant County	\$1,117,592,951	167,356	\$6,678
Middlesex County	\$3,675,270,246	617,258	\$5,954
Norfolk County	\$1,682,080,582	284,247	\$5,918
Simcoe County	\$3,023,654,719	533,753	\$5,665
Dufferin County	\$1,035,870,767	190,607	\$5,435
Chatham-Kent	\$2,819,302,472	533,769	\$5,282
Huron County	\$3,733,820,496	723,533	\$5,161
Elgin County	\$1,987,339,254	393,595	\$5,049
Lambton County	\$2,843,368,830	589,407	\$4,824
Haldimand County	\$913,036,201	218,451	\$4,180
City of Ottawa	\$1,177,594,505	283,366	\$4,156

Source: 2006 Statistics Canada, Census of Agriculture - Special Order.

2.4. Production Profile

Figure 10 summarizes the top ten ranking commodities in Halton in 2006, by GFR. The top three commodities, greenhouse, nursery and horse and pony, remain the same. Dairy, which is usually a relatively stable sector, has slipped from 7th to 9th in Halton and notably from 3rd to 7th in Halton Hills.

Fruit, has changed from 8th in value of production to 6th overall and has risen from 6th in Halton Hills and Milton to 3rd and 5th respectively. Hog, which ranked 9th in Halton in 2001, has disappeared completely from the top ten lists, both for Halton and the Local Municipalities.

Figure 10 Top Ten Ranking by Gross Farm Receipts for the Regional Municipality of Halton by Local Municipality, 2006

Rank	Halton Region	Burlington	Oakville	Milton	Halton Hills
1	Greenhouse Products ¹	Greenhouse Products ¹	x	Horse & Pony ¹	Nursery Product & Sod ¹
2	Nursery Product & Sod ¹	Cattle	x	Nursery Product & Sod ¹	Other Small Grain ²
3	Horse & Pony ¹	Nursery Product & Sod ¹	x	Greenhouse Products ¹	Fruit
4	Cattle	Hay & Fodder ³	x	Poultry & Egg	Cattle
5	Other Small Grain ²	Corn for Grain ²	x	Fruit	Horse & Pony ¹
6	Fruit	x	x	Oilseed ²	Poultry & Egg
7	Poultry & Egg	x	x	Vegetable	Dairy
8	Oilseed ²	x	x	Other Small Grain ²	Oilseed ²
9	Dairy	x	x	Cattle	Other Livestock Combination ⁴
10	Vegetable	x	x	Other Field Crop ³	Hay & Fodder ³

¹ - For purposes of this table Miscellaneous Specialty has been broken down into: horse & pony; greenhouse product and nursery product & sod. None of the remaining commodities in this grouping are significant in Halton Region.

² - For purposes of this table Grain & Oilseed has been broken down into: oilseed, corn for grain, and other small grain. None of the remaining commodities in this grouping are significant in Halton Region.

³ - For purposes of this table Field Crops has been broken down into: hay & fodder, and other field crop. None of the remaining commodities in this grouping are significant in Halton Region.

⁴ - For purposes of this table Livestock Combination has been broken down into: other livestock combination. None of the remaining commodities in this grouping are significant in Halton Region.

X - Data suppressed to protect confidentiality Source: 2006 Statistics Canada - Special Order

Figures 11a and 11b and 12a and 12b break down commodity production by number of operations. For 2006, these figures continue to show that when number of operations is considered rather than value of production, the largest sectors are "specialty crop" (the largest component of which is "horse and pony"); "wheat, grain and oilseed and cattle"³. Since 2001, the most significant change in the production profile is the increase in number of specialty crop operations and the decrease in the number of dairy operations. In the specialty crop category, greenhouse production and nursery and sod declined slightly as a percentage; horse and pony increased slightly. The actual number of greenhouse operations declined from 34 to 32; the number of nursery operations increased from 31 to 35. The number of farms producing fruit increased from 27 to 33.

This profile is typical of agricultural areas which are in close proximity to expanding urban areas. Typically these areas experience an ongoing shift away from production that is adversely impacted by proximity to non farm development (i.e. livestock) or that requires large capital investments which are dependent on longevity for a return (i.e. dairy) and a shift to commodities that benefit from proximity to large urban markets or urban infrastructure (i.e. greenhouse, fruit and vegetable).

³ Note Miscellaneous Specialty as a sector is further broken down in Figure 12.

Figure 11a Number of Farms by Farm Types in the Regional Municipality of Halton by Local Municipality, 2006

Geographic Location	# of Farms	Farm Type											Gross Farm Receipts
		Dairy	Cattle	Hog	Poultry & Egg	Wheat / Grain & Oilseed	Field Crops	Fruit	Vegetable	Misc. Specialty	Livestock Combination	Other Combination	
Reg Mun of Halton	566	12	75	3	20	99	49	33	19	227	13	16	\$132,041,893
Burlington	79	0	8	0	1	15	12	5	3	31	1	3	\$30,613,802
Oakville	21	0	0	0	2	6	0	2	1	8	1	1	\$3,160,422
Milton	260	4	31	2	9	38	22	10	12	122	6	4	\$40,515,672
Halton Hills	206	8	36	1	8	40	15	16	3	66	5	8	\$57,751,997

Source: 2006 Statistics Canada, Census of Agriculture - Special Order.

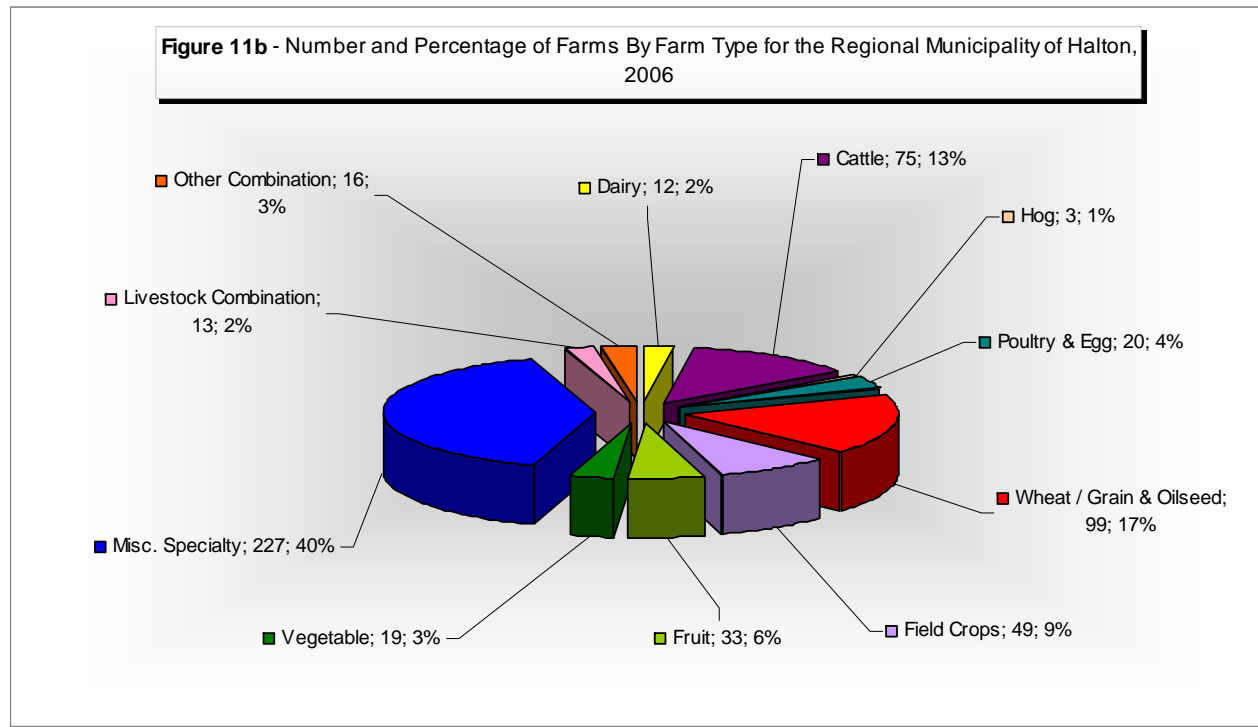
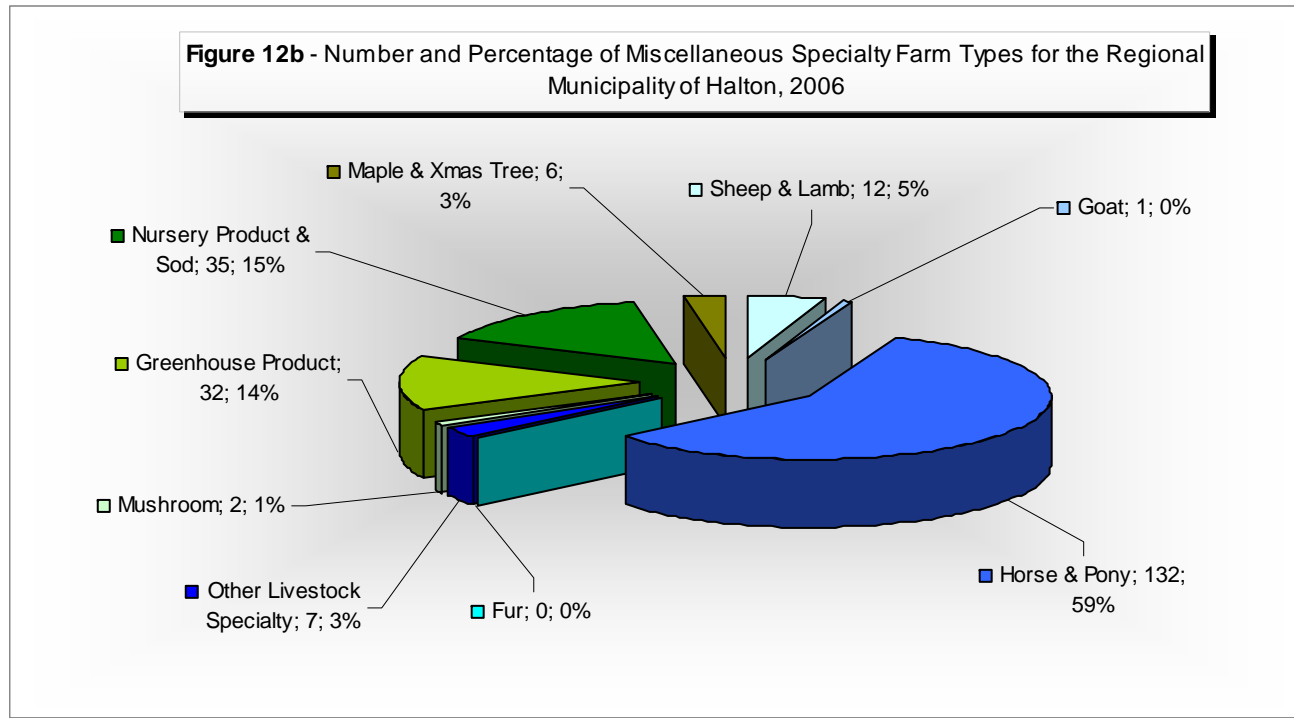


Figure 12a Miscellaneous Specialty Farm Type by Number of Farms in the Regional Municipality of Halton by Local Municipality, 2006

Geographic Location	# of Farms	Miscellaneous Specialty									Gross Farm Receipts
		Sheep & Lamb	Goat	Horse & Pony	Fur	Other Livestock Specialty	Mushroom	Greenhouse Product	Nursery Product & Sod	Maple & Xmas Tree	
Reg Mun of Halton	227	12	1	132	0	7	2	32	35	6	\$85,684,168
Burlington	31	1	0	16	0	1	1	4	8	0	\$23,760,275
Oakville	8	0	0	7	0	0	0	1	0	0	\$1,373,402
Milton	122	8	0	69	0	2	0	16	21	6	\$25,429,328
Halton Hills	66	3	1	40	0	4	1	11	6	0	\$35,121,163

Source: 2006 Statistics Canada, Census of Agriculture - Special Order.



2.5. Land Tenure

The incidence of rented farmland⁴ in Halton in 2006 was 52%. The 2006 results are shown on Figure 13. This rate appears to be lower than in 2001, but because of changes made by Statistics Canada in the reporting of rental land for the 2006 census, comparisons are difficult. However, it is apparent that rental land rates are higher in Halton than in the province as a whole where the average rental rate is 32%. The rate in Halton is consistent with the 2006 rates for the other regions in the GTA.

Figure 13 Farmland Area (ac) Tenure for the Regional Municipality of Halton by Local Municipality, 2006

Geographic Location	Farmland Area (ac)				
	Total Land Used By Operation*	Owned	% of Total Area Owned	Rented / Leased / Other	% of Total Area Rented / Leased / Other
Reg Mun of Halton	95,690	45,598	48%	50,092	52%
Burlington	11,949	x	x%	x	x%
Oakville	5,849	x	x%	x	x%
Milton	33,620	18,022	54%	15,598	46%
Halton Hills	44,272	19,210	43%	x	x%

* Total land owned, leased, rented, crop-shared or used by this operation. Source: 2006 Statistics Canada, Census of Agriculture - Special Order.

X Data suppressed to protect confidentiality

NOTE: Statistics Canada revised the land tenure section of the 2006 Census of Agriculture questionnaire. The new format does not permit comparisons with 2001.

2.6. Farm Operators

The average age of farmers in Halton is higher than the provincial average. In 2006, the average age breakdown by Local Municipality was:

Figure 14 Average Age of Farm Operators for the Regional Municipality of Halton and Ontario, 2006

Municipality	Avg age of Operators
Halton	56.9
Halton Hills	57.5
Burlington	55.5
Milton	56.8
Oakville	57.8
Ontario	52.6

⁴ Includes rented, leased and share cropped lands.

Generally in Ontario, operators running the largest operations are younger. In 2001, the difference in age profile between large producers and those lower categories was not as evident. In 2006, as shown on Figure 14a, the pattern is more evident. The average age of operators in the class generating in excess of \$500,000 in sales was 51.3 years in Halton. Of the 35 operators, 35 years of age or younger, 15 of them were in the classes generating in excess of \$250,000 in sales.

Figure 14a - Number and Average Age of Farm Operators by Sales Class and Age Distribution for the Regional Municipality of Halton, 2006

Sales Class	All Operators		Under 35 Years		35 - 54 Years		Over 55 Years	
	Number	Average Age	Number	Average Age	Number	Average Age	Number	Average Age
Under \$2,500	65	59.1	5	28.5	25	47.1	40	66.4
\$2,500 - \$4,999	45	57.3	10	30.2	15	47.1	30	67.6
\$5,000 - \$9,999	140	58.7	5	25	45	48.4	90	67.5
\$10,000 - \$24,999	135	57.9	5	24.8	50	46.4	80	67.4
\$25,000 - \$49,999	90	56.9	0	0	30	45.7	55	65.4
\$50,000 - \$99,999	105	58.1	0	0	40	47.5	55	67.3
\$100,000 - \$249,999	75	56.2	0	0	30	47.1	40	65.3
\$250,000 - \$499,999	80	53.3	10	31	40	47.8	30	63.8
\$500,000 +	60	51.3	5	30.8	35	47.7	20	62.7
All Sales Classes	780	56.9	35	28.3	310	47.3	435	66.4

Source: Statistics Canada - Special Order - 2006 Census of Agriculture

In 2006, 31% of farm operators were women, 69% were men. In the same year 32% of operators reported working less than 20 hours per week on the farm; 29% reported working between 20 and 40 hours per week on the farm and 38% reported working an average of more than 40 hours per week on the farm.

As shown in Figure 15, in 2006 the commodity profiles of the regions surrounding Halton changed slightly. In Hamilton, the top ranked commodity changed from "poultry and egg", to greenhouse. In Wellington, "poultry and egg" and hog moved up while cattle dropped. Overall the profile of production in Halton continues to be similar to the profiles in Hamilton, York and Niagara which are dominated by the production of products that benefit from proximity to a large and sophisticated market. Wellington County has a more traditional agricultural profile and Peel and Durham are dominated by dairy.

Figure 15 Top Ten Ranking by Gross Farm Receipts for the Regional Municipality of Halton and Surrounding Cities, Counties and Regions, 2006

	Halton	Peel	York	Durham	Niagara	Hamilton	Wellington
GFR	\$132,041,893	\$81,629,248	\$224,119,932	\$239,539,007	\$671,680,773	\$224,776,914	\$491,073,653
Rank	Commodity (Percentage)						
1	Greenhouse Products ¹ (18.8%)	Dairy (22.4%)	Vegetable (16.3%)	Dairy (21.3%)	Greenhouse Products ¹ (43.0%)	Greenhouse Products ¹ (19.9%)	Dairy (26.9%)
2	Nursery Product & Sod ¹ (18.7%)	Greenhouse Products ¹ (19.1%)	Greenhouse Products ¹ (16.1%)	Nursery Product & Sod ¹ (12.2%)	Fruit (17.4%)	Poultry & Egg (17.9%)	Poultry & Egg (17.0%)
3	Horse & Pony ¹ (15.1%)	Horse & Pony ¹ (11.1%)	Horse & Pony ¹ (15.5%)	Other Small Grain ² (10.6%)	Poultry & Egg (14.6%)	Nursery Product & Sod ¹ (15.0%)	Hog (15.5%)
4	Cattle (7.3%)	Cattle (8.9%)	Cattle (10.5%)	Poultry & Egg (10.5%)	Nursery Product & Sod ¹ (7.3%)	Mushroom ¹ (8.7%)	Cattle (13.6%)
5	Other Small Grain ² (7.3%)	Other Small Grain ² (8.6%)	Nursery Product & Sod ¹ (8.5%)	Cattle (7.4%)	All Other Combination ⁵ (3.9%)	Dairy (6.3%)	Horse & Pony ¹ (4.4%)
6	Fruit (5.6%)	Other Livestock ⁴ (7.6%)	Poultry & Egg (7.6%)	Horse & Pony ¹ (7.1%)	Dairy (2.7%)	Vegetable (6.1%)	Oilseed ² (3.9%)
7	Poultry & Egg (4.5%)	Oilseed ² (5.2%)	Dairy (5.4%)	Greenhouse Products ¹ (5.8%)	Oilseed ² (2.5%)	Horse & Pony ¹ (4.1%)	Other Livestock ⁴ (3.5%)
8	Oilseed ² (3.7%)	Fruit (4.9%)	Mushroom ¹ (4.6%)	Corn for Grain ² (4.0%)	Other Small Grain ² (1.7%)	Other Small Grain ² (5.0%)	Cattle & Hog ⁴ (2.1%)
9	Dairy (2.1%)	Vegetable (3.4%)	Fruit (2.8%)	Fruit (3.9%)	Hog (1.6%)	Fruit (4.0%)	Corn for Grain ² (0.9%)
10	Vegetable (1.7%)	Nursery Product & Sod ¹ (2.4%)	Corn for Grain ² (1.7%)	Hog (2.0%)	Horse & Pony ¹ (1.2%)	Hog (2.8%)	Hay & Fodder ³ (0.9%)

For purposes of this table the following commodity groupings were broken into:

¹ - Miscellaneous Specialty: horse & pony; mushroom; greenhouse product and nursery product & sod;

² - Grain & Oilseed: oilseed, corn for grain, and other small grain;

³ - Field Crops: hay & fodder;

⁴ - Livestock Combination: cattle & hog; and other livestock combination; and

⁵ - Other Combination: all other type combination. None of the remaining commodities within these groupings were significant.

Source: 2006 Statistics Canada, Census of Agriculture - Special Order.

There continue to be many linkages between the Halton agricultural community and the agricultural communities in the other regions of the Golden Horseshoe. The GTA Agricultural Action Committee comprised of representatives from Durham, York, Peel and Halton promotes agriculture in the GTA. The Ontario Federation of Agriculture representative for Halton also manages Hamilton and Niagara which creates an opportunity for interaction and program sharing.

Sustaining a healthy agricultural sector is a principle that all of the upper tier municipalities in the Golden Horseshoe have endorsed. Agriculture is recognized as an important component of a sustainable community.

2.7. Associated Economic Activities

As noted in the Phase 1 report, Halton has traditionally had a strong agricultural economy and specific policies to encourage economic activities on the farm. Farm related businesses including agri tourism, farm gate sales, operations related to the farm operation and businesses that are secondary to, but unrelated to the farm operation have been encouraged.

The farm gates sales and agri tourism operations in Halton are promoted through a Regional initiative, "Simply Local". It provides listings of and promotes on site farm attractions and retail operations with the goal to "promote Halton farms and encourage healthy eating and physical activity⁵".

This program which includes operations categorized as "Fresh Produce and Farm Entertainment", "Nurseries and Garden Centres", "Horse Farms and Recreational Activities" and "Farmers Markets" continues to expand. The map of participating operations, updated in May 2007, shows clusters of horse operations in Burlington and northwest Oakville; nursery operations in east Milton; and clusters of produce producers in west Milton and southwest Halton Hills. There is considerable diversity in the products being offered by the various operations.

Halton and the regions around it, continue to be home to a well developed food processing industry. The Toronto food and beverage cluster is the third largest food processing cluster in North America. In the "Growing Halton's Agricultural Cluster" study completed in 2000, it was noted that Halton farmers depend on the processors as purchasers of output and efforts were being made to strengthen the links to local processors. However there is no research to confirm the nature of this relationship or its importance in the regional economy.

As part of this study, efforts were made to secure an inventory of businesses that provide support to the agricultural sector. The only data that was forthcoming was **Figure 16**, a Statistics Canada summary of the number of enterprises in agriculture and related sectors in Halton in 2007. While this data confirms the presence of agriculturally related businesses in the Region, it does not provide the data needed to determine where that support is focused and if it is adequate. Input from the farm community indicates that many of the services required by farmers to support their operations are no longer available in Halton.

In the past Halton has understood and acted on the need to create economic support for agriculture as part of its economic development programs; it is important for the future of agriculture in Halton for this focus to continue.

Figure 16 Number of Enterprises in Agricultural and Related Sectors for the Regional Municipality of Halton by Local Municipality, 2007

Industries	Number of Enterprises				
	Halton Region	Oakville	Burlington	Milton	Halton Hills
All Industries	37,065	15,580	12,621	4,664	4,200
Agriculture - Food Crops	74	5	10	34	25
Agriculture - Nurseries & Miscellaneous Crop Farming	60	6	11	19	24
Agriculture - Ranching & Animal Production	177	12	16	73	76
Agriculture - Forestry & Logging	14	2	4	2	6
Agriculture - Support Activities	59	5	12	23	19
Manufacturing - Wineries, Breweries and Distilleries	16	8	3	2	3

Source: Statistics Canada, *Canadian Business Patterns*, December, 2007.

⁵ Simply Local "A Guided Tour of Halton Farms" Halton Region, May 2005.

2.8. Findings

The analysis of the 2006 statistics did not reveal any major changes in the Halton farm profile. Halton continues to have a productive agricultural sector. However there are indications that the agricultural sector is under stress. Trends such as a decrease in average farm size, a continuing drop in the number of operations, a shift away from more traditional long term operations such as dairy and a rising age profile indicate that the pressures associated with being part of a fast growing, urbanizing area are affecting the sector.

All of the trends that are associated with farming in urbanizing areas are evident in Halton. Uncertainty about future opportunities for agriculture negatively impact decisions to make the investments required to sustain large scale agricultural operations. Farming in urbanizing areas can lead to conflicts that increase stress. High land values negatively impact the ability to compete with producers in more rural areas and can provide an enticing opportunity to “cash out and move on”.

On a more positive note, the statistics indicate that operators are taking advantage of the opportunities created by a large accessible market in producing commodities that this market demands. Greenhouse and nursery production have retained the top two positions in the ranking of commodities by GFR's. Fruit has moved from 8th to 6th and vegetable production has become part of the top ten list. This type of production tends to dominate in areas where there is a large urban market in close proximity; it also predominates in areas where climate and soil support production.

The creation of the Greenbelt may be impacting the statistics for Burlington. There seems to be more stability in the industry in that area. Conversely Halton Hills and to a lesser extent Milton, seem to be suffering from uncertainty. Halton Hills is the municipality with the largest traditional agricultural sector and is also the area where there is an ongoing debate about future growth. This uncertainty is probably contributing to the decline in:

- certain types of operations, notably dairy;
- gross farm receipts,
- number of farms; and
- farmland acres.

Overall the changes that were noted reflect an ongoing decline in the agricultural sector in Halton that is consistent with what is occurring in other areas dealing with the pressures and uncertainties associated with growth. By addressing these pressures and defining directions for growth, the Sustainable Halton process could stabilize the situation and create the circumstances necessary to sustain a healthy and stable agricultural sector. The ongoing strength of the GFR's generated and the fact that average net revenue per acre continues to exceed the provincial average are positive signs and underscore the value of the agricultural resource in Halton.

Information about the number and nature of agriculturally related businesses that support or rely on the agricultural sector in Halton was difficult to acquire. This is an area where, if the Region wishes to support an ongoing prosperous agricultural sector,

work should be done to ensure that the businesses are in place locally to support the sector. In the past Halton has been good at implementing policies to support agriculturally related businesses; as part of a strategy to support agriculture, the Region should retain this focus.

3. LEAR EVALUATION

As the previous section confirmed, agriculture continues to have a significant presence in Halton. The next question that needs to be addressed in generating policies is the nature of the resource. Past analysis has confirmed that much of Halton's land base is prime agricultural land as defined in the Provincial Policy Statement (PPS). Given that the Growth Plan for the Greater Golden Horseshoe requires Halton to accommodate a certain level of growth to 2031; and the direction in the PPS that prime agricultural land must be protected, data is required to inform the debate of where to direct this growth. To assess the quality of the land, there are two tools that can be used; a LEAR evaluation which defines prime agricultural areas, and a specialty crop evaluation which identifies unique growing areas.

3.1. LEAR Evaluation

To identify areas of prime production potential within Halton, a LEAR evaluation was conducted. The LEAR system is a process of land evaluation and area review that was developed by the Province to identify prime areas by inventorying lands with agricultural potential in contiguous designations. A LEAR evaluation was done by the Province during the creation of the Greenbelt and referenced in the Sustainable Halton Phase 1 report. However this LEAR was part of a larger provincial exercise and so Halton decided to conduct a LEAR specific to the Region.

The results of the LEAR are required to address the requirements of Sections 2.2.8 and 4.2.2 of the Growth Plan for the Greater Golden Horseshoe (Growth Plan) and Sections 1.1.3.9 and 2.3 of the PPS which direct that:

"2.2.8 Settlement Area Boundary Expansions

2. A *settlement area* boundary expansion may only occur as part of a *municipal comprehensive review* where it has been demonstrated that -
 - f) in *prime agricultural areas*:
 - i. the lands do not comprise *specialty crop areas*
 - ii. there are no reasonable alternatives that avoid *prime agricultural areas*
 - iii. there are no reasonable alternatives on lower priority agricultural lands in *prime agricultural areas*"

"4.2.2 Prime Agricultural Areas

1. Through sub-area assessment, the Minister of Public Infrastructure Renewal and other Ministers of the Crown, in consultation with municipalities and other stakeholders, will identify prime agricultural areas, including

specialty crop areas, in the GGH, and where appropriate, develop additional policies for their protection.

2. For lands within the Greenbelt Area, all policies regarding agricultural areas set out in provincial plans, applicable to lands within the Greenbelt Area, continue to apply.
3. Municipalities are encouraged to maintain, improve and provide opportunities for farm-related infrastructure such as drainage and irrigation.
4. Municipalities are encouraged to establish and work with agricultural advisory committees and consult with them on decision-making related to agriculture and growth management.”⁶

Provincial Policy Statement:

- “1.1.3.9 A planning authority may identify a *settlement area* or allow the expansion of a *settlement area* boundary only at the time of a *comprehensive review* and only where it has been demonstrated that:
- a. sufficient opportunities for growth are not available through *intensification, redevelopment* and *designated growth areas* to accommodate the projected needs over the identified planning horizon;
 - b. the *infrastructure* and *public service facilities* which are planned or available are suitable for the development over the long term and protect public health and safety;
 - c. in *prime agricultural areas*:
 1. the lands do not comprise *specialty crop areas*;
 2. there are no reasonable alternatives which avoid *prime agricultural areas*; and
 3. there are no reasonable alternatives on lower priority agricultural lands in *prime agricultural areas*; and
 - d. impacts from new or expanding *settlement areas* on agricultural operations which are adjacent or close to the *settlement area* are mitigated to the extent feasible.

In determining the most appropriate direction for expansions to the boundaries of *settlement areas* or the identification of a *settlement area* by a planning authority, a planning authority shall apply the policies of Section 2: Wise Use and Management of Resources and Section 3: Protecting Public Health and Safety.”

⁶ Growth Plan for the Greater Golden Horseshoe 2006, Places to Grow, Ministry of Public Infrastructure Renewal, Ontario. p20 & p31

“2.3 Agriculture

2.3.1 *Prime agricultural areas* shall be protected for long-term use for agriculture.

Prime agricultural areas are areas where *prime agricultural lands* predominate. *Specialty crop areas* shall be given the highest priority for protection, followed by Classes 1, 2 and 3 soils, in this order of priority.

2.3.5 Removal of Land from Prime Agricultural Areas

2.3.5.1 Planning authorities may only exclude land from *prime agricultural areas* for:

- a. expansions of or identification of *settlement areas* in accordance with policy 1.1.3.9;
- b. extraction of *minerals, petroleum resources* and *mineral aggregate resources*, in accordance with policies 2.4 and 2.5; and
- c. limited non-residential uses, provided that:
 1. the land does not comprise a *specialty crop area*;
 2. there is a demonstrated need within the planning horizon provided for in policy 1.1.2 for additional land to be designated to accommodate the proposed use;
 3. there are no reasonable alternative locations which avoid *prime agricultural areas*; and
 4. there are no reasonable alternative locations in *prime agricultural areas* with lower priority agricultural lands.

2.3.5.2 Impacts from any new or expanding non-agricultural uses on surrounding agricultural operations and lands should be mitigated to the extent feasible.”⁷

3.2. Methodology

The LEAR was conducted in two parts. The Land Evaluation (LE) was conducted by SRG, Soils Resources Group; the Area Review (AR) by Planscape. As the studies progressed, the consultants worked with representatives of Halton Region, the Ministry of Agriculture Food and Rural Affairs (OMAFRA) and the Ministry of Municipal Affairs and Housing (MMAH) to integrate the findings. The Halton Agricultural Advisory Committee (HAAC) was consulted as the study progressed. A detailed report outlining the background, methodology and findings of the LEAR is attached to this report as **Appendix A**. **Appendix B** contains the LE evaluation conducted by SRG, Soils Resources Group.

For the Area Review the factors used included:

⁷ Provincial Policy Statement, Ontario 2005

- Property fabric
- Farm infrastructure; and
- Conflicting land uses.

The property fabric selected as the evaluation unit (EU) was lot and concession, although as part of the area review, actual lot fabric was also considered. Assessment data was used to identify farm infrastructure and conflicting land uses. It should be noted that existing uses were considered, not land use designations. Urban areas, hamlets and abutting municipalities were removed from the conflicting land use calculation. The results of the Area Review which combines the analysis of the three factors, are shown on **Map 1**.

For the Land Evaluation, the steps taken included:

- Reviewing available background material including the Greenbelt Lear, soils reports and CLI classifications;
- Determining soil series from Halton soil maps;
- Determining the CLI rankings of common field crops for each soil map unit in the evaluation unit;
- Calculating the portion of total area of the EU occupied by each soil series;
- Assigning a point value to each CLI class and multiplying the point value by the portion of the EU occupied by each CLI class;
- Conducting on site validation through aerial photography and site visits;
- Confirming existing soil and CLI classifications; and
- Amending the data base to include potentially limiting or enhancing soil capability factors.

The results of the Land Evaluation are shown on **Map 2**.

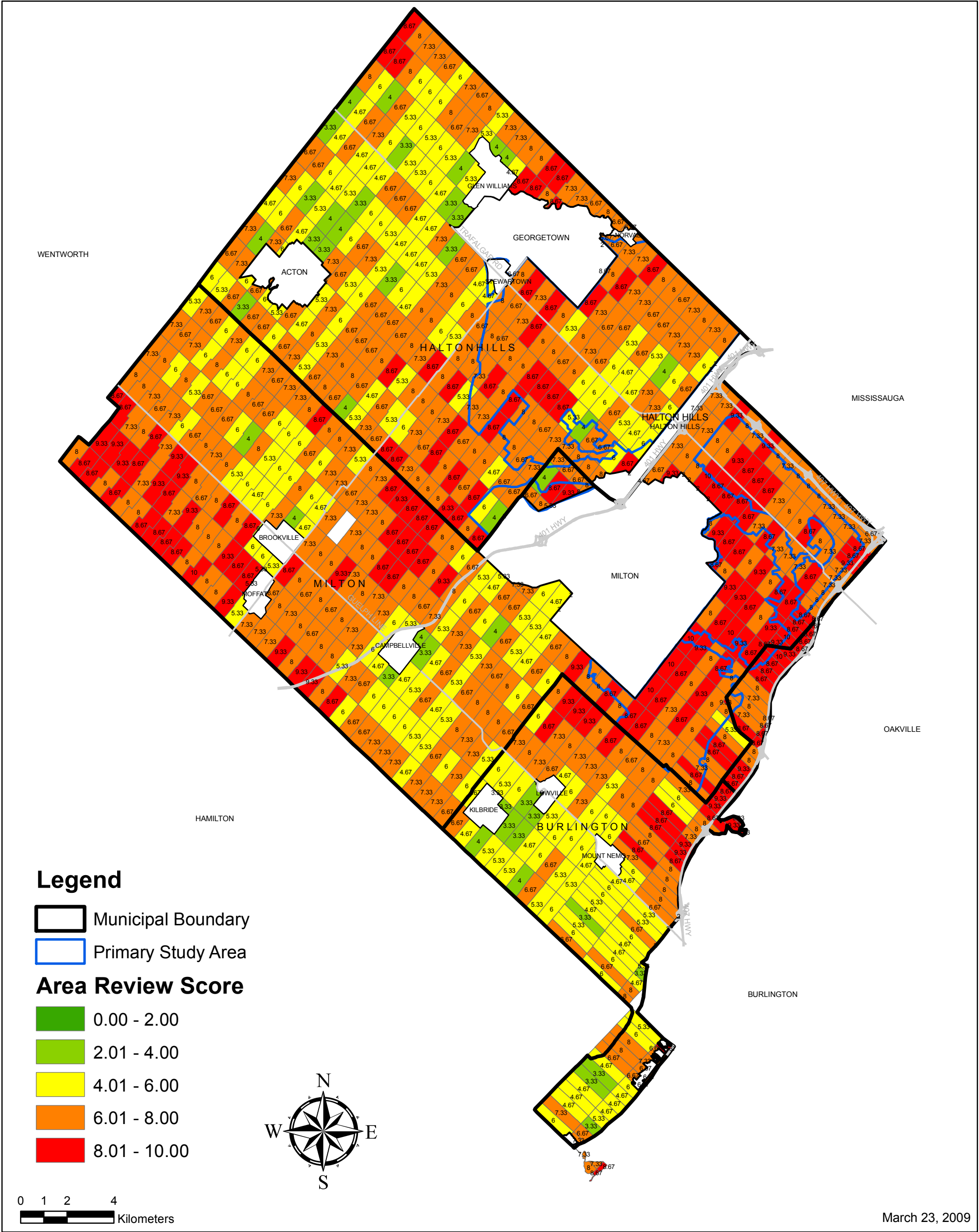
3.3. Producer Input

As the LEAR progressed, ongoing meetings were held with the Halton Agricultural Advisory Committee (HAAC) to obtain producer input to the LEAR. The comments of the Committee were considered as part of the analysis. Final comments from HAAC on the LEAR evaluation are attached to this report as **Appendix D**.



HAAC was consulted about the Area Review criteria that were used, the nature and implications of conflicting uses and the weighting of the Land Evaluation versus the Area Review

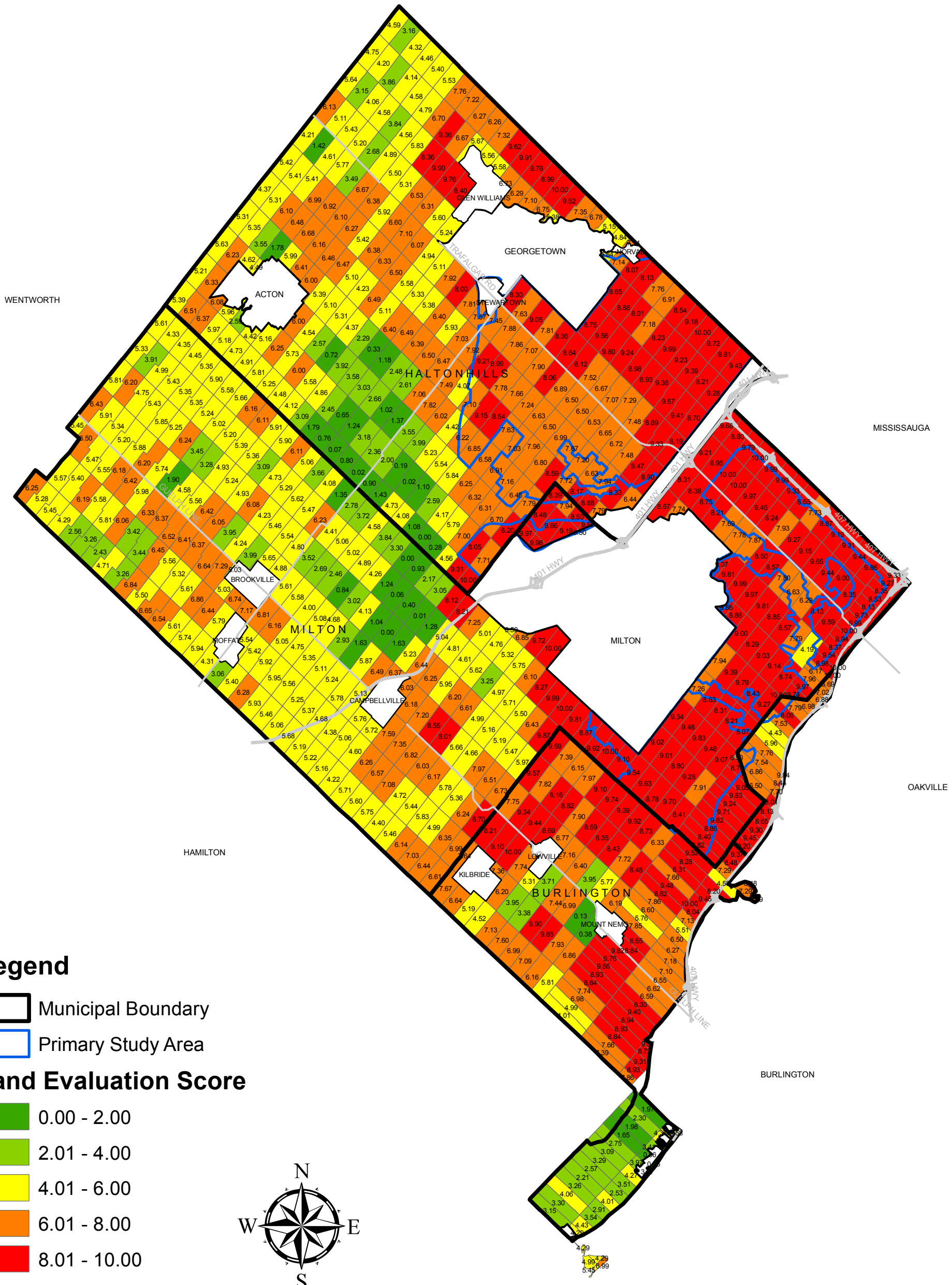
3.4. Findings

After consultation with the Province and HAAC and consideration of the data, a weighting ratio of 35(AR):65(LE) was selected on the basis that it resulted in an appropriate balance between the AR and LE factors. Using this ratio, a weighted overlay operation was conducted to produce LEAR scores on a basis of 1 to 10. A





MAP 1
HALTON AREA REVIEW SCORES
SUSTAINABLE HALTON PHASE 2
AN AGRICULTURAL COUNTRYSIDE VISION

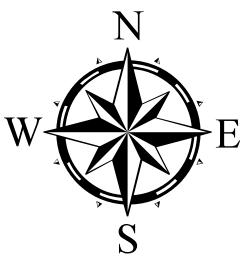


Legend

-  Municipal Boundary
-  Primary Study Area

Land Evaluation Score

-  0.00 - 2.00
-  2.01 - 4.00
-  4.01 - 6.00
-  6.01 - 8.00
-  8.01 - 10.00



March 23, 2009

**MAP 2
HALTON LAND EVALUATION SCORES
SUSTAINABLE HALTON PHASE 2
AN AGRICULTURAL COUNTRYSIDE VISION**



threshold value was then set to define the value above which the land is deemed to be prime agricultural land as per the Provincial definition. Land classified as “prime” must be managed in accordance with the Provincial Policy Statement (PPS).

For the Halton LEAR, a threshold value of 6.0 was selected. 6.0 was selected on the basis of the analysis conducted in support of the LEAR, consideration of the criteria and input from HAAC, OMAFRA, MMAH and Region of Halton planners. Once the ratio was selected and the overlay operation done, the final scores were calculated and mapped. The results of this evaluation are shown on **Map 3**.

What the LEAR confirmed is that with the exception of very few isolated pockets, the land in the Halton PSA is all prime agricultural land. Therefore in developing policy and determining which areas are to be protected and which will be designated for urban development, consistency with the policies in the PPS is critical.

The LEAR also confirmed that there is prime agricultural land in the Greenbelt above the Escarpment, interspersed amongst areas with lower scores. The fragmentation and higher incidence of non prime land in the Greenbelt is not unexpected. The Greenbelt contains areas which because of topography and other features, will rank lower under the CLI. However, it is notable that while there are a few areas of the Greenbelt that rank in the lowest category under the LEAR evaluation, the majority of the land in the Greenbelt scores 4 or higher.

Under the PPS, “prime agricultural areas” are to be protected. Prime agricultural areas are defined as:

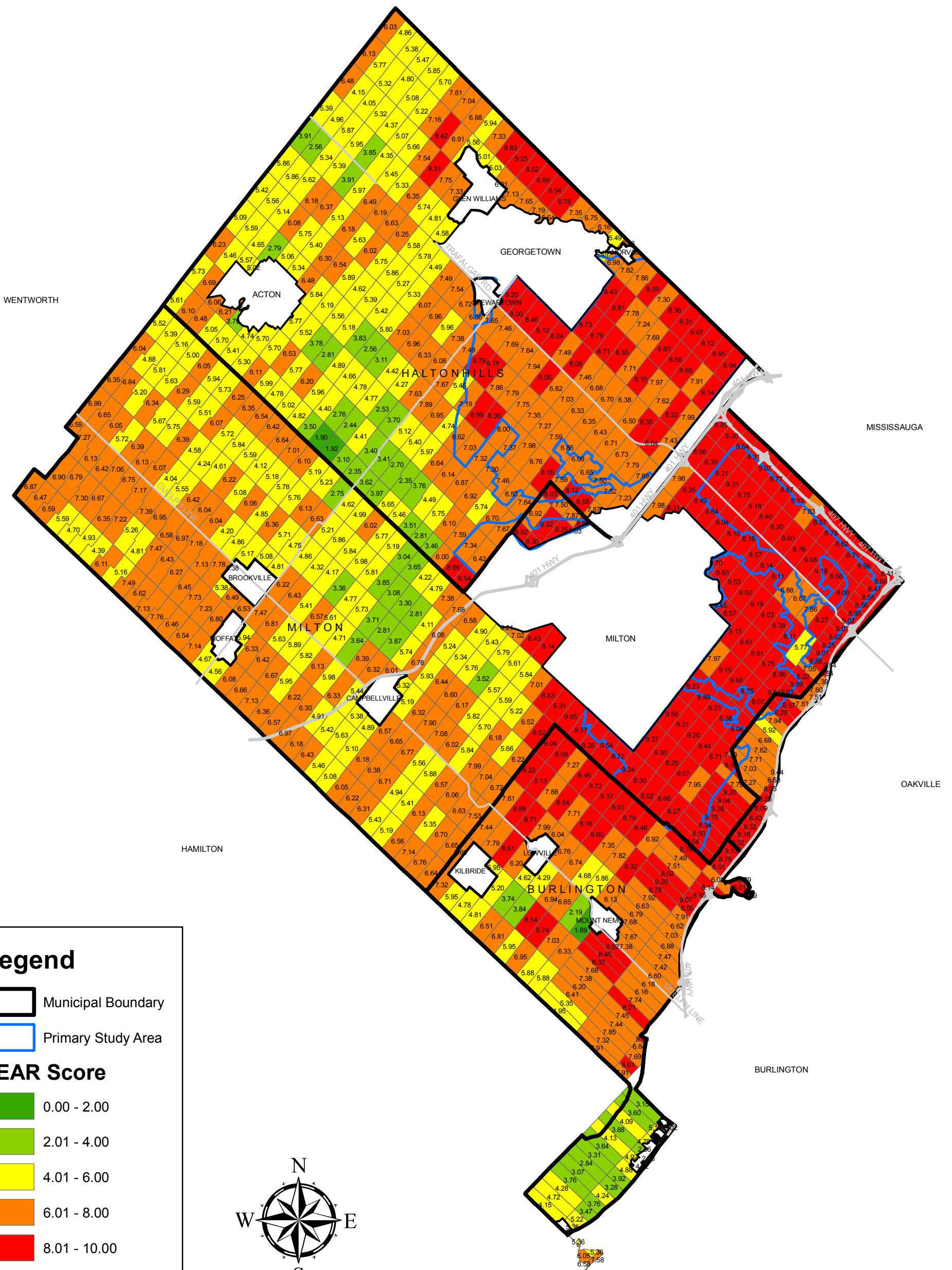
“(…) areas where prime agricultural lands predominate. This includes: areas of prime agricultural lands and associated Canada Land Inventory Class 4-7 soils; and additional areas where there is a local concentration of farms which exhibit characteristics of ongoing agriculture. Prime agricultural areas may be identified by the Ontario Ministry of Agriculture and Food using evaluation procedures established by the Province as amended from time to time, or may also be identified through an alternative agricultural land evaluation system approved by the Province.”

In the provincial guidelines for conducting a LEAR, size criteria are suggested for prime agricultural areas.



“As a general rule, prime agricultural areas should be 250 hectares or larger. (...) Areas of poor lands which score below the LEAR threshold should also be 250 hectares or larger before being identified as a separate non-agricultural designation” .⁸

To facilitate consideration of the size criteria, **Map 4** was produced which delineates agricultural areas as identified by the LEAR, which meet the 250 hectare area criteria. This map confirms that the entire PSA is a prime agricultural area and identified those areas of the Greenbelt that also satisfy the size criteria.






⁸ “A Guide to the Land Evaluation and Area Review (LEAR) System for Agriculture”. Agricultural Land Use Unit, Resource Management Branch, Ontario Ministry of Agriculture and Food. Revised June 2002. pg 18

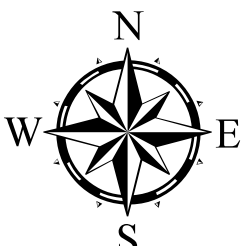


Legend

-  Municipal Boundary
-  Primary Study Area



LEAR Score

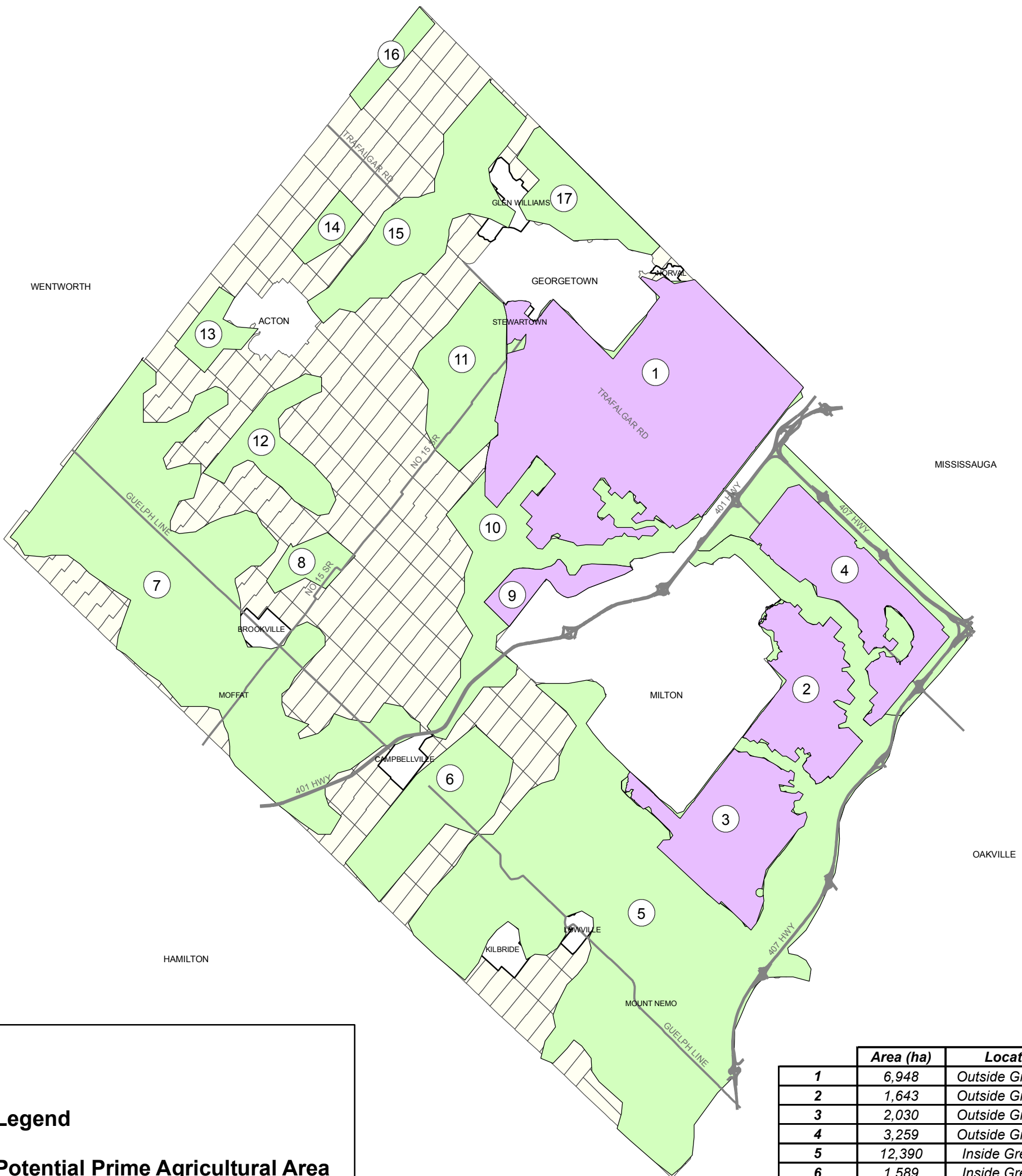
-  0.00 - 2.00
-  2.01 - 4.00
-  4.01 - 6.00
-  6.01 - 8.00
-  8.01 - 10.00



March 23, 2009

**MAP 3
HALTON LEAR SCORES
SUSTAINABLE HALTON PHASE 2
AN AGRICULTURAL COUNTRYSIDE VISION**



Legend

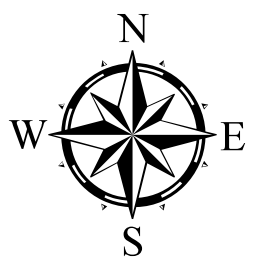
Potential Prime Agricultural Area

- Primary Study Area
- Greenbelt

Rural Area

-

	Area (ha)	Location
1	6,948	Outside Greenbelt
2	1,643	Outside Greenbelt
3	2,030	Outside Greenbelt
4	3,259	Outside Greenbelt
5	12,390	Inside Greenbelt
6	1,589	Inside Greenbelt
7	7,747	Inside Greenbelt
8	396	Inside Greenbelt
9	474	Outside Greenbelt
10	2,482	Inside Greenbelt
11	1,493	Inside Greenbelt
12	932	Inside Greenbelt
13	403	Inside Greenbelt
14	301	Inside Greenbelt
15	2,118	Inside Greenbelt
16	315	Inside Greenbelt
17	1,033	Inside Greenbelt



Note: Natural Heritage System not accounted for

March 23, 2009

MAP 4 POTENTIAL PRIME AGRICULTURAL AREAS BASED ON CRITERIA OF 250HA

**SUSTAINABLE HALTON PHASE 2
AN AGRICULTURAL COUNTRYSIDE VISION**



The findings of the Halton LEAR were consistent with the findings of the Provincial LEAR conducted in support of the creation of the Greenbelt. These findings confirm that Halton contains considerable areas of prime agricultural land, most of it located in the PSA. Only 5% of the Canadian land mass is prime land. Prime land is a scarce and limited resource in Canada and one that should be carefully managed.

4. SPECIALTY CROP EVALUATION

A LEAR evaluation deals only with prime agricultural land, not with specialty crop land as defined in the PPS. Specialty crop areas are defined as:

Specialty crop area:

means areas designated using evaluation procedures established by the province, as amended from time to time, where specialty crops such as tender fruits (peaches, cherries, plums), grapes, other fruit crops, vegetable crops, greenhouse crops, and crops from agriculturally developed organic soil lands are predominantly grown, usually resulting from:

- a. soils that have suitability to produce specialty crops, or lands that are subject to special climatic conditions, or a combination of both; and/or
- b. 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.

To ensure that the presence of specialty crop land in Halton was given appropriate consideration, a separate evaluation was conducted by SRG and Planscape. Given that the province has not yet developed an evaluation procedure for identifying specialty crop land, a process to evaluate specialty crop production was designed by SRG after consultation with OMAFRA staff. This process was designed to identify potential specialty crop production of provincial and regional significance. Details of this process and the results of the analysis are included in **Appendix C** to this report.

The conclusions reached in the assessment for specialty crop production were as follows:

4.1. Findings

- Halton Region has the soil and climatic conditions to support the production of a wide range of crops including those identified by the province as potential specialty crops. Heat units, winter temperatures and early/late season frosts limit potential production of the tender fruit crops.
- Most specialty crop production observed in Halton Region was located in areas outside of the Primary Study Area.
- Vegetable (sweet corn, pumpkin) and fruit/berry (apple, strawberry) production were notable specialty crops in the Region.

- The soils of the Primary Study Area are suited for the production of specialty crops. Apple, peach and vegetable crop production was observed in the Primary Study Area but the land area devoted to these crops was small. However, on a regional basis this is an important component of Halton agriculture.
- The predominant horticultural activity in the Primary Study Area was the nursery and greenhouse (glass and plastic) operations. Many of these operations were located on the sandy loam textured soils that offered flexibility in terms of planting dates, traffic ability, and planting of bare root stock.⁹

Essentially the conclusion is that lands with the potential to produce specialty crops do exist in Halton.

To assist in the analysis that led to these findings, mapping using assessment data was completed and is included in this report as **Map 5**. Map 5 identifies areas recorded by MPAC, as lands that currently, or at one time contained orchard, nursery, vegetable, greenhouse (fruit and vegetable) and greenhouse (floral) production. This mapping confirms that specialty crop production is scattered around the Region. Site inspections confirmed that there continues to be a cluster of operations on the east side of Milton in the vicinity of the 8th Line, along the base of the Escarpment and east of Georgetown that produce commodities included as specialty crop.

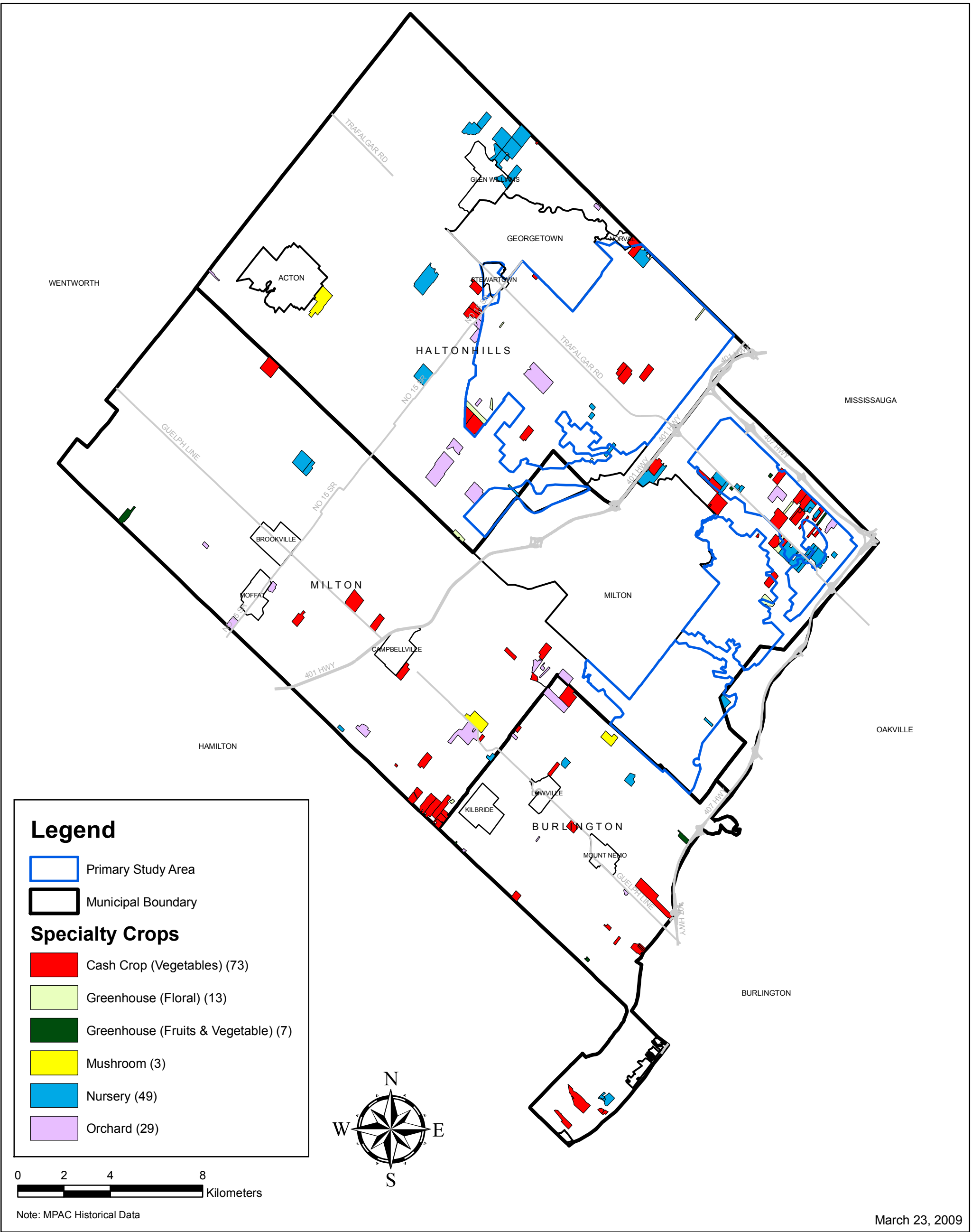
There are numerous nursery operations in Halton Hills and Milton. Regionally, these operations are significant and it would be appropriate to consider nursery operations as regionally significant specialty crops.

The findings of the specialty crop evaluation are important in determining what areas should form part of the permanent agricultural presence in Halton. While many of the areas producing specialty crops were in the Greenbelt, there are pockets of specialty crop production in the PSA that are significant on a regional basis. However, without a definitive evaluation process, it would be premature at this time to identify specialty crop areas. The process undertaken responded to the requirement to complete an evaluation of specialty crops but did not identify specialty crop areas as defined in the PPS.

5. ROLE OF THE GREENBELT

Although the Greenbelt is a significant presence in Halton with major implications for land use policies, geographically it is somewhat arbitrary. The boundary of the Greenbelt does not follow geographical features, municipal boundaries or property lines and is not visually apparent. Numerous agricultural properties include lands inside and outside the Greenbelt. Because the Greenbelt has only been in existence since 2005, there has not been sufficient time for the implications of its creation to be fully measured or understood.

⁹ The Soils Resources Group, Gregory Wall Ph.D., "Specialty Crop Production, Regional Municipality of Halton, Primary Study Area". May 7, 2008.



To develop a better understanding of the Greenbelt's potential contribution to a permanent agricultural presence in Halton, steps were taken to identify its characteristics and assess the implications for agriculture. The lands within the Greenbelt were evaluated as part of the Regional LEAR process. As noted earlier the LEAR confirmed that there are prime agricultural lands within the Greenbelt area but they are more discontinuous than the prime areas in the PSA.

To further understand the nature of agriculture in the Greenbelt, assessment data and statistics from Census Canada were used. Statistics Canada was asked to isolate statistics specific to the Greenbelt. **Figures 17 and 18** are the result of this special assessment and provide some insight into the amount of farmland under production, the amount of farmland that is owned and rented, and the comparative productive value of farms in the Greenbelt¹⁰.

Figure 17 Farmland Area (ac) Owned and Rented in Halton Region and in Comparison with Greenbelt, 2006

<i>Halton Region</i>	Farmland Area				
	<i>Total Farmland Area* (ac)</i>	<i>Owned (ac)</i>	<i>% of Total Area Owned</i>	<i>Rented (ac)</i>	<i>% of Total Area Rented</i>
Region Total	95,690	45,598	48%	50,092	52%
Greenbelt within Halton	58,699	30,689	52%	28,009	48%

* Total land owned, leased, rented, crop-shared or used by this operation. Source: 2001 & 2006 Statistics Canada, Census of Agriculture - Special Order.

NOTE: Statistics Canada revised the land tenure section of the 2006 Census of Agriculture questionnaire. The new format does not permit comparisons with 2001.

Approximately 60% of the land being farmed in Halton in 2006 was located in the Greenbelt. **Figure 17** provides a breakdown of rented versus owned farmland in Halton as a whole compared to the area designated as Greenbelt. The percentage of owned land is slightly higher but the difference is not significant.

Figure 18 documents the number of farms in the Greenbelt by gross farm receipts. At this time the breakdown tends to mirror the breakdown of Halton as a whole.

¹⁰ Obtained by special order from Statistics Canada, source 2006 Agricultural Census.

Figure 18 Number of Farms Classified by Gross Farm Receipts in Halton Region and Greenbelt, 2006

Geographic Location	Number of Farms							Total Gross Farms Receipts (\$)
	Total	\$0 to \$24,999	\$25,000 to \$99,999	\$100,000 to \$249,999	\$250,000 to \$499,999	\$500,000 to \$999,999	\$1,000,000 and over	
Halton Region	566	274	146	51	54	24	17	\$132,041,893
Greenbelt with Halton	381	201	99	29	27	13	12	\$69,481,389

Source: 2006 Statistics Canada, Census of Agriculture - Special Order.

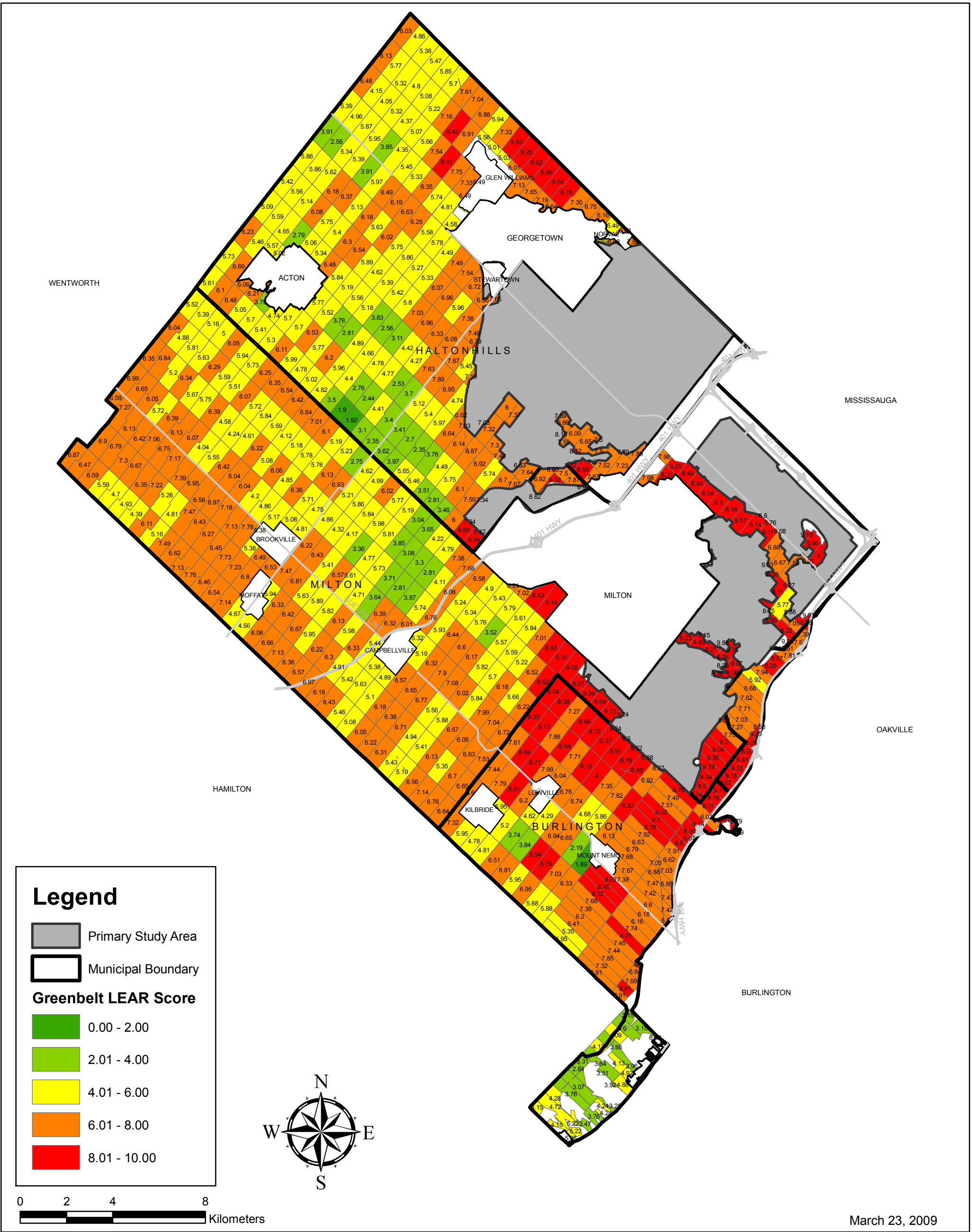
Current Halton Official Plan policies which factor in the Escarpment and manage development based on natural features, were considered. These policies acknowledge the different character of parts of the Greenbelt, specifically those lands that are part of the Niagara Escarpment and are subject to the Niagara Escarpment Plan.

The results of the Provincial LEAR, conducted as part of the process of creating the Greenbelt, were compared with the results of the Regional LEAR. Both studies confirmed that there is prime agricultural land in the Greenbelt but because of a number of factors including topography and natural heritage features, it does not score as high as land in the PSA. As Map 6 illustrates, there are pockets of prime land in the Greenbelt, with the highest scores occurring in the area of the greenbelt in north Burlington and west Milton.

There are some specialty crop producing areas in the Greenbelt along the bottom of the Escarpment in what may be a small microclimate formed by the Escarpment.

This limited assessment the Greenbelt confirms that there is an agricultural community located there which has links to the PSA. Maintaining a strong rural community in the Greenbelt, will provide support for agriculture in other rural areas in Halton. A large cluster of agricultural operators in the Greenbelt facilitates interaction with producers in the PSA, and supports the infrastructure required to service the agricultural sector as a whole. To capitalize on the potential benefits of and strengthen linkages between agriculture in the Greenbelt and the PSA, consideration should be given to designating the areas for an ongoing agricultural presence in the PSA, in close proximity to or contiguous with the Greenbelt.

In reviewing the role of agriculture in the Greenbelt, it should be noted that many farmers and farm organizations, including the Ontario Federation of Agriculture and HAAC, have expressed the opinion that imposition of the Greenbelt was done without due consideration of agricultural issues and has had a negative economic effect on farmers. The impact of the Greenbelt on land values is the subject of ongoing debate. There is a perception in the farming community that farmland values have declined as a result of the Greenbelt which not only impacts sale value, but reduces the ability to raise capital by borrowing against the land.



6. RESOURCE FEATURES

6.1. Natural Heritage System (NHS)

In Phase 1 of Sustainable Halton, three options were presented for the natural heritage system (NHS). Consideration is being given to the option that will create an enhanced NHS. While expansion of the NHS could be assumed to negatively impact agriculture, if managed carefully and implemented in cooperation with the agricultural community, an enhanced NHS could also benefit agriculture. The purpose of an NHS is to preserve a rural system; agriculture is an essential part of this system.

Part of the rationale for extending the NHS system is to provide linkages between the various features. Often these linkages are farmland. Difficulties arise for farmers if restrictions are placed on how they can subsequently use the land designated as a linkage. What needs to be understood and clearly stated is that to fulfill the function of a linkage, lands can continue to be farmed. Unless there is an identified environmental value, the right to farm should be protected in the NHS and farmers allowed full flexibility to manage and develop their land to support agricultural operations.

To understand the impact the enhanced NHS could have on agriculture, the potential expanded NHS area was overlaid on the LEAR results and evaluated. This exercise clearly showed the overlap between agriculture and the NHS. Policies will be required to allow uses to co-exist if the enhanced system is to be implemented with no adverse impact on agriculture.

6.2. Aggregates

Most of the significant aggregate resources in Halton are found in the Greenbelt. Since this area is already under protective policies, the implications of aggregate versus agricultural land in the Greenbelt are not as significant as in the PSA.

With regard to agriculture, the provincial position is that where aggregates are extracted from productive prime agricultural land, once the extraction is complete, the land should be rehabilitated to its former agricultural use. While it is questionable if this can or does occur, provincial policy assumes that aggregates and agriculture can co-exist.

Recently produced mapping of aggregates in the PSA, show significant areas of potential aggregate deposits. A large shale deposit exists in the PSA in Halton Hills and there are areas of aggregate in Milton. Much of the area mapped as aggregate also has the potential for long term agricultural production. Management of the aggregate resources will require coordination with management of the agricultural resource.

6.3. Other Uses

Other uses in the countryside that compete with agriculture for the land base include waste disposal sites, transportation facilities, golf courses, cemeteries, churches, land extensive recreation facilities and rural estate residences. Not only do these uses

compete with agriculture for land, once established they often create conflicts for agriculture and negatively impact a much larger portion of the agricultural area than just the land upon which they are located. They fragment agricultural areas, create conflicts over agricultural practices, reduce the critical mass of farms required to support farm based services and generally weaken the integrity of the agricultural area. For a strong agricultural area to survive, these incursions need to be prevented.

Clearly there are certain uses that locate in the rural area because of the availability of relatively cheap land. This is not a reasonable planning rationale for allowing these uses in the countryside. Certain uses such as land extensive recreational amenities and cemeteries may have to be accommodated in the rural area. However generally all uses with no rural or agricultural connection, should be located in urban areas and those that are permitted should be carefully regulated.

7. CONCLUSIONS

The analysis done for this report leads to a number of conclusions.

- The PSA in Halton is a prime agricultural area as defined in the PPS.
- Agriculture in Halton continues to be a productive sector.
- The uncertainties associated with the future of agriculture in Halton are having an impact on the sector that is evident in changes in commodity profiles.
- There is some shifting in the commodity profile to the production of crops geared to a readily available urban market. The Region has been supportive of this change to local food production through the “Simply Local” program and through its participation in the GTA Agricultural Action Committee.
- Halton does have specialty crops many of which are located in the Greenbelt.
- There are scattered locations where specialty crop production is occurring in the PSA, notably in east Milton.
- Certain areas of east Milton where there is specialty crop production are characterized by smaller lot sizes and fragmentation.
- The Greenbelt contains areas of prime agricultural land.

This report provides background data for use in developing a strategy for managing agricultural land use to 2031 and beyond. This strategy is set out in the Phase 3 report and builds on the findings of this and the Phase 1 “Agricultural Countryside Vision” report.

APPENDIX A

THE REGIONAL MUNICIPALITY OF HALTON

LAND EVALUATION AND AREA REVIEW Methodology Report

September 15, 2008
(Revised April 2, 2009)



PLANSCAPE

BUILDING COMMUNITY THROUGH PLANNING



SOIL RESOURCE GROUP

THE REGIONAL MUNICIPALITY OF HALTON

LAND EVALUATION AND AREA REVIEW Methodology Report

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**THE REGIONAL MUNICIPALITY
OF HALTON**

LAND EVALUATION AND AREA REVIEW

Methodology Report

1 Introduction

The purpose of this report is to summarize the findings of the Province's "A Guide to the Land Evaluation and Area Review (LEAR) System for Agriculture" of Halton's rural area (Greenbelt and Primary Study Area) that was conducted during the period between September 2007 and March 2008.

The LEAR System is a provincial process, developed to identify prime agricultural areas by inventorying lands with agricultural potential in contiguous designations. The results of the analysis aid in the development of local and provincial agricultural policies. This LEAR will identify prime agricultural areas in Halton, including the Greenbelt and Primary Study Area, for consideration in the Sustainable Halton process leading to the updating of the Halton Official Plan.

The Land Evaluation (LE) component of the LEAR uses soil capability conditions to assess the productivity of the land. Soil ratings are based on the Canada Land Inventory Soil Capability Classification for Agriculture (ARDA, 1965). The Area Review (AR) component incorporates other important non-soil factors that may enhance or impede agricultural activities such as fragmentation, installed infrastructure, and proximity to conflicting land uses.

The LEAR System is designed to be flexible and sensitive to local objectives. This is achieved using input from local groups or a working committee to provide input into developing the system. In Halton Region, collaboration was achieved using the Halton Agricultural Advisory Committee (HAAC). This group provided extensive local knowledge regarding agriculture and guided the LEAR process by recommending suitable criteria and weights for Halton Region.

2 Research Summary

2.1 Previous LEAR Studies

In 2002, the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) produced a Guide to the Land Evaluation and Area Review (LEAR) System for Agriculture (OMAFRA, 2002). This guide explains the concept and framework of LEAR, but refers the selection of the evaluation unit, criteria, weighting and scoring used for LE and AR factors to groups at the local level. In Halton this role of determining these factors was undertaken by a steering committee comprised of staff from Halton Region, OMAFRA and the Ministry of Municipal Affairs and Housing (MMAH) working with the Halton Agricultural Advisory Committee (HAAC).

In deciding on how to proceed, previous LEAR studies were used as examples, to gain insight into the most suitable parameters for the Halton LEAR. There are a variety of LEAR studies, the majority of which are recent and which provide a valuable cross section of specific approaches to consider in determining the appropriate approach for conducting a LEAR study in Halton Region.

2.2 Related Studies

Perhaps the most useful related document in conducting the Halton LEAR is the Sustainable Halton Countryside Vision (Planscape, 2007), completed as part of Phase I of the Sustainable Halton Plan. This document offers recent agricultural information for Halton Region, including information on background policies and reports, the role and definition of agriculture, the current state of agriculture in Halton, agriculture in urbanizing areas, implications of the Greenbelt, criteria for consideration, tools for supporting agriculture and challenges in the future.

The Sustainable Halton Countryside Vision provides the rationale for differentiating between Halton's prime and non-prime agricultural area in the Regional Official Plan. Of particular importance to the Halton LEAR is section 9.4 of the Vision document which outlines factors to be considered regarding where agricultural land should be set aside for long term protection. These factors will be considered in determining AR factors for the Halton LEAR study. The factors are listed below in Table 2.1.



Table 2.1: Factors to Consider When Setting Aside Agricultural Land
 (Planscape, 2007)

Land Classification
Size of Property Holding
Existing Farm Infrastructure
Ownership
Connectivity to Greenbelt
Presence of Non-Farm Uses
Conflicting Uses
Current Production
Aggregate Resources
Area Required to Accommodate Growth
Natural Heritage Systems Requirements
Water Availability
Service Infrastructure
Climate
Gross Farm Receipts

The Agricultural Land Evaluation System study produced by the Regional Municipality of Halton (Halton Planning and Development Department, 1987) is quite dated but may be of use in the Halton LEAR study. The purpose of this study was to develop a tool to evaluate the long-term potential of agricultural land, considering both physical capability and socio-economic constraints.

When the study was implemented, material did not exist that could guide the agricultural land evaluation process. Therefore the Region designed a custom approach, based on a point scoring system. A list of 74 criteria was identified in this system using a combination of judgment, expert advice, past research, and a comparison of Halton and Provincial agricultural statistics and census information. These criteria have been used in establishing past Halton policies and should be considered as part of this LEAR process.

3 Previous LEAR Study Approaches

Due to the requirement for LEAR studies to reflect local circumstances, the selection of suitable criteria must be tailored to the area’s characteristics. Criteria are selected based on the character of the agricultural landscape as well as available technological data resources. This section illustrates and compares the evaluation unit, Area Review criteria, and the weighting of LE factors to AR factors using previous research.



3.1 Evaluation Unit Comparison

The Evaluation Unit (EU) is an important consideration as it forms the basis for data collection. The EU influences the LEAR considerably, especially regarding proximity and adjacency operations for the Area Review. Table 3.1 illustrates the range of Area Review criteria that have been used in previous studies.

Table 3.1 – Evaluation Unit Used in Previous LEAR Studies

Provincial	Greenbelt	Hamilton	Ottawa-Carleton	Stormont, Dundas & Glengarry	Kingston
Ownership Parcels	Survey Lots and Concessions	Ownership Parcels	Ownership Parcels	Ownership Parcels	N/A

3.2 AR Criteria Comparison

Area Review criteria evaluate land use and socio-economic factors, which contribute to the suitability of an area for agricultural activities. Some factors cannot be used because of a lack of data resources while others may be considered insignificant because they are duplicated criteria. Table 3.2 illustrates the range of AR criteria used in several previous LEAR studies.



Table 3.2 – Area Review Criteria for Previous LEAR Studies

Provincial	Greenbelt	Hamilton	Ottawa-Carleton	Stormont, Dundas & Glengarry	Kingston
Percentage of Surrounding Lands in Agricultural Use 85-100% gets perfect score	Number of parcels within 300m of the evaluation unit 0 to 1 parcels gets perfect score	Proportion of agricultural land within 1km of each agricultural property	Percentage of Property within 305m of Conflicting Land Use 0% gets perfect score	Proportion of Surrounding Area (1km) in Agricultural Land Use 75-100% gets perfect score	Proximity to Incompatible Land Use – residential cluster = three or more residences within 300m of each other
Percentage of Evaluation Unit in Agricultural Use 85-100% gets perfect score	Number of parcels in the evaluation unit 1 or 2 parcels gets perfect score	Number of residential properties within 1km of each agricultural property	Percentage of Property in Agricultural Land Use 85-100% gets perfect score	Proportion of Parcel in Agricultural Land Use 75-100% of property in agricultural use gets perfect score	Percentage of each unit which is being used for farming >50% gets best score
Parcel Size Greater than 36.4ha gets perfect score	Investment in tile drainage within evaluation unit Tile drainage gets perfect score	Number of properties within 1km of each agricultural property (exclude residential)	Parcel Size Greater than 36.4ha gets perfect score	Parcel Size Greater than 36.4ha gets perfect score	
	Gross farm receipts per cropped acre >\$2500 gets perfect score			Investment in Tile Drainage Has tile drainage gets perfect score	
				Proximity to Conflicting Land Uses Parcels greater than 400m get perfect score	

3.3 Weighting of Factors

The Land Evaluation (LE) component provides a method of evaluating the study area's soil resources for agriculture. In contrast, Area Review (AR) looks at other (non-soil) conditions and practices that may influence agriculture. The weighting of the LE vs. AR is an important concern as it determines the importance of LE factors relative to AR factors. The LE component is often given higher weighting than the AR component because soil resources tend to be the most determinant factor in identifying prime agricultural areas. According to the Province's Guide to Land Evaluation and Area Review (LEAR) System for Agriculture, 2002, under no circumstances should the AR component be weighted greater than the LE component. The weightings can be



adjusted by a municipality, provided justification exists to do so. Previous LEAR studies such as the Greenbelt LEAR used a LE:AR ratio of 65:35, while the Hamilton LEAR used a 60:40 ratio.

4 Recommendations for Halton LEAR

As stated previously, the framework of a LEAR has a consistent methodology; however, the selection of criteria and weights differentiates each LEAR study. The challenge in the Halton LEAR study was to select and implement an appropriate set of criteria and weights for Halton Region. Consultation was carried out with the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), the Ministry of Municipal Affairs and Housing (MMAH), Halton planning staff, and the Halton Agricultural Advisory Committee (HAAC) in order to develop and refine the most appropriate set of criteria and weights for the Halton LEAR.

4.1 Evaluation Units and Study Area

As illustrated in Table 3.1, the majority of previous LEAR studies used ownership parcels as the evaluation unit. In the Guide to the Land Evaluation and Area Review (LEAR) System for Agriculture, 2002, it is stated that land ownership parcels are well suited as evaluation units because they are small, resulting in detailed and accurate information. Socio-economic factors are best considered using this unit of evaluation because results are applied to the individual properties and do not affect neighboring properties. Unfortunately, privacy is an issue when using ownership parcels as the evaluation unit and this must be considered carefully.

The Halton LEAR study team decided to use Lot/Concession boundaries as the unit of evaluation. Lot/Concession boundaries were found to be the most appropriate evaluation unit because privacy issues are avoided and study results can be easily compared and contrasted to the Province's Greenbelt LEAR. However, in conducting the AR analysis, property fabric was factored in to provide a more detailed basis for analysis. The LE analysis was based on lot and concession.



4.2 LE Recommendations

The Soil Research Group (SRG) was given responsibility for overlaying available soil and topographic information with the associated CLI rating for each unit of evaluation. A weighted LE value was to be determined based on the approach outlined in the Guide to LEAR. The score for each Evaluation Unit was then based on the proportion represented by each CLI class and ranged from 0 to 100.

Part of the LE Methodology included conducting on-site validation of the computed LE values for the grids and associated soil capability ratings by roadside observation with the assistance of aerial photography and digital elevation data. Predicted LE ratings would be modified to reflect on-site observations.

Field validation of the data would be done to give credence to the LE information used in the LEAR analysis by providing a science base for the study recommendations. Field activities were coordinated with Planscape to determine potential deficiencies in the collection of field data related to the completion of the LEAR analysis.

4.3 AR Recommendations

The criteria to be used in the Halton LEAR study were determined by the study team to be fragmentation, infrastructure, and conflicting land use. Although numerous other AR criteria were considered for the Halton LEAR, these were selected because they cover a cross-section of important non-soil factors that influence agriculture. In addition, these criteria were feasible to calculate using currently available data and existing GIS techniques. Section 5 describes how these criteria would be extracted from the data and combined into one AR factor using GIS techniques.

Following criteria selection, weights are applied to those criteria. In the case of the Area Review for the Halton LEAR, factors were weighted equally unless a certain criterion appeared to have a much higher importance. Input from the study team and the HAAC subcommittee was solicited to finalize the relative importance of each criteria.

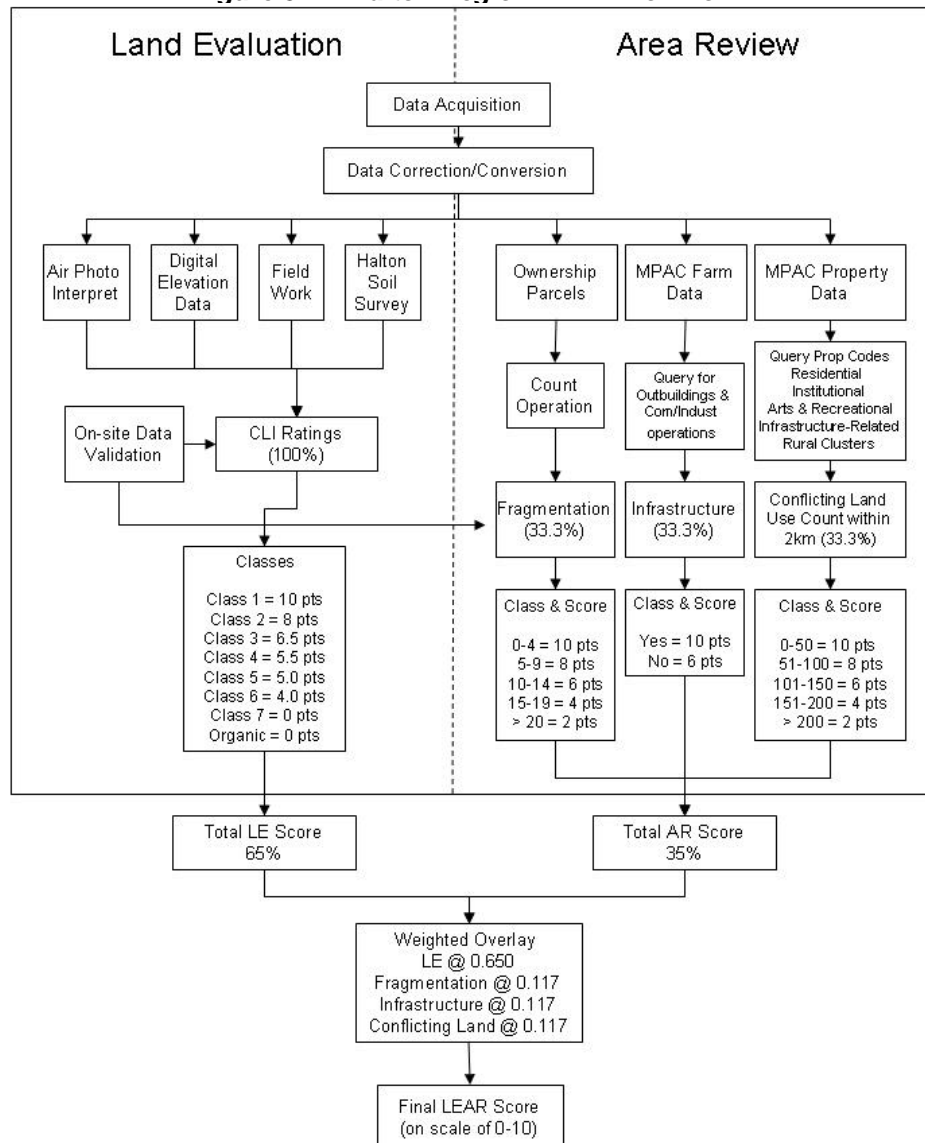


5 Halton Region LEAR Methodology

This section outlines the LEAR approach implemented for Halton Region. Presented first is the LEAR workflow, followed by criteria descriptions and finally a set of more detailed processing steps. The designed approach considers previous LEAR research, issues identified by the HAAC subcommittee and certain limitations with regard to data availability.

5.1 Workflow

Figure 5.1 – Halton Region LEAR Workflow



5.2 Criteria Descriptions

In conducting a LEAR for Halton Region, four criteria were used including CLI Soil Rating, Fragmentation, Farm Infrastructure, and Conflicting Land (within 2 km of the EU). These criteria were approved by the study team and covered the necessary soil and non-soil related factors to evaluate the Halton agricultural land base. Each criterion is explained in more detail below.

1) *CLI Rating*

The Canada Land Inventory (CLI) system combines attributes of the soil to place the soils into a seven-class system of land use capabilities. The CLI system groups mineral soils according to their potential and limitations for agricultural use. The first three classes are considered capable of sustained production of common field crops, the fourth is marginal for sustained agriculture, the fifth is capable for use of permanent pasture and hay, the sixth for wild pasture and the seventh class is for soils or landforms incapable for use for arable culture or permanent pasture. Organic or Muck soils are not classified under this system.

The Soil Research Group utilized recently updated agricultural soil capability classes (Canada Land Inventory (CLI)) from OMAFRA in digital format. Land Evaluation scores for each evaluation unit were determined by assigning points to each CLI class and multiplying these by the proportion that each CLI class occupies within an evaluation unit. The overall LE score (ranging from 0-100) for each evaluation unit was then evaluated by roadside observation and corrected when observed errors significantly affected the score of an evaluation unit.

2) *Fragmentation*

Fragmentation describes the extent that land in each Evaluation Unit has been divided into smaller parcels. It is thought that larger parcels will have greater potential in the future to sustain agriculture. The LEAR methodology counts the number of ownership parcels in each Evaluation Unit to provide a measure of fragmentation. Evaluation units with under 5 parcels received a perfect score while units with more than 20 parcels received the lowest score.



3) *Farm Infrastructure*

Farm Infrastructure is an important factor because it provides an indication of agriculturally-related investment. The LEAR methodology uses existing MPAC farm data to evaluate whether an Evaluation Unit has secondary structures, farm outbuildings, or commercial/industrial operations. If the Evaluation Unit has infrastructure it receives a higher score. If farm infrastructure does not exist, the evaluation unit receives a lower score.

The infrastructure data layer was created using municipal property assessment (MPAC) data that specifically identifies farm parcels with additional structures. Parcels with property codes 210, 211, 220 and 221 were considered to have farm infrastructure. The definitions for these codes are listed in table 5.2a.

Table 5.2a – Definitions of Parcels Containing Infrastructure

210	Farm without residence - with secondary structures; with farm outbuildings
211	Farm with residence - with or without secondary structures; with farm outbuildings
220	Farm without residence - with commercial/industrial operation
221	Farm with residence - with commercial/industrial operation

4) *Conflicting Land Use (within 2km)*

Conflicting land uses have the potential to encroach on agricultural land over time. In areas with rapid population growth certain agricultural areas may have a considerable amount of conflicting land uses within close proximity. The LEAR methodology counts the number of conflicting land uses within 2 kilometres of each Evaluation Unit boundary. A distance of 2 kilometres is used as it is a realistic distance to account for factors such as smell and associated traffic. MPAC data was chosen as the data source for conflicting land use as opposed to zoning data. The advantage of utilizing MPAC data was that it represents what is currently on the ground and provides a greater amount of information, such as highly specific property codes used for the identification of conflicting land uses. The conflicting land uses property codes used in the study are listed in Table 5.2b.



Table 5.2b – Definitions of Parcels Considered Conflicting

301	Single family detached (not on water)
302	More than one structure used for residential purposes with at least one of the structures occupied permanently
303	Residence with a commercial unit
304	Residence with a commercial/ industrial use building
305	Link home – are homes linked together at the footing or foundation by a wall above or below grade.
306	Boathouse with residence above
307	Community lifestyle (not a mobile home park) – Typically, a gated community. The site is typically under single ownership. Typically, people own the structure.
309	Freehold Townhouse/Row house – more than two units in a row with separate ownership
311	Semi-detached residential – two residential homes sharing a common center wall with separate ownership.
313	Single family detached on water – year round residence
314	Clergy Residence
322	Semi-detached residence with both units under one ownership – two residential homes sharing a common center wall.
332	Typically a Duplex – residential structure with two self-contained units.
333	Residential property with three self-contained units
334	Residential property with four self-contained units
335	Residential property with five self-contained units
336	Residential property with six self-contained units
340	Multi-residential, with 7 or more self-contained units (excludes row-housing)
341	Multi-residential, with 7 or more self-contained residential units, with small commercial unit(s)
350	Row housing, with three to six units under single ownership
352	Row housing, with seven or more units under single ownership
360	Rooming or boarding house – rental by room/bedroom, tenant(s) share a kitchen, bathroom and living quarters.
361	Bachelorette, typically a converted house with 7 or more self-contained units
363	House-keeping cottages - no American plan – typically a mini resort where you rent a cabin. No package plan available. All activities, meals, etc. are extra.
364	House-keeping cottages - less than 50% American plan – typically a mini resort where you rent a cabin and package plans are available. Activities, meals, etc. maybe included.
365	Group Home as defined in Claus 240(1) of the <i>Municipal Act, 2001</i> – a residence licensed or funded under a federal or provincial statute for the accommodation of three to ten persons, exclusive of staff, living under supervision in a single housekeeping unit and who, by reason of their emotional, mental, social or physical condition or legal status, require a group living arrangement for their well being.
366	Student housing (off campus) – residential property licensed for rental by students.
369	Vacant land condominium (residential - improved) – condo plan registered against the land.
370	Residential Condominium Unit
371	Life Lease - No Redemption. Property where occupants have either no or limited redemption amounts. Typically Zero Balance or Declining Balance Life Lease Types.
372	Life Lease - Return on Invest. Property where occupants can receive either a guaranteed return or a market value based return on the investment. Typically, represented by Fixed Value, Indexed-Based, or Market Value Life Lease Types.
373	Cooperative housing – equity – Equity Co-op corporations are owned by shareholders. The owners of shares do not receive title to a unit in the building, but acquire the exclusive use



	of a unit and are able to participate in the building's management.
374	Cooperative housing - non-equity – Non-equity Co-op corporations are <u>not</u> owned by individual shareholders, the shares are often owned by groups such as unions or non-profit organizations which provide housing to the people they serve. The members who occupy the co-operative building do not hold equity in the corporation. Members are charged housing costs as a result of occupying a unit.
375	Co-ownership – percentage interest/share in the co-operative housing.
376	Condominium locker unit – separately deeded.
377	Condominium parking space/unit – separately deeded.
378	Residential Leasehold Condominium Corporation – single ownership of the development where the units are leased.
379	Residential phased condominium corporation – condominium project is registered in phases.
381	Mobile home – one or more mobile home on a parcel of land, which is <u>not</u> a mobile home park operation.
382	Mobile home park – more than one mobile home on a parcel of land, which is a mobile park operation.
383	Bed and breakfast establishment
400	Small Office building (generally single tenant or owner occupied under 7,500 s.f.)
401	Large office building (generally multi - tenanted, over 7,500 s.f.)
402	Small Medical/dental building (generally single tenant or owner occupied under 7,500 s.f.)
403	Large medical/dental building (generally multi - tenanted over 7,500 s.f.)
405	Office use converted from house
411	Restaurant - conventional
412	Restaurant - fast food
413	Restaurant - conventional, national chain
444	Full service hotel
445	Limited service hotel
446	Apartment hotel
447	Condominium Hotel Unit
450	Motel
451	Seasonal motel
460	Resort hotel
461	Resort lodge
462	Country inns & small inns
591	Sewage treatment/waste pumping/waste disposal
592	Dump/transfer station/incineration plant/landfill
623	Continuum of care seniors facility
624	Retirement/nursing home (combined)
625	Nursing home
626	Old age/retirement home
627	Other health care facility
700	Place of worship - with a clergy residence
701	Place of Worship - without a clergy residence
710	Recreational sport club - non commercial (excludes golf clubs and ski resorts)
734	Banquet hall



Conflicting land use property codes were selected by Margaret Walton, an agricultural expert and partner with the planning firm, Planscape, and confirmed by the study team. These uses were considered to potentially interfere from an agricultural perspective and encompassed residential, commercial, infrastructure and recreational land uses. Conflicting land uses were those seen to place increased pressure on land and water resources and increase traffic flow. In Halton Region, the most frequent conflicting land use code was single family detached residential (MPAC code 301) at a count of 5, 046. Counts of all conflicting land uses are illustrated in Table 5.2c.

Table 5.2c – Count of all Conflicting Land Uses in Halton Region

301	Single family detached (not on water)	5046
302	More than one structure used for residential purposes with at least one of the structures occupied permanently	55
303	Residence with a commercial unit	47
304	Residence with a commercial/ industrial use building	18
305	Link home – are homes linked together at the footing or foundation by a wall above or below grade.	11
309	Freehold Townhouse/Row house – more than two units in a row with separate ownership	6
311	Semi-detached residential – two residential homes sharing a common center wall with separate ownership.	6
322	Semi-detached residence with both units under one ownership – two residential homes sharing a common center wall.	2
332	Typically a Duplex – residential structure with two self-contained units.	13
333	Residential property with three self-contained units	3
334	Residential property with four self-contained units	5
365	Group Home as defined in Claus 240(1) of the <i>Municipal Act, 2001</i> – a residence licensed or funded under a federal or provincial statute for the accommodation of three to ten persons, exclusive of staff, living under supervision in a single housekeeping unit and who, by reason of their emotional, mental, social or physical condition or legal status, require a group living arrangement for their well being.	6
370	Residential Condominium Unit	14
383	Bed and breakfast establishment	2
400	Small Office building (generally single tenant or owner occupied under 7,500 s.f.)	5
402	Small Medical/dental building (generally single tenant or owner occupied under 7,500 s.f.)	3
405	Office use converted from house	2
411	Restaurant - conventional	1
450	Motel	2
625	Nursing home	1
627	Other health care facility	1
700	Place of worship - with a clergy residence	3

701	Place of Worship - without a clergy residence	22
710	Recreational sport club - non commercial (excludes golf clubs and ski resorts)	11

As defined in the Region of Halton Official Plan (2006), the Urban System consists of the designations of Urban Areas, Nodes, Corridors and Parkway Belt Areas including Burlington, Oakville, Milton, Georgetown, Acton, Halton Hills and the 401 Corridor. The Official Plan defines Hamlets as compact rural communities designed to accommodate the majority of future residential growth in the Rural Area and small scale industrial, commercial and institutional uses serving the farming and rural communities.

In the Halton LEAR study, the Urban System and Hamlets were taken out of the conflicting land use calculation. Their removal was justified as these areas have a significant influence on conflicting land use scores for adjacent agricultural land. The Urban System and Hamlets reduce scores dramatically for nearby agricultural land and create a pronounced “doughnut” effect surrounding each settlement. As a result, all Urban Systems and Hamlets were taken out of the calculation and these boundaries were treated as a “wall”.

Conflicting land uses external to the Halton boundary were also excluded from the conflicting land use calculation. Acquisition of MPAC data for The City of Hamilton, Wellington County and Peel Region proved to be too difficult for the scope of the Halton study. As a result, the boundary of Halton Region acts as a “wall” in the conflicting land use calculation.

5.3 Land Evaluation Procedure

The Soil Resource Group employed the methodology proposed by OMAFRA, 2002 to determine LE values for each unit of evaluation (lot and concession). Outlined below are the steps required to complete the Land Evaluation for Halton.

- a) Review available materials (Greenbelt LEAR, soils report and CLI classifications) for the study area;



- b) From the Halton soils map, determine each soil series that is located within the boundary of the evaluation unit;
- c) Determine the CLI rating for common field crops for each soil map unit in each evaluation unit;
- d) Calculate the proportion of the total area of the EU occupied by each soil series, and hence each CLI rating for the series;
- e) Determine the proportion of land in the EU in each of the 7 CLI classes by summing the area within each class;
- f) Assign a point value to each CLI class (Points assigned to CLI class 1,2,3,4,5,6,7 were 1, 0.8, 0.65, 0.55, 0.50, 0.40, 0 respectively, OMAFRA, 2002);
- g) Multiply the point value by the proportion of EU occupied for each CLI class for LE (LE scores will range from 0 to 100);
- h) Conduct on-site validation of the soil capability class mapping and associated computed LE values by roadside observation with the assistance of aerial photography;

Note: Field observations were conducted in January and February when the ground was snow covered. Therefore it was not possible to evaluate soil materials. Field observations were restricted to features such as slope, drainage and excessive stoniness that could be observed from the roadside.

- i) Determine if soil and CLI classifications, as identified on existing soil and land capability maps, were accurate; and,
- j) Identify any potentially limiting or enhancing soil capability factors not indicated on existing maps or in databases as being present within the parcels and update or modify the database as required.

5.4 Area Review Procedure

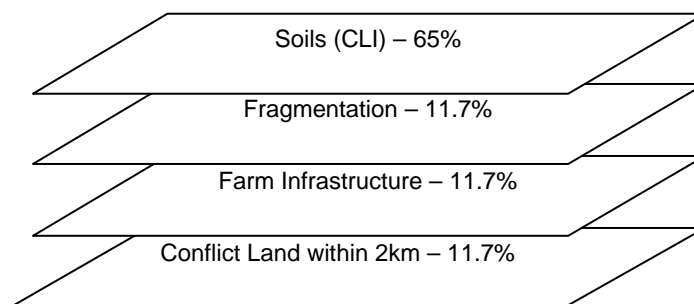
Planscape completed the Area Review for the Halton LEAR using a methodology based on previous LEAR studies, advice from OMAFRA, and input from the HAAC Committee. The steps taken by Planscape are outlined below.



- a) Review all applicable research including previous LEAR studies;
- b) Select appropriate Area Review factors for Halton Region that are attainable from a data acquisition perspective;
- c) Acquire spatial data for the Area Review including: lot/concession polygons to be used as evaluation units and MPAC parcel polygons for fragmentation, farm infrastructure, and conflicting land use calculations;
- d) Fragmentation - Perform count of ownership parcels for each Evaluation Unit using GIS operations;
- e) Farm Infrastructure - Query farm property codes to find parcels with farm outbuildings, secondary structures, or commercial/industrial operations. Create new layer showing Evaluation Units with and without farm infrastructure;
- f) Conflicting Land Use – Perform count of conflicting land uses within 2km of each Evaluation Unit using GIS operations. For the conflicting land use calculation all settlements and areas outside of Halton are not included in the calculation; and,
- g) Assign scores for each AR factor (scoring illustrated in Figure 5.1).

5.5 LE and AR Integration and Mapping

All derived layers of the LEAR were integrated together by Planscape in a GIS environment. The LE (soils) component weight of 65% was determined by the study team, as previously discussed in this report. Each AR criteria was weighted equally at 11.7% percent for a combined AR weighting of 35%. The output from the weighted overlay operation resulted in a final layer showing LEAR scores on a scale of zero to ten.



In addition to the final LEAR map, Planscape provided Halton Region with maps for each AR result, a combined AR result, and the LE result. Each map is presented using a scale of zero to ten.

In mapping the final LEAR scores, it was necessary to identify a clear threshold score, which if exceeded, classifies the evaluation unit as prime agricultural land. In the Halton LEAR, a single value threshold score of 6.0 was used to define prime agricultural land that may warrant long-term protection. This threshold score was determined to be appropriate for Halton as it includes approximately half of the Region's Evaluation Units, includes all units that show some form of agricultural potential, and corresponds closely with other LEAR studies. The threshold value of 6.0 was approved by all members of the study team, including OMAFRA, MMAH, Halton Region and Planscape.

A typical Evaluation Unit containing class 3 soils (LE score of 6.5), without farm infrastructure (AR1 score of 6.0), with 75 conflicting land uses within 2km (AR2 score of 8.0 score), and fragmented into 18 parcels (AR3 score of 4.0) would receive a final LEAR score of 6.3 and would be included in the final selected set of prime agricultural land in Halton Region. The following equation illustrates the calculation: $6.3 = [(0.65 \times 6.5) + (0.35 \times 6.0)]$.

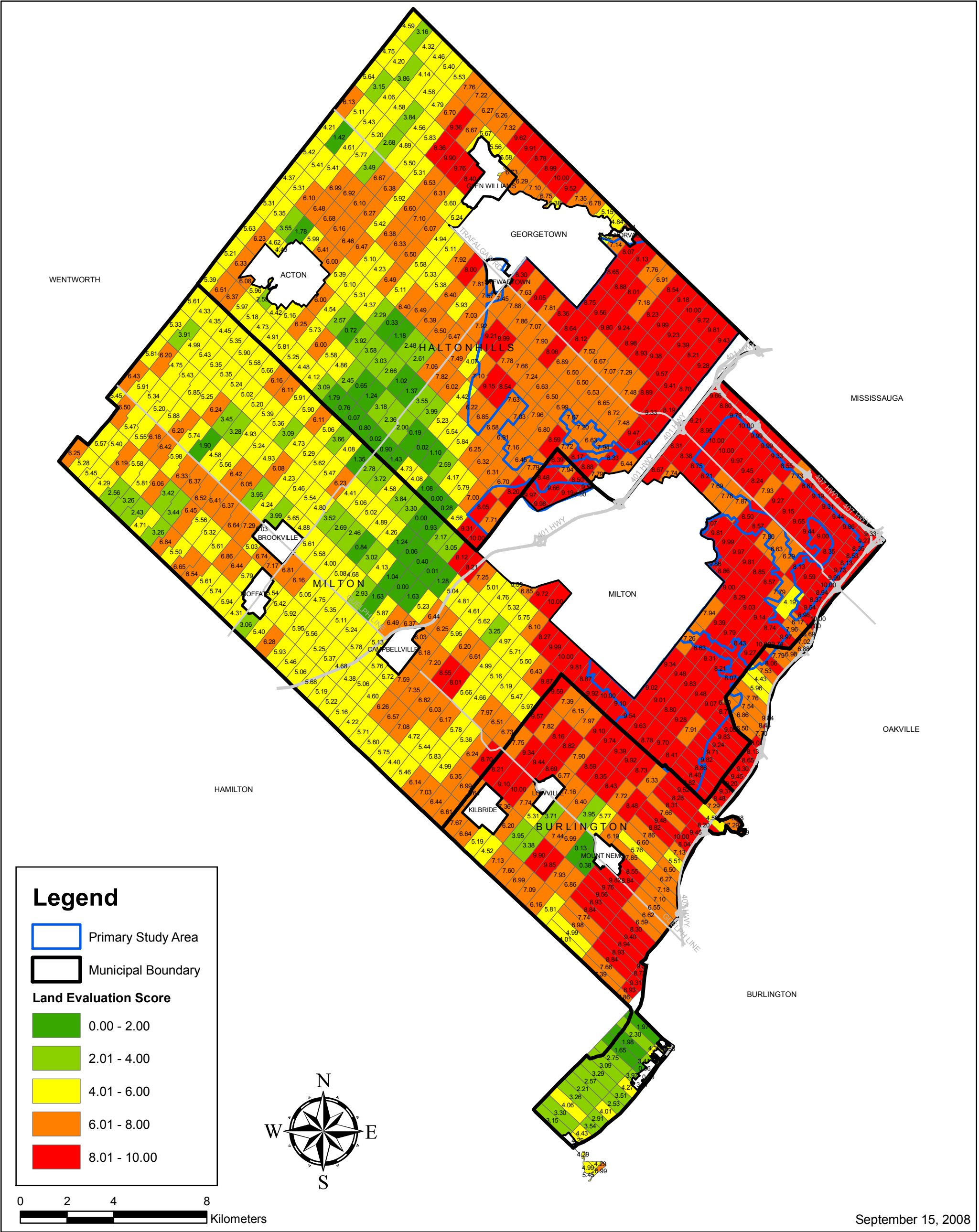
6 LEAR RESULTS

This section illustrates and describes the resulting maps from the Halton Region LEAR study, including the final Land Evaluation, Area Review, Fragmentation, Infrastructure, Conflicting Land Use and LEAR maps.



6.1 Land Evaluation Results

Map 1 illustrates the Halton Region Land Evaluation map. It displays soil suitability for agriculture based on the Canada Land Inventory Soil Capability Classification for Agriculture. Map 1 clearly shows that highly favorable soil conditions exist for agriculture in the eastern half of Halton Region, including the lands to the south and southeast of Georgetown and areas to the north, east and south of Milton. In addition, pockets of





MAP 1
HALTON LAND EVALUATION SCORES
SUSTAINABLE HALTON PHASE 2
AN AGRICULTURAL COUNTRYSIDE VISION

excellent soil conditions also exist within the northern (rural) portion of The City of Burlington. In the western portion of Halton Region numerous areas of moderate soil conditions exist with scores ranging from approximately 6 to 7. Also of interest is a prominent area of low soil scores in central Halton Region with scores ranging from approximately 0 to 3. It should be noted that the assessment assumed lands were, or could be, tile drained. The HAAC expressed concern that the heavier clay soils south of Milton are not drained and therefore, are impacted by drainage issues.

6.2 Area Review Results

Map 2 shows the Halton Region Area Review map, which incorporates important non-soil factors that may enhance or impede agricultural activities. The Area Review map integrates three separate map layers including fragmentation, infrastructure, and proximity to conflicting land uses to give a non-soil perspective on the favourability of agricultural lands in Halton Region.

Map 2 shows three pockets of favorable agricultural areas from a non-soil perspective. The first area exists in the northwest corner of Halton Region, north of No. 15 Sideroad and west of Guelph Line. The second area exists south and southwest of Georgetown in central Halton. A third distinguishable area exists to the east and south of Milton, in the southeast portion of Halton. These three areas have similar conditions in that there are generally lower levels of fragmentation, lower levels of conflicting land use within 2 kilometres, and higher levels of installed agriculturally-related infrastructure.

Map 2A displays the Halton Region Fragmentation map. Although the map indicates that fragmentation occurs throughout Halton at varying levels, there does appear to be a notable pocket of un-fragmented land directly to the northwest of Milton. Evaluation unit labels for this pocket show values, ranging from 1 to 4 which indicates that little to no fragmentation has occurred in this area, making it a much more favourable place to support and maintain agriculture.

Map 2B displays the Halton Region Infrastructure map. Prominent areas of infrastructure seem to be located in areas to the south and southeast of Georgetown and south and southeast of Milton. Interestingly, there also appears to be a level of correlation between Map 1, the Land Evaluation map, and Map 2B, the Infrastructure map. Historically, this



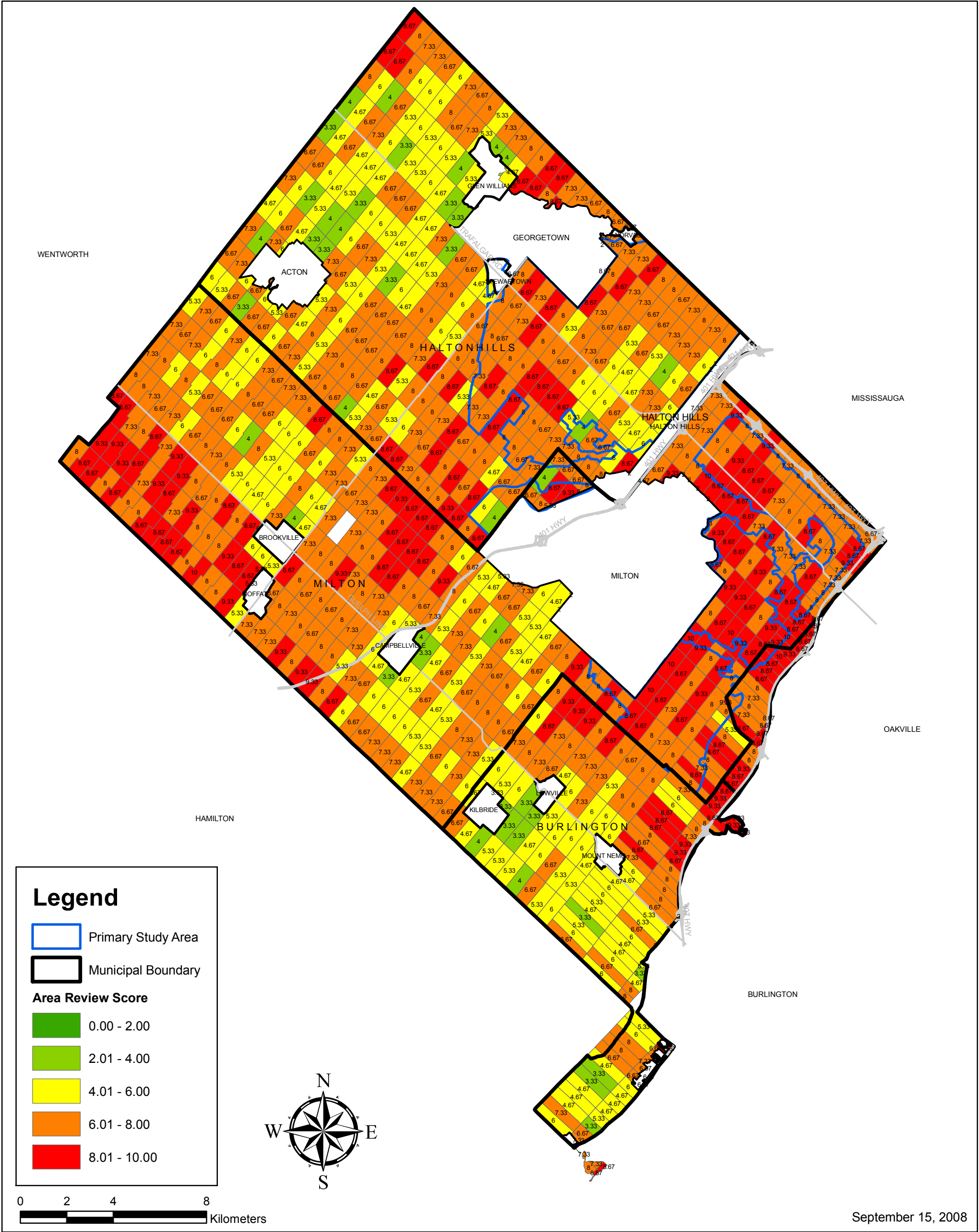
correlation does make sense because areas with favorable soil conditions and perhaps higher crop success were those that received investments such as additional built structures.

Map 2C illustrates scores for Conflicting Land Use in Halton Region. Clear patterns exist in this map and four favorable areas can be delineated. The largest area showing high scores and thus lower levels of conflicting land uses within 2 km, is located to the east, southeast and south of Milton. The second area is to the north and south of Georgetown. The third area is a distinctive pocket in central Halton. A fourth area is located in the most easterly corner of Halton Region. These four regions have similar conditions in that they have considerably fewer conflicting land uses, in particular a lower level of residential land use within 2km.



6.3 LEAR Results

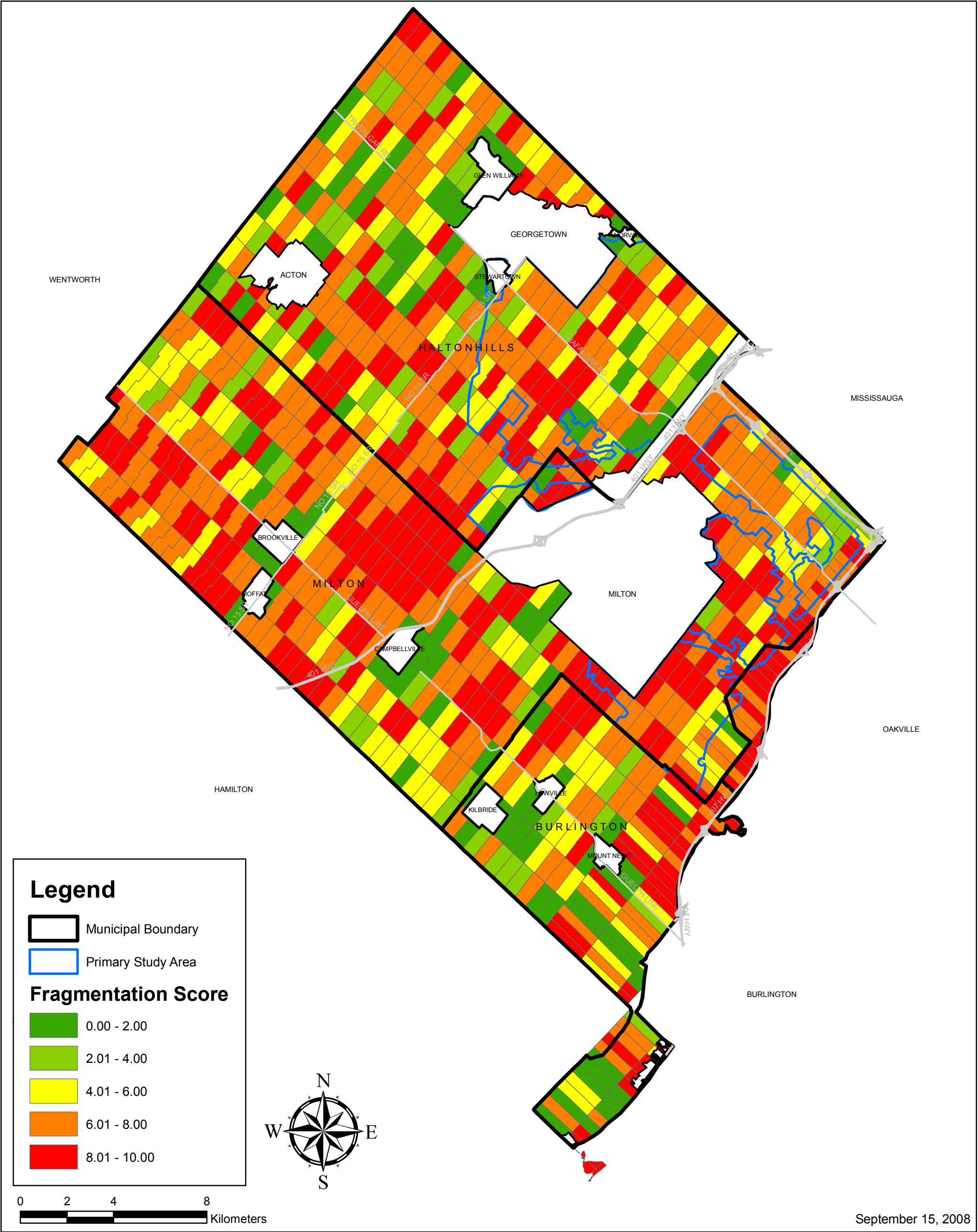
Map 3 illustrates the Halton Region LEAR map. This map integrates the Land Evaluation and Area Review into one map showing an overall score for each Evaluation Unit in the study area. The LEAR score provides an evaluation of land for the purposes of agriculture in Halton, using both soil and non-soil factors. Identifiable on Map 3 are two zones which show highly favorable LEAR scores. The first area surrounds Milton, in particular to the east, southeast, and south. This area exhibits extremely high scores and covers a large geographic area. The second area which is also identifiable on Map 3 is the area surrounding Georgetown, particularly to the north, southwest and south of Georgetown.

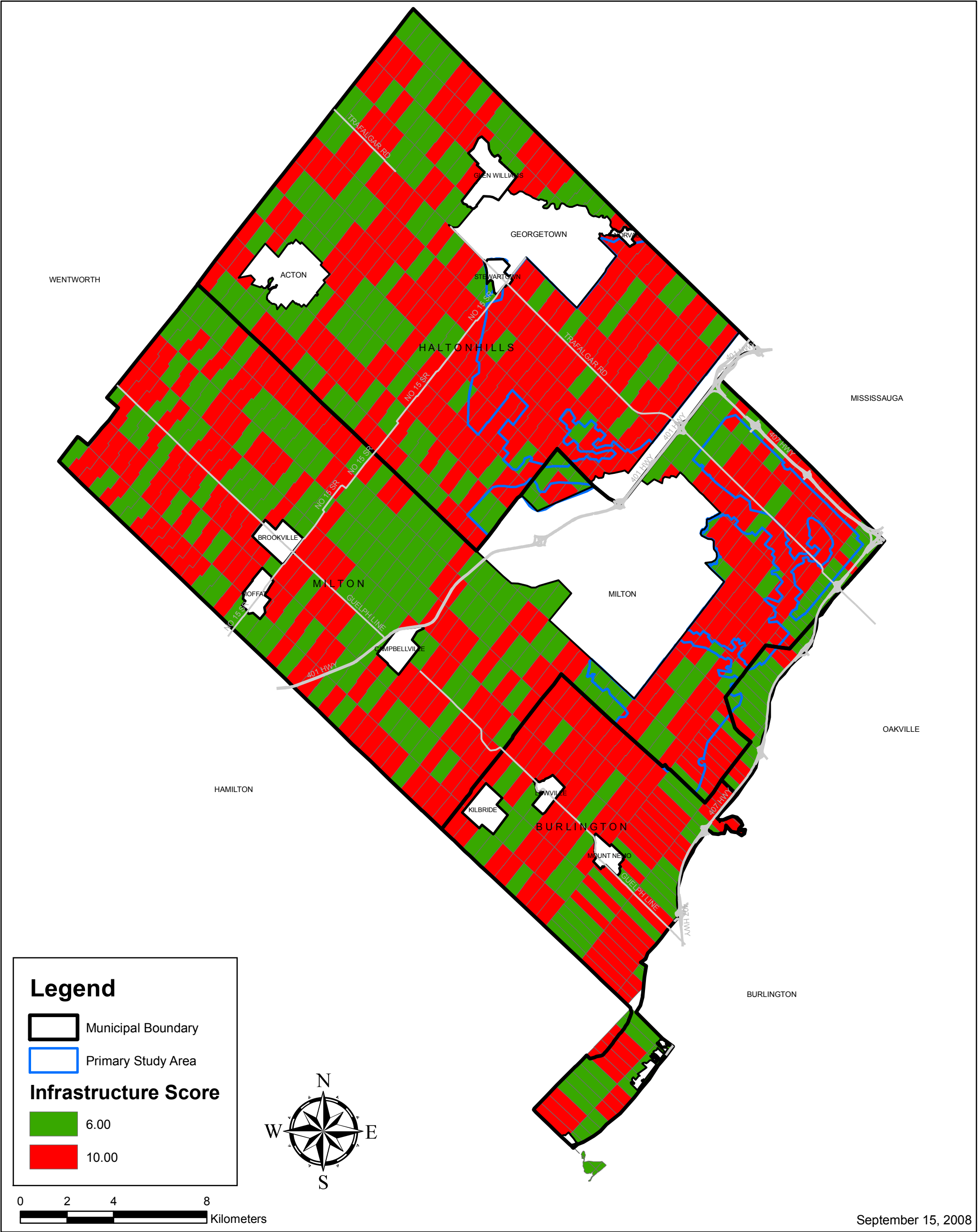






MAP 2
HALTON AREA REVIEW SCORES
SUSTAINABLE HALTON PHASE 2
AN AGRICULTURAL COUNTRYSIDE VISION

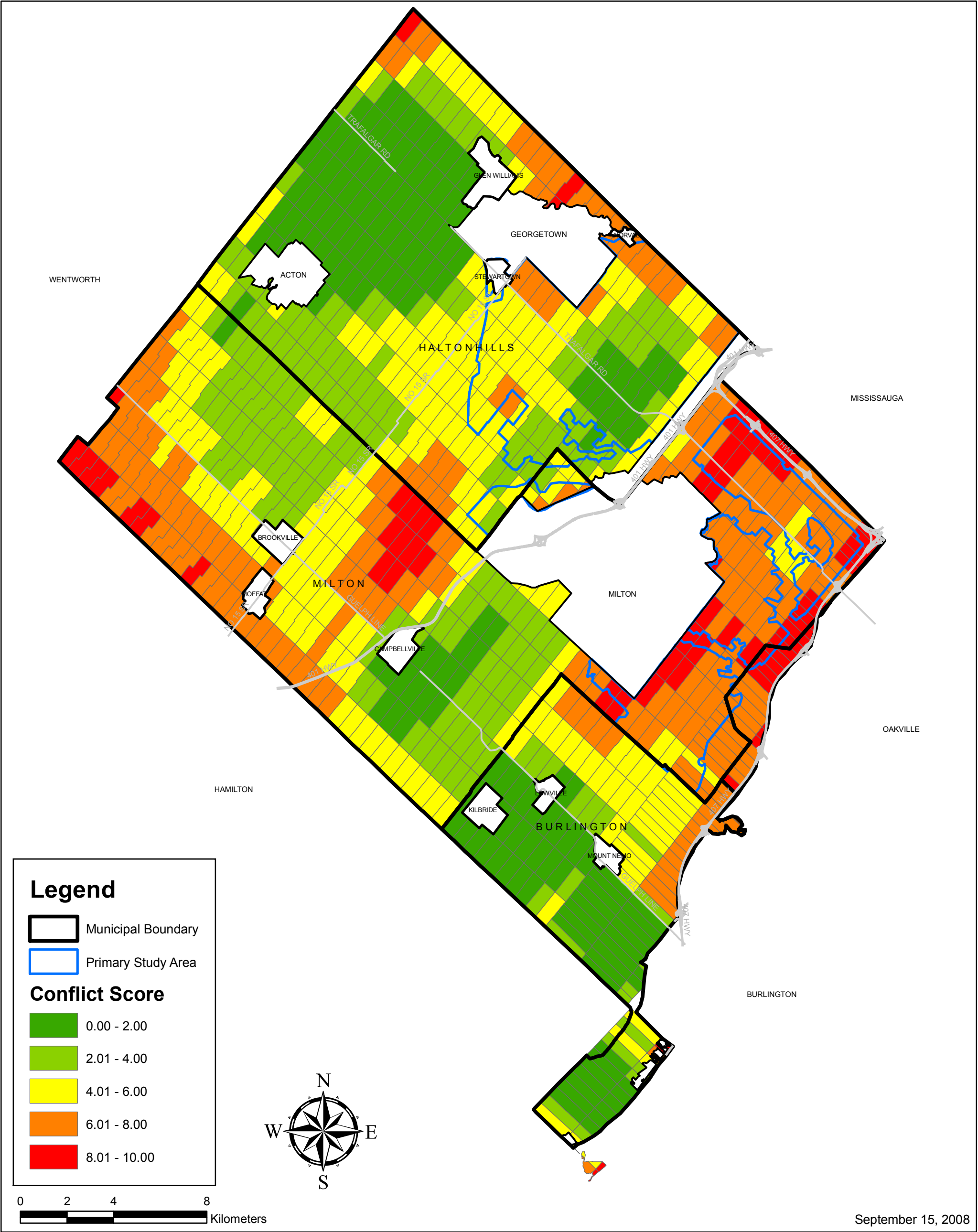



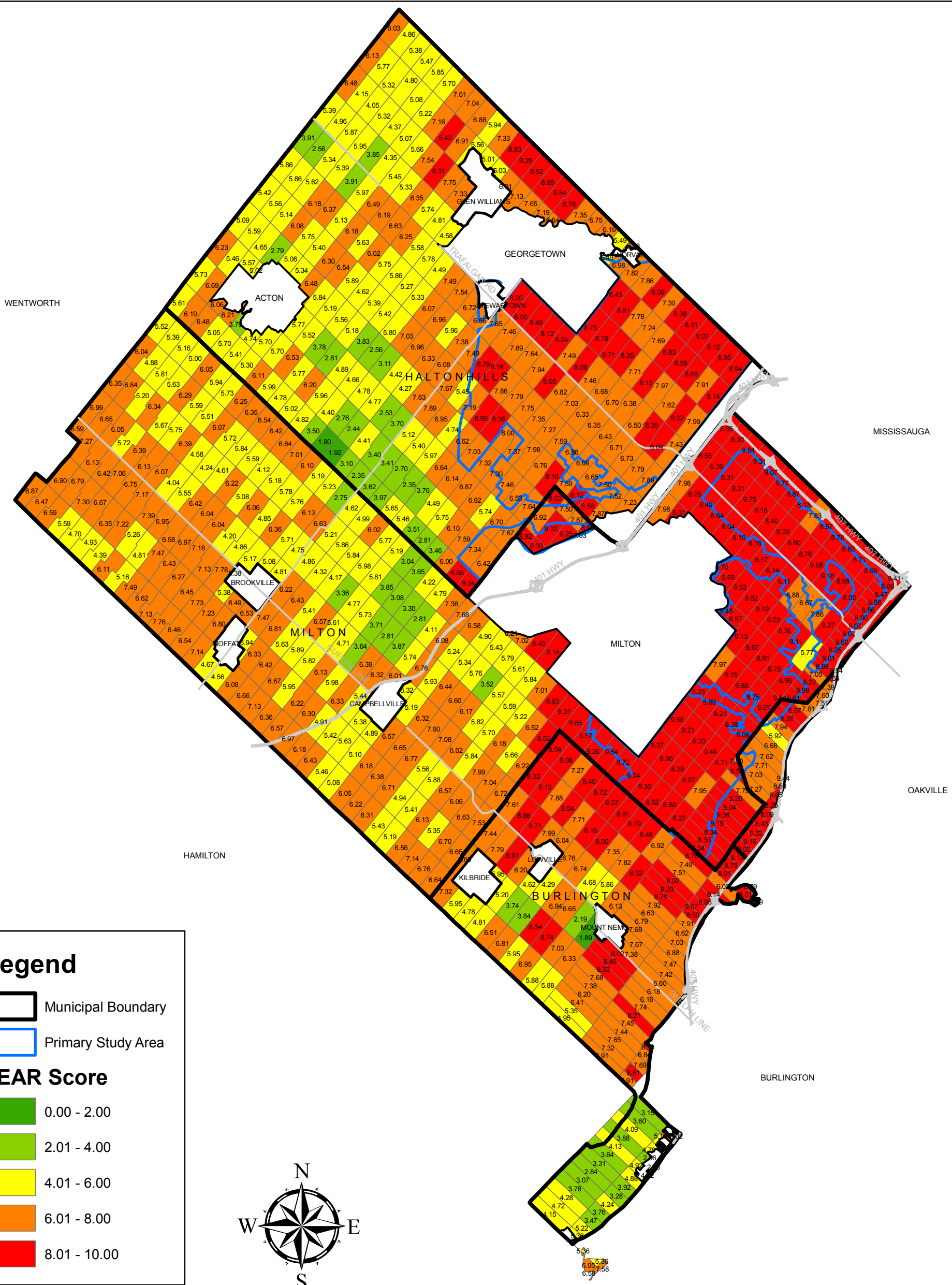




MAP 2B
HALTON INFRASTRUCTURE SCORES
SUSTAINABLE HALTON PHASE 2
AN AGRICULTURAL COUNTRYSIDE VISION



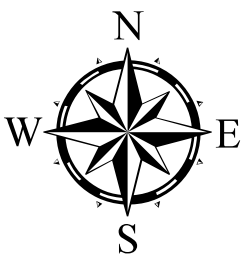


Legend

- Municipal Boundary
- Primary Study Area



LEAR Score

- 0.00 - 2.00
- 2.01 - 4.00
- 4.01 - 6.00
- 6.01 - 8.00
- 8.01 - 10.00



September 15, 2008

**MAP 3
HALTON LEAR SCORES
SUSTAINABLE HALTON PHASE 2
AN AGRICULTURAL COUNTRYSIDE VISION**

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APPENDIX B

**THE REGIONAL MUNICIPALITY
OF HALTON**

LAND EVALUATION FOR SUSTAINABLE HALTON

September 15, 2008



Soil Resource Group

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THE REGIONAL MUNICIPALITY OF HALTON

LAND EVALUATION for Sustainable Halton

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THE REGIONAL MUNICIPALITY OF HALTON

LAND EVALUATION for Sustainable Halton

1. Background and Objective

Halton Region is developing a plan (Sustainable Halton) for building sustainable and healthy communities for generations to come. Currently, the Region is home to an active farming industry that includes a wide range of farm types such as livestock operations, cash crops, fruit and vegetable growers, horse farms and nurseries. The recent creation of the Greenbelt by the Provincial government will preserve a significant part of the Region as Protected Countryside. In moving forward, the future role of agriculture in areas outside the Greenbelt designation is being addressed.

To assist municipalities with the approaches for identifying significant agricultural land, the Province has developed the Land Evaluation and Area Review (LEAR) system for agriculture. The goal of the system is to identify prime agricultural areas for purposes of establishing an agricultural designation in a municipal official plan. A LEAR study consists of two parts: land evaluation (LE) and area review (AR). The LE rates soils on the basis of the agricultural soil capability classification for agriculture. The AR factor rates non-soil factors that reflect local, social, economic and environmental elements of land use.

The Soil Resource Group was retained by Halton Region to provide expertise on issues related to agricultural soil capability classification and land evaluation. The study deliverables included the development of LE values for Sustainable Halton for use in conducting the broader LEAR analysis.

2. Approach

The Soil Resource Group proposed to use a team of senior soil and agronomy specialists to provide the required pedology services for Sustainable Halton. The study team included: Gregory J. Wall (Ph.D.), Donald J. King (CCA) and David Hodgson (B.Sc). Dr Wall provided project management services including client liaison, soil science technical input and field validation of the data. Don King provided agronomic services related to field crop soil capability ratings while Dave Hodgson provided GIS services.

Prior to moving to the private sector, each of the study team members has worked in the public sector as part of the Ontario Soil Survey program. As a result the study team brings a long history of soil mapping, classifying and interpreting agricultural landscapes of Ontario. The study team has worked successfully together in the private sector on related soil and land use investigations including conducting a land evaluation and area review (LEAR) study for the City of Hamilton.

As part of the Halton Region LEAR Study, the study team proposed to compute land evaluation scores (LE values) for each evaluation unit from published Provincial digital soil map data and associated soil capability for agriculture classification (CLI). The computed LE scores were field verified before final release.

3. Methods

Study Area

The proposed study area included both the Greenbelt designated areas and the Primary Study Area of Halton Region. The Primary Study Area of the Sustainable Halton planning process is mostly made up of prime agricultural land designated as Agricultural Rural in Halton's Official Plan.

Evaluation Unit (EU)

The survey lot and concession fabric of Halton Region was selected by the study team as the basic unit of evaluation for the study.

Data Bases

Basic information about the soils of Ontario is made more useful by providing an interpretation of the agricultural capability of the soil for various crops. The Canada Land Inventory (CLI) system combines attributes of the soil to place the soils into a seven-class system of land use capabilities. The soil capability classification system (CLI) groups mineral soils according to their potential and limitations for agricultural use. The first three classes are considered capable of sustained production of common field crops, the fourth is marginal for sustained agriculture, the fifth is capable for use of permanent pasture and hay, the sixth for wild pasture and the seventh class is for soils or landforms incapable for use for arable culture or permanent pasture. Organic or Muck soils are not classified under this system.

Recently updated agricultural soil capability classes (Canada Land Inventory (CLI)) of the map units for the Halton Region soil survey report were obtained in digital files from OMAFRA, Guelph.

Soil map data (shape and component files) for Halton Region were also obtained from OMAFRA, Guelph in digital format.

A digital-shape file of the evaluation unit boundaries (lot and concession fabric) was provided by Halton Region.

Calculation of LE Score

An LE score was calculated for each EU in the study area using the method described by OMAFRA (OMAFRA, 2002). The following steps summarize the procedure:

1. From the Halton soils map, determine each different soil series that is located within the boundary of the EU.

2. Determine the CLI rating for common field crops for each soil map unit in each EU.
3. Calculate the proportion of the total area of the EU occupied by each soil series, and hence each CLI rating for the series.
4. Determine the proportion of land in the EU in each of the 7 CLI classes by summing the area within each class.
5. Assign a point value to each CLI class (Points assigned to CLI class 1,2,3,4,5,6,7 were 1, 0.8, 0.65, 0.55, 0.50, 0.40, 0 respectively, OMAFRA, 2002).
6. Multiply the point value by the proportion of EU occupied for each CLI class for LE. LE scores will range from 0 to 100.

Field Verification of LE Value

The SRG conducted on-site validation of the soil capability class mapping and associated computed LE values by roadside observation with the assistance of aerial photography. Predicted LE ratings were modified to reflect on-site observations. Since the field observations were conducted in January and February when the ground was snow covered, it was not possible to evaluate soil materials. Field observations were restricted to features such as slope, drainage and excessive stoniness that could be observed from the roadside.

The purpose of field checks was to verify LE predicted values by:

- Determining if soil and CLI classifications, as identified on existing soil and land capability maps, were accurate;
- Identify any additional potentially limiting soil capability factors not indicated on existing maps or in databases as being present within the parcels (e.g. steep topography, bedrock outcrops, wetlands); and,
- Identify parcels that may not be as limited for agriculture production as might be indicated on the existing maps and update or modify the database as required.

4. Results

Study Area

The LE study area that includes the Primary Study Area of Halton Region and the Greenbelt designated areas are illustrated in Figure 1. The lot and concession fabric that was selected as the evaluation unit in the study area produced 1210 units for study.

CLI Soil Capability Classification

Agricultural soil capability ratings for the soils in Halton Region are shown in the Appendix (Table 1).

The distribution of soil capability classes for the study area is illustrated in Figure 2 where class 1-3 land is grouped into a single class. The map shows the significant distribution of prime agricultural land below the escarpment area. The areas of Halton Hills and Milton are reported to have about 100,000 acres of class 1-3 land (Hoffman and Noble, 1975). This represents about 67% of the available agricultural land. The main limitations to agricultural productivity include slope (T), bedrock (R), and adverse soil characteristics (S).

LE Scores for the Study Area

The LE scores for each unit of evaluation are shown in the Appendix (Table 2). The distribution of LE class scores for the EUs in the study area are illustrated in Figure 3.

In the Greenbelt LEAR Study 2006, OMAFRA used a soil capability rating system that differed from the published methodology (OMAFRA, 2002). The Greenbelt study weighted both class 1 and 2 soils with a 1 rating whereas the OMAFRA, 2002 LEAR methodology employed a 0.8 rating for class 2 soils. While this change would be significant related to class 1 and 2 soils, it should not affect the determination of prime agricultural land designation which includes soil capability classes 1 to 3.

The distribution of the preliminary LE class scores in the study area is shown in the Appendix (Figure 4). Comparison of the two maps (Figures 3 and 4) indicates that the maps are not significantly different. This would indicate the changes made to LE values by the field inspection process did not significantly affect the overall distribution of LE scores for the EUs.

Field Observations

The soils of the study area are dominated by soil materials developed on glacial till materials (Gillespie et al., 1971). The dominant landscape feature, represented by the Niagara Escarpment marks the divide between the fine textured clay loam and silty-clay loam tills located below the escarpment and the medium textured loam and sandy loam tills located above the escarpment.

The fine textured till material located below the escarpment is represented by the Oneida catena. The well-imperfectly and poorly drained soils of this catena are the Oneida, Chinguacousy and Jeddo soils respectively. The Chinguacousy soils are most commonly (48%) found followed by the Oneida soils (39%). The poorly drained Jeddo soils represent about 13% of the catena.

The Chinguacousy soils are located on level to gently sloping landscapes and have a soil capability rating of 1. The Oneida soils located on level to gently sloping landscapes also have a soil capability rating of 1. However, when the Oneida soils are located on sloping landscapes, such as those found near the escarpment, the soil capability class is reduced to 3, 4, 5, and 6 depending on the degree of slope limitation. The Jeddo soils are class 3 soil capability resulting from excess water (W) and structure/permeability (D) limitations.

Field observations revealed that the mapping of soils in the Oneida catena was generally accurate. However, in steeply sloping landscapes near the Niagara Escarpment, the

slopes assigned to the Oneida soils were sometimes higher or lower than supported by field observations. Since these Oneida landscapes were already rated as class 4 to 6 capabilities, changing the mapped slope class only changed the capability within the non-prime agricultural capability classes. Resulting changes in LE values would have little impact in delineating prime agricultural land.

The Chinguacousy soil was observed to be both accurately mapped and classified during field inspection.

The Jeddo soils are located in depressional areas and provide drainage outlets for the Oneida and Chinguacousy soils. The Jeddo soils are rated as class 3 resulting from excess moisture (W) and permeability limitations (D). While the Jeddo soils were generally mapped accurately, field observations indicated that some of the Jeddo soils have significant slope limitations that were not reflected on the soil map. The slope limitations resulted when the drainage pathways began to erode into the adjacent side slopes creating a landscape with slope limitations for agricultural production. In some cases, the resulting dissection of the landscape is such that crossing over the area with conventional agricultural equipment would be impossible. These slope limited Jeddo landscapes were documented by roadside observation and the soil capability of affected evaluation units were reduced to non-prime agricultural capability classes (4 to 6) depending on the degree of slope limitation. Since the Jeddo soils represent such a small part of the landscapes, the overall effect on the evaluation unit LE value is relatively small.

The predominant loam and sandy loam textured till materials located above the Niagara Escarpment are represented by the Dumfries (21,850 ac) and Guelph (15,000 ac) soil catenas. While imperfectly and poorly drained members of the catenas are mapped, the well drained Dumfries and Guelph soil series are predominant. The Dumfries soils are stoney, loam to sandy loam textured tills. This soil material is characteristic of till deposited in glacial end moraines. As a result, the material is often very stoney and the slopes are complex and steeply sloping. The soil capability of the Dumfries soil varies from 3 to 6 depending on slope (T) and stoniness (P) limitations.

The highly variable slope and stoniness associated with the Dumfries soils makes it difficult to map accurately. Generally, the soil mapping was found to be accurate. However, during field checking, some moderately sloped Dumfries soils (class 3) at the lot and concession level could be separated from steeply sloping map units that had soil capability rates of 4 to 6. In these cases, the evaluation unit value was changed to reflect the higher LE value.

The Guelph soil series is the second loam to sandy loam textured till located above the Escarpment. The Guelph soils differ from the Dumfries soils in both slope and stoniness.

Whereas the Dumfries soils are highly stoney and located on complex topographies, the Guelph soils are less stoney and located on simple topography. On gently sloping topography, the Guelph soils are class 1 for agriculture. On more steeply sloping land, the soil capability of the Guelph soils range from 3 to 6 depending on the degree of slope limitation. Field observations indicated that the Guelph soils were generally accurately mapped.

While conducting the roadside survey, the occurrence of outwash sand and gravel deposits was confirmed. The Fox and Burford soil catenas associated with these deposits are located both above and below the escarpment. While not large in size, these soils support a varied horticultural industry ranging from apples to nursery crops. The soil map did reflect the occurrence of these soils but they were rated for the production of common field crops in this study rather than their existing horticultural use.

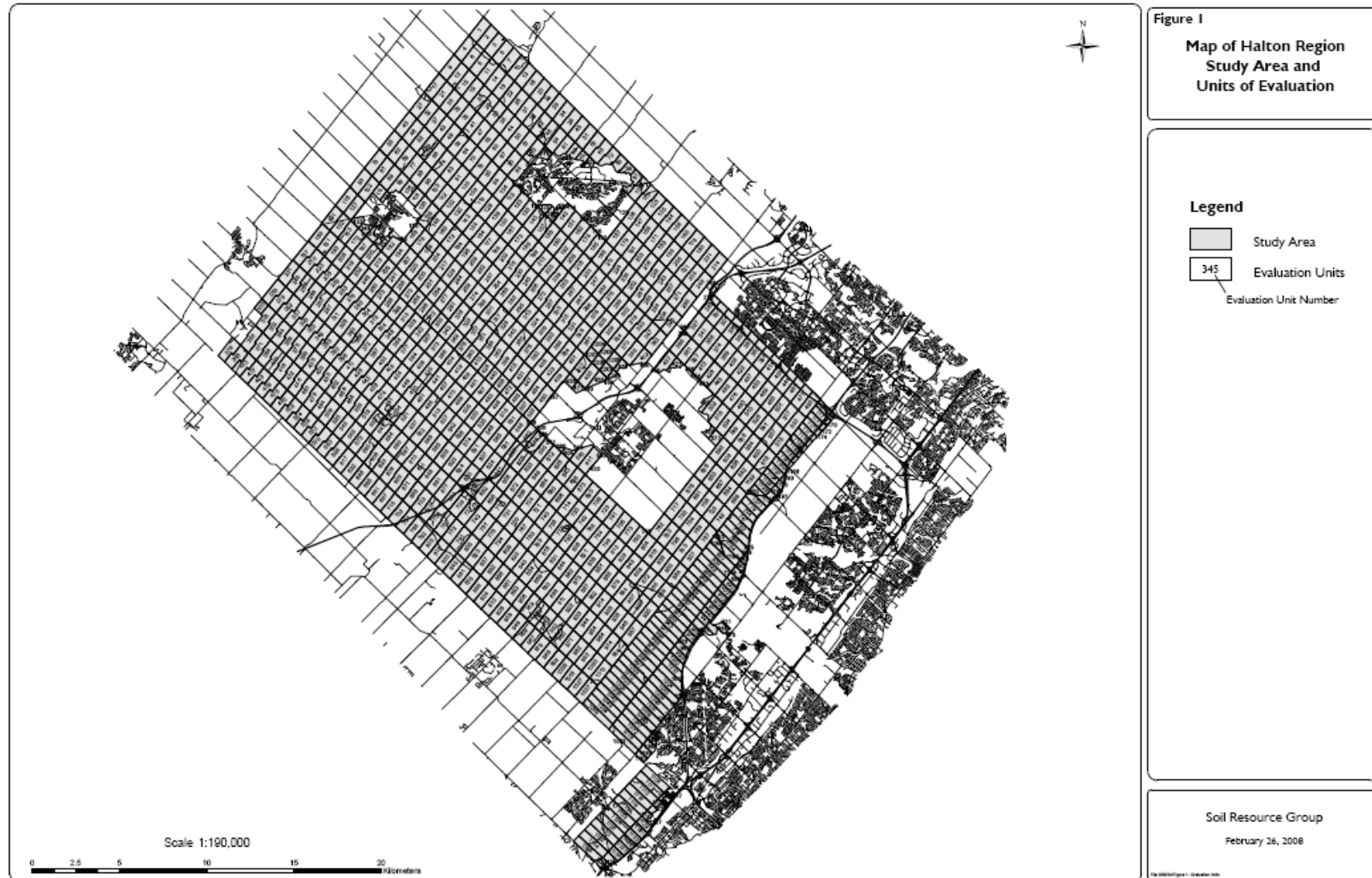
5. Summary and Conclusions

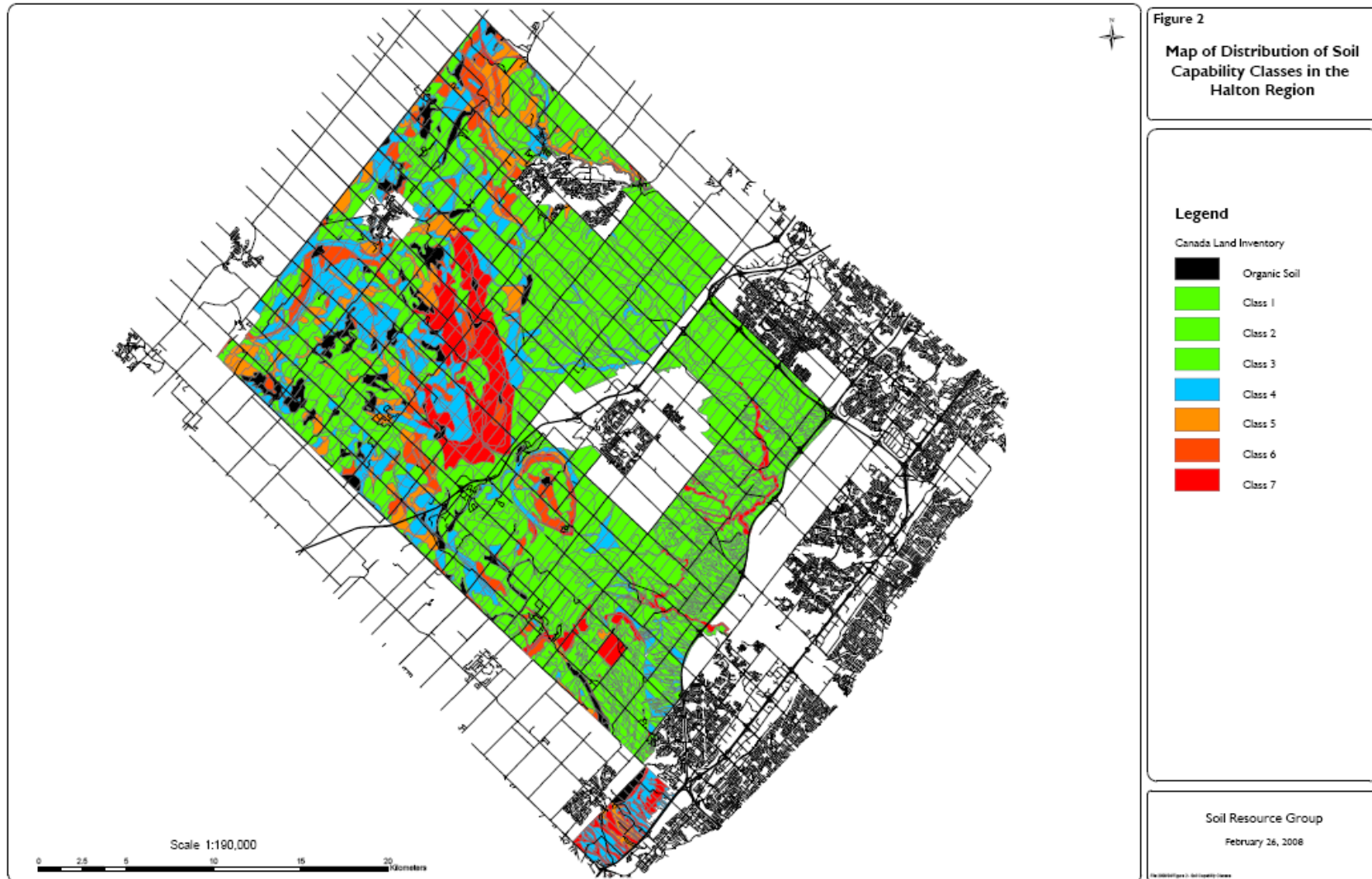
This study was conducted to determine land evaluation (LE) scores for soils landscapes significant to Halton Region. The evaluation unit selected by the study team was the lot and concession fabric that was also employed by OMAFRA in the recent Greenbelt LEAR Study.

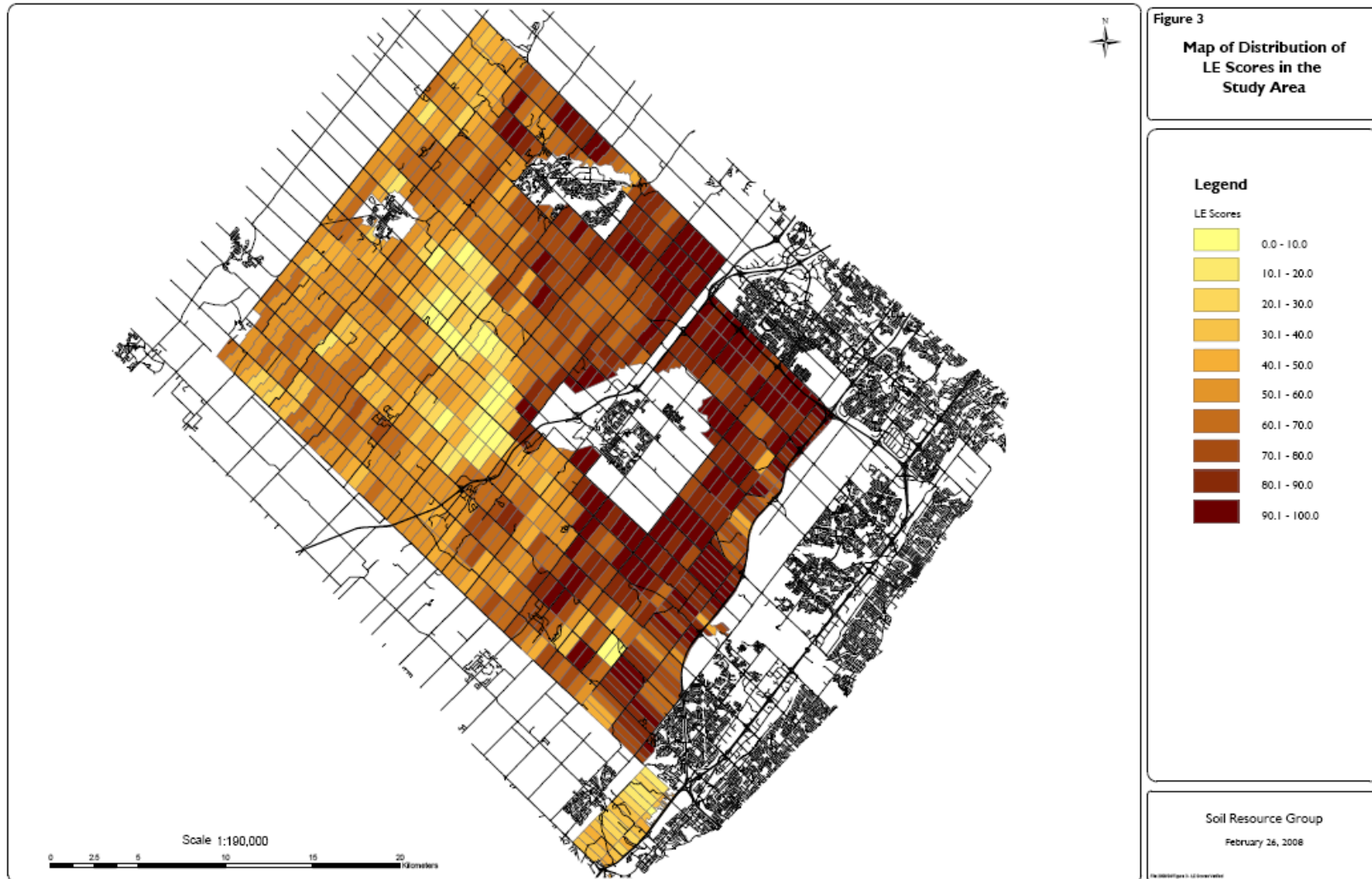
Soil map and revised soil capability classification data was obtained from OMAFRA in digital format. The EU boundaries were obtained in digital format from Halton Region. LE scores for each EU were determined after methods described by OMAFRA, 2002. The LE scores were evaluated by roadside observation and corrected when observed errors significantly affected the score of an EU.

Discrepancies observed during roadside observation were most commonly attributed to slope variances arising when the relatively small evaluation units (lot and concession fabric) were overlaid onto larger soil map units.

The LE score for each of the EUs (1210) has been reported in the text while the distribution of the LE scores has been illustrated in map form (Figure 3). The LE scores developed in this study would be appropriate for conducting a LEAR analysis using the lot and concession fabric as the evaluation unit.







Appendix

Table 1. Soil Capability Ratings for Halton Region Soil Map Units (OMAFRA Data 2007)

Soil Name	Soil Symbol	Percent Slope	CLI	CLI with Subclass
STREAM COARSE	10	-9.0		
RAVINE	11	-9.0	7	7T
ESCARPMENT	12	-9.0	7	7RT
ROCKLAND	13	-9.0	7	7R
BOTTOM LAND	B.L.	-9.0	7	7I
BRADY SANDY LOAM	Ba	0.2	2	2F
BRADY SANDY LOAM	Ba	1.2	2	2F
BRADY SANDY LOAM	Ba	3.5	2	2F
BERRIEN SANDY LOAM	Be	1.2	2	2F
BERRIEN SANDY LOAM	Be	3.5	2	2F
BRISBANE LOAM	Bl	1.2	2	2F
BRISBANE LOAM	Bl	3.5	2	2F
BURFORD LOAM - ROCKY PHASE	Br	7.0	5	5R
BRADY SANDY LOAM - SHALLOW PHASE	Bs	3.5	4	4FR
BURFORD LOAM	Bu	3.5	2	2FM
BURFORD LOAM	Bu	7.0	3	3T
BURFORD LOAM	Bu	12.0	4	4T
COLWOOD LOAM	Cd	0.2	2	2W
COLWOOD LOAM	Cd	1.2	2	2W
CHINGUACOUSY CLAY LOAM	Ch	0.2	1	1
CHINGUACOUSY CLAY LOAM	Ch	1.2	1	1
CHINGUACOUSY CLAY LOAM	Ch	3.5	1	1
CHINGUACOUSY CLAY LOAM	Ch	7.0	1	1
CHINGUACOUSY CLAY LOAM	Ch	22.5	1	1
CHINGUACOUSY SILT LOAM	Ci	0.2	1	1
CHINGUACOUSY SILT LOAM	Ci	1.2	1	1
CHINGUACOUSY SILT LOAM	Ci	3.5	1	1
COOKSVILLE CLAY	Ck	3.5	2	2F
CHINGUACOUSY LOAM	Cl	3.5	1	1
COLWOOD SILT LOAM	Co	0.2	2	2W
COLWOOD SILT LOAM	Co	1.2	2	2W
COLWOOD SILT LOAM	Co	3.5	2	2W
CHINGUACOUSY CLAY LOAM - ROCKY PHASE	Cr	0.2	3	3R
COLWOOD LOAM - SHALLOW PHASE	Cs	0.2	4	4RW
COLWOOD LOAM - SHALLOW PHASE	Cs	1.2	4	4RW
DONNYBROOK GRAVELLY LOAM	Dk	0.2	4	4FM
DONNYBROOK GRAVELLY LOAM	Dk	1.2	4	4FM
DONNYBROOK GRAVELLY LOAM	Dk	3.5	4	4FM
DONNYBROOK GRAVELLY LOAM	Dk	7.0	4	4ST
DONNYBROOK GRAVELLY LOAM	Dk	12.0	4	4ST
DONNYBROOK GRAVELLY LOAM	Dk	22.5	6	6TS
DONNYBROOK GRAVELLY LOAM	Dk	37.5	6	6TS
DUMFRIES LOAM	DI	0.2	3	3SP
DUMFRIES LOAM	DI	3.5	3	3SP
DUMFRIES LOAM	DI	7.0	3	3SP
DUMFRIES LOAM	DI	12.0	4	4ST
DUMFRIES LOAM	DI	12.0	5	5P
DUMFRIES LOAM	DI	22.5	5	5T

Soil Name	Soil Symbol	Percent Slope	CLI	CLI with Subclass
DUMFRIES LOAM - ROCKY PHASE	Dr	7.0	6	6RP
DUMFRIES LOAM - SHALLOW PHASE	Ds	7.0	6	6RP
DUMFRIES SANDY LOAM	Du	12.0	4	4ST
FARMINGTON LOAM	Fl	0.2	6	6R
FARMINGTON LOAM	Fl	1.2	6	6R
FARMINGTON LOAM	Fl	3.5	6	6R
FARMINGTON LOAM	Fl	7.0	6	6R
FARMINGTON LOAM	Fl	12.0	6	6R
FOX SANDY LOAM	Fn	0.2	2	2FM
FOX SANDY LOAM	Fn	3.5	2	2FM
FOX SANDY LOAM	Fn	7.0	2	2ST
FOX SANDY LOAM	Fn	7.0	3	3T
FOX SANDY LOAM	Fn	12.0	4	4T
FOX SANDY LOAM	Fn	37.5	6	6T
FONT SANDY LOAM	Fo	0.2	2	2FM
FONT SANDY LOAM	Fo	1.2	2	2FM
FONT SANDY LOAM	Fo	3.5	2	2FM
FONT SANDY LOAM	Fo	7.0	3	3ST
FONT SANDY LOAM	Fo	12.0	4	4ST
FONT SANDY LOAM	Fo	22.5	5	5T
FONT SANDY LOAM	Fo	37.5	6	6T
FOX SANDY LOAM - SHALLOW PHASE	Fp	12.0	4	4RT
FARMINGTON LOAM - ROCKY PHASE	Fr	7.0	7	7R
FLAMBORO SANDY LOAM - SHALLOW PHASE	Fs	1.2	5	5R
GILFORD LOAM	Gf	1.2	4	4W
GILFORD LOAM	Gf	12.0	4	4W
GRIMSBY SANDY LOAM	Gi	0.2	2	2FM
GRIMSBY SANDY LOAM	Gi	1.2	2	2FM
GRIMSBY SANDY LOAM	Gi	3.5	2	2FM
GRIMSBY SANDY LOAM	Gi	7.0	2	2ST
GRIMSBY SANDY LOAM	Gi	12.0	4	4T
GRIMSBY SANDY LOAM	Gi	22.5	5	5T
GUELPH LOAM	Gl	3.5	1	1
GUELPH LOAM	Gl	7.0	3	3T
GUELPH LOAM	Gl	12.0	4	4T
GUELPH LOAM	Gl	22.5	5	5T
GRIMSBY SANDY LOAM - SHALLOW PHASE	Gp	3.5	5	5R
GRANBY SANDY LOAM	Gr	0.2	5	5W
GRANBY SANDY LOAM	Gr	1.2	5	5W
GUELPH LOAM - SHALLOW PHASE	Gs	3.5	3	3R
GUELPH LOAM - SHALLOW PHASE	Gs	7.0	3	3RT
GUELPH SANDY LOAM	Gu	3.5	1	1
GUELPH SANDY LOAM	Gu	7.0	3	3T
GUELPH SANDY LOAM	Gu	12.0	4	4T
JEDDO CLAY LOAM	Jc	1.2	3	3DW
JEDDO CLAY LOAM	Jc	3.5	3	3DW
KILLEAN LOAM	Kl	1.2	4	4PW
KILLEAN LOAM	Kl	3.5	4	4PW
KILLEAN LOAM	Kl	7.0	4	4PW
LOCKPORT CLAY	Lc	0.2	2	2D
LOCKPORT CLAY	Lc	7.0	3	3ET
LOCKPORT CLAY	Lc	12.0	4	4T
LOCKPORT CLAY	Lc	22.5	5	5T

Soil Name	Soil Symbol	Percent Slope	CLI	CLI with Subclass
LOCKPORT CLAY	Lc	37.5	5	5D
LILY LOAM	Li	1.2	5	5PW
LILY LOAM	Li	3.5	5	5PW
LILY LOAM	Li	7.0	5	5PW
LONDON LOAM	Li	1.2	1	1
LONDON LOAM	Li	3.5	1	1
LONDON SILT LOAM	Lo	3.5	1	1
MESISOL	M	0.2		
MARSH	Ma	0.2	7	7W
MORLEY CLAY LOAM	Ml	0.2	4	4DW
MORLEY CLAY LOAM	Ml	3.5	4	4DW
MESISOL - SHALLOW PHASE	Ms	0.2		
NOT MAPPED	NM	-9.0		
ONEIDA SILT LOAM	Oi	7.0	3	3T
ONEIDA SILT LOAM	Oi	12.0	4	4T
ONEIDA SILT LOAM	Oi	22.5	5	5T
ONEIDA LOAM	Ol	0.2	1	1
ONEIDA LOAM	Ol	3.5	1	1
ONEIDA LOAM	Ol	7.0	3	3T
ONEIDA LOAM	Ol	12.0	4	4T
ONEIDA LOAM	Ol	22.5	5	5T
ONEIDA CLAY LOAM	On	0.2	1	1
ONEIDA CLAY LOAM	On	1.2	1	1
ONEIDA CLAY LOAM	On	3.5	1	1
ONEIDA CLAY LOAM	On	7.0	3	3T
ONEIDA CLAY LOAM	On	12.0	1	1
ONEIDA CLAY LOAM	On	12.0	4	4T
ONEIDA CLAY LOAM	On	22.5	5	5T
ONEIDA CLAY LOAM	On	37.5	6	6T
ONEIDA CLAY LOAM - ROCKY PHASE	Or	0.2	5	5P
ONEIDA CLAY LOAM - ROCKY PHASE	Or	7.0	5	5P
ONEIDA CLAY LOAM - ROCKY PHASE	Or	22.5	5	5P
FIBRISOL	P	0.2		
PARKHILL LOAM	Pl	0.2	2	2W
PARKHILL LOAM	Pl	1.2	2	2W
PARKHILL LOAM	Pl	3.5	2	2W
CLAY PITS	PT	-9.0	7	7RT
QUARRY	QY	-9.0	7	7RT
SPRINGVALE SANDY LOAM	Sp	3.5	2	2FM
SPRINGVALE SANDY LOAM	Sp	7.0	2	2T
SPRINGVALE SANDY LOAM	Sp	12.0	3	3T
TRAFALGAR CLAY	Tc	0.2	3	3D
TRAFALGAR CLAY	Tc	3.5	3	3D
TRAFALGAR CLAY	Tc	7.0	3	3DT
TRAFALGAR SILTY CLAY LOAM	Tr	12.0	4	4T
TRAFALGAR SILTY CLAY LOAM	Tr	22.5	5	5T
TUSCOLA SILT LOAM	Tu	0.2	1	1
TUSCOLA SILT LOAM	Tu	1.2	1	1
TUSCOLA SILT LOAM	Tu	3.5	1	1
URBAN LAND	UL	-9.0		
VINELAND SANDY LOAM	Vi	3.5	2	2F
VINELAND SANDY LOAM	Vi	12.0	4	4T
WINONA SANDY LOAM	Wi	1.2	2	2F
WATER	ZZ	-9.0		

Table 2 LE Scores for Each Unit of Evaluation in the Study Area

OBJECTID	LE	OBJECTID	LE	OBJECTID	LE
1	45.9	48	55.8	95	61.6
2	31.6	49	34.9	96	
3	43.2	50	97.6	97	48.4
4	47.5	51	89.9	98	
5	44.6	52	54.1	99	17.8
6	42.0	53	53.1	100	63.8
7	54.0	54	67.3	101	84.6
8	38.6	55	43.7	102	62.3
9	56.4	56	66.7	103	64.6
10	55.3	57	84.0	104	49.4
11	41.4	58	100.0	105	
12	31.5	59	69.9	106	71.4
13	77.6	60	65.3	107	
14	45.8	61	62.9	108	59.9
15	40.6	62	53.1	109	63.3
16	72.2	63	74.6	110	82.2
17	61.3	64	63.8	111	46.2
18	47.9	65	95.2	112	64.7
19	45.8	66	69.2	113	51.1
20	62.7	67	63.1	114	54.7
21	51.1	68	71.0	115	80.7
22	67.0	69	61.0	116	52.1
23	38.4	70	59.2	117	65.0
24	62.6	71	69.3	118	64.1
25	54.3	72	73.5	119	65.0
26	93.6	73	53.1	120	78.3
27	42.1	74	61.0	121	44.9
28	45.6	75	56.0	122	51.0
29	73.2	76	67.5	123	79.2
30	52.0	77	64.8	124	
31	66.7	78	66.0	125	81.3
32	14.2	79	61.9	126	86.2
33	58.3	80	67.8	127	63.3
34	96.2	81	53.5	128	60.0
35	26.8	82	53.8	129	55.8
36	56.7	83	62.7	130	62.5
37	46.1	84	52.4	131	
38	83.6	85	71.0	132	42.3
39	99.1	86	66.8	133	80.0
40	54.2	87		134	79.8
41	48.9	88	51.5	135	77.6
42	55.6	89	35.5	136	86.5
43	57.7	90		137	60.8
44	99.0	91	54.2	138	53.9
45	87.8	92	65.0	139	53.3
46	54.1	93	56.3	140	83.0
47	55.0	94	60.7	141	53.9

OBJECTID	LE	OBJECTID	LE	OBJECTID	LE
142	64.9	191	98.0	240	62.0
143		192	78.6	241	52.5
144	69.1	193	43.5	242	
145	78.1	194	62.5	243	93.8
146	65.0	195	99.9	244	30.3
147	88.8	196	3.3	245	40.7
148	51.0	197	53.3	246	55.8
149	59.6	198	86.4	247	68.9
150	53.8	199	79.2	248	88.3
151	76.3	200	47.3	249	92.8
152	65.1	201	98.1	250	53.5
153	55.3	202	65.0	251	48.6
154	51.1	203	92.4	252	70.7
155	78.0	204	7.2	253	76.6
156	85.4	205	70.7	254	70.6
157	75.7	206	44.5	255	47.5
158	80.1	207	57.3	256	44.8
159	25.9	208	92.3	257	95.7
160	53.1	209	11.8	258	71.0
161	64.0	210	39.1	259	26.6
162	90.5	211	81.2	260	56.6
163	63.7	212	92.1	261	
164	64.0	213	49.1	262	65.0
165	91.8	214	94.3	263	53.5
166	60.0	215	64.7	264	24.5
167	87.5	216	89.8	265	64.3
168	74.5	217	39.2	266	72.9
169	56.1	218	79.0	267	72.4
170	44.2	219	53.5	268	78.2
171	71.8	220	60.0	269	54.3
172	43.7	221	93.9	270	41.2
173	59.3	222	24.8	271	94.1
174	78.1	223	49.9	272	91.5
175	59.7	224	75.2	273	61.6
176	45.4	225	89.9	274	10.2
177	64.9	226	58.1	275	65.0
178	100.0	227		276	52.4
179	95.6	228	89.3	277	6.5
180	78.8	229	35.8	278	92.5
181	43.3	230	74.9	279	59.1
182	51.6	231	58.1	280	74.8
183	82.3	232	59.0	281	66.3
184	22.9	233	80.6	282	60.2
185	83.6	234	82.1	283	58.5
186	70.3	235	55.8	284	30.9
187	51.8	236	54.3	285	87.0
188	63.9	237	26.1	286	61.1
189	25.7	238	66.7	287	85.4
190	97.2	239	77.8	288	13.7

OBJECTID	LE	OBJECTID	LE	OBJECTID	LE
289	65.3	338	65.8	387	49.3
290	50.2	339	72.0	388	13.5
291	12.4	340	32.8	389	99.7
292	53.4	341	89.5	390	59.8
293	96.6	342	50.6	391	
294	88.9	343	8.0	392	63.2
295	44.2	344	55.5	393	14.3
296	65.0	345	55.4	394	56.2
297	52.5	346	68.0	395	52.8
298	17.9	347	94.7	396	55.6
299	59.1	348	30.9	397	87.5
300	76.3	349	57.4	398	85.5
301	35.5	350	99.9	399	25.9
302	66.5	351	1.9	400	55.8
303	54.5	352	72.3	401	77.9
304	52.0	353	69.1	402	64.4
305	88.0	354	66.3	403	60.8
306	31.8	355	55.7	404	27.8
307	52.0	356	49.3	405	63.3
308	93.3	357	36.6	406	94.5
309	69.9	358	100.0	407	86.7
310	62.2	359	61.8	408	63.1
311	62.4	360	58.4	409	54.7
312	7.6	361	85.9	410	47.3
313	59.0	362	0.2	411	64.2
314	80.0	363	89.0	412	54.5
315	70.3	364	47.3	413	82.1
316	65.0	365	19.0	414	77.3
317	39.9	366	83.1	415	41.7
318	67.2	367	99.9	416	58.1
319	53.9	368	0.2	417	84.8
320	58.8	369	71.6	418	42.3
321	97.9	370	79.4	419	37.2
322	23.6	371	54.0	420	63.7
323	81.9	372	52.4	421	77.4
324	68.5	373	40.8	422	82.4
325	76.7	374	100.0	423	67.0
326	34.5	375	64.2	424	40.8
327	92.1	376	62.5	425	62.3
328	61.1	377	52.9	426	60.5
329	52.3	378	9.0	427	42.9
330	0.7	379	62.5	428	76.9
331	79.6	380	45.8	429	88.7
332	54.7	381	83.8	430	
333	74.8	382	93.3	431	57.9
334	53.6	383	11.0	432	60.6
335	62.0	384	64.5	433	96.6
336	100.0	385	83.3	434	54.6
337	20.0	386	61.9	435	65.2

OBJECTID	LE	OBJECTID	LE	OBJECTID	LE
436	45.8	485	96.5	534	99.7
437	79.3	486	90.7	535	0.6
438	65.0	487		536	
439	82.0	488	45.6	537	55.8
440	10.8	489	48.9	538	100.0
441	44.1	490	65.0	539	55.0
442	39.5	491	56.5	540	68.6
443	25.6	492	47.1	541	62.9
444	91.9	493	85.7	542	30.2
445	77.8	494	55.6	543	
446	69.5	495	98.6	544	
447	70.0	496		545	
448	34.2	497	70.6	546	81.2
449	55.4	498	26.9	547	71.7
450	91.9	499	9.3	548	4.0
451	38.4	500	72.9	549	98.1
452	64.1	501	94.4	550	
453	92.7	502	98.1	551	
454	65.1	503		552	40.0
455	99.7	504	48.8	553	66.5
456	0.0	505	42.6	554	100.0
457	50.6	506		555	64.4
458	42.4	507	93.1	556	
459	32.6	508	32.6	557	81.3
460	78.7	509	53.2	558	41.3
461	93.1	510	78.0	559	98.6
462		511		560	
463	34.4	512		561	
464	80.5	513	24.6	562	82.1
465	48.0	514		563	
466	65.0	515	21.7	564	68.1
467	33.0	516	50.3	565	0.1
468	63.7	517	90.0	566	88.5
469	91.5	518	99.9	567	
470	78.0	519		568	
471	99.8	520	12.4	569	50.8
472	2.8	521	56.1	570	65.4
473	50.2	522	100.0	571	69.3
474	39.9	523		572	
475	24.3	524	68.4	573	57.9
476	85.0	525	56.1	574	10.4
477	94.4	526	66.3	575	95.9
478	64.5	527	8.4	576	
479		528		577	88.6
480	77.1	529		578	
481	35.2	530		579	72.5
482		531	30.5	580	61.6
483	0.0	532	67.4	581	12.8
484	66.4	533	83.5	582	

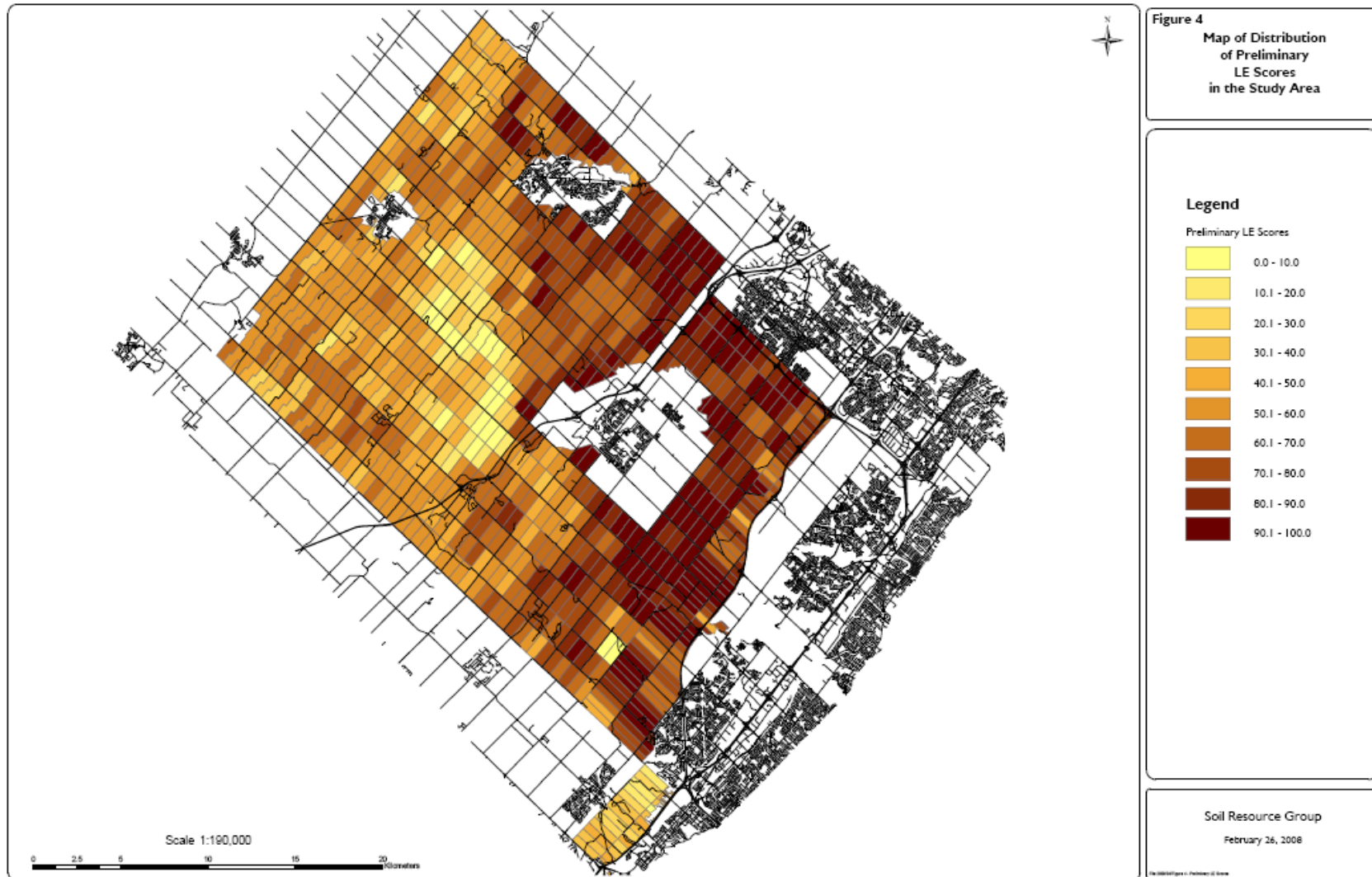
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587		636	79.4	685	
588	55.9	637		686	
589		638		687	
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594		643	57.5	692	
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597	50.5	646	51.1	695	
598	50.4	647		696	57.1
599	57.4	648	30.6	697	59.3
600	77.9	649	56.2	698	61.8
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605		654		703	53.7
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607	16.3	656	62.5	705	
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609	82.9	658	61.0	707	
610		659		708	83.1
611	100.0	660		709	57.6
612	47.6	661	52.4	710	
613	47.5	662		711	
614		663		712	
615		664	32.5	713	72.0
616	48.1	665	54.0	714	55.0
617	59.4	666	63.7	715	54.6
618	41.9	667	97.9	716	
619		668		717	93.4
620	16.3	669		718	
621		670		719	80.6
622		671	55.6	720	46.8
623	54.2	672	59.5	721	49.9
624	52.3	673	82.7	722	
625		674		723	98.1
626	90.3	675		724	
627		676	72.6	725	82.1
628	53.2	677	57.8	726	
629		678		727	57.2
630	100.0	679		728	
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734	75.3	783	46.6	832	
735	94.8	784	73.9	833	98.3
736		785		834	
737		786	75.4	835	
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739		788		837	47.2
740	51.6	789		838	81.6
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746		795		844	77.5
747	44.3	796	88.0	845	56.0
748		797		846	92.4
749	98.7	798	61.5	847	
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757		806	95.7	855	
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762	90.2	811		860	80.1
763		812		861	57.5
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768	51.9	817		866	58.3
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771		820	70.8	869	87.0
772	46.0	821	78.2	870	
773	100.0	822	90.5	871	
774	77.6	823		872	99.2
775	54.7	824		873	94.4
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881	49.9	930	84.8	979	45.2
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883	82.1	932	77.4	981	78.5
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888	54.6	937		986	
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890		939	66.1	988	
891		940	72.9	989	71.3
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1064		1113	19.8	1162	
1065		1114		1163	
1066	55.0	1115	16.5	1164	68.6
1067	89.3	1116		1165	65.0
1068		1117	45.8	1166	65.0
1069		1118	27.5	1167	87.7
1070		1119		1168	
1071		1120	43.7	1169	93.3
1072	88.4	1121	30.9	1170	85.0

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1189	95.4
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1191	89.8
1192	87.4
1193	66.9
1194	61.7
1195	70.2
1196	79.6
1197	68.8
1198	99.7
1199	69.8
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1201	77.9
1202	100.0
1203	83.9
1204	77.2
1205	79.4
1206	81.7
1207	85.0
1208	88.8
1209	95.2
1210	77.9



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APPENDIX C

THE REGIONAL MUNICIPALITY OF HALTON

SPECIALTY CROP PRODUCTION

September 15, 2008

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THE REGIONAL MUNICIPALITY OF HALTON

SPECIALTY CROP PRODUCTION

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THE REGIONAL MUNICIPALITY OF HALTON

Specialty Crop Production in Halton Region

September 15, 2008

1. Introduction

The purpose of this study is to assess the soil suitability for specialty crop production in Halton Region with emphasis on the Primary Study Area. Areas of the Greenbelt, specifically along the interface between the Greenbelt and the Primary Study Area, were considered but detailed analysis was not conducted in the area of the Greenbelt itself. Map 1 outlines the Primary Study Area.

2. Specialty Crop Definition

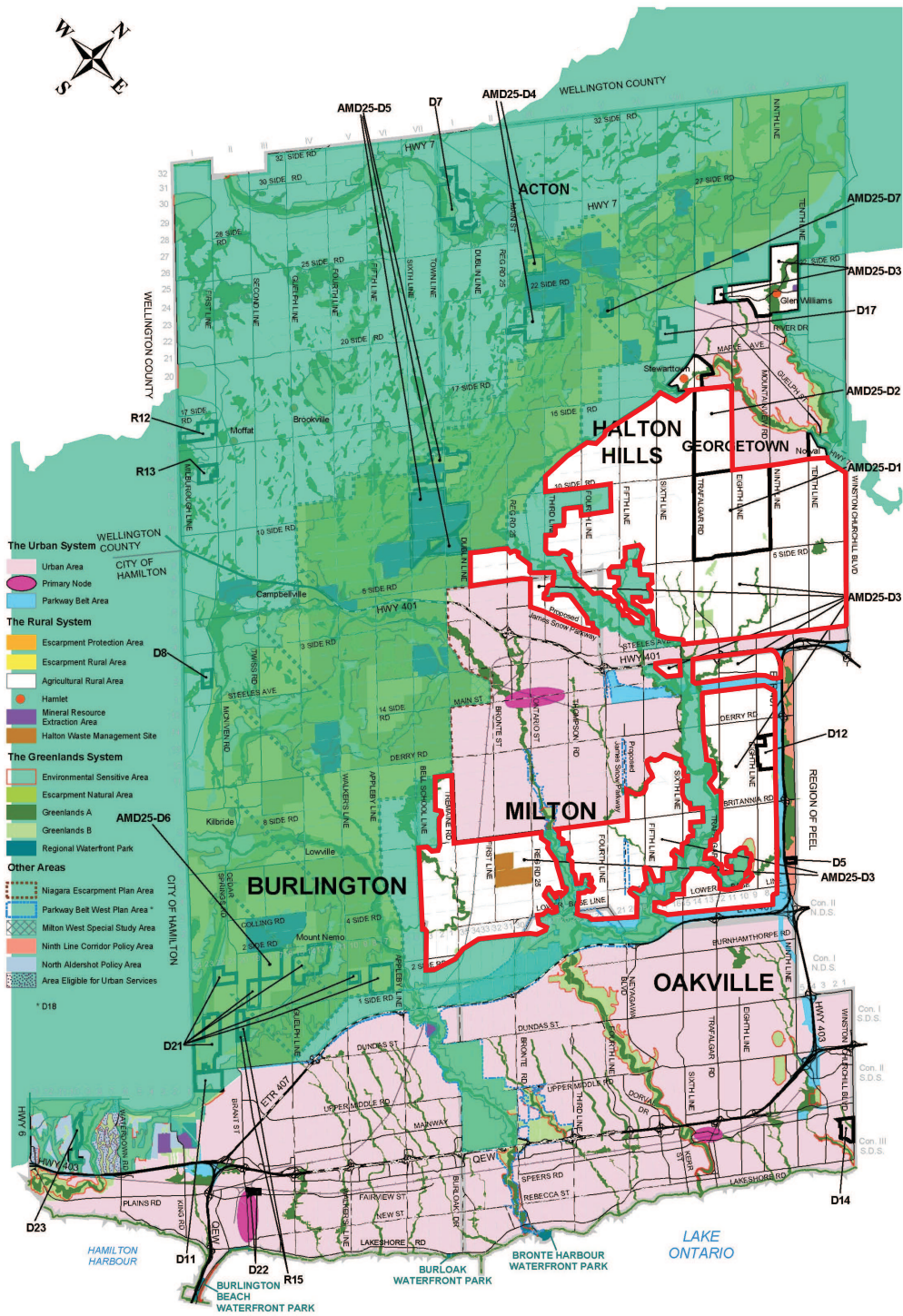
Specialty cropland as defined in the 2005 Provincial Policy Statement (PPS) means:

“lands where specialty crops such as tender fruits (peaches, cherries, plums), grapes, other fruit crops, vegetable crops, greenhouse crops, and crops from agriculturally developed organic soil lands are predominantly grown, usually resulting from:

- Soils that have the suitability to produce specialty crops, or lands that are subject to special climatic conditions, or a combination of both; and
- 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.”


Under the PPS, evaluations are to be conducted using a process developed by the Province. However consultation with provincial representatives confirmed that an approved evaluation process has not yet been developed. Therefore, to conduct this evaluation, a process specific to the analysis of Specialty Crop Production in Halton Region was designed to respond to the direction of the PPS.





Map 1 (Appendix C)

SUSTAINABLE HALTON PHASE 2 AN AGRICULTURE / COUNTRYSIDE VISION

 Primary Study Area

This map is for general illustration purposes only. For boundary interpretation please contact the Halton Region Planning & Public Works Department.

SUSTAINABLE HALTON



In addition, representatives from OMAFRA also indicated that while the nursery crops may not fit into specialty crops as defined in the PPS, Halton Region could investigate their protection. Since all of the land in the Primary Study Area is not required for the Region's Growth Management Strategy, the nursery cropland could be preserved. In the future, the provincial evaluation process may be finalized and available for use as the basis for future planning reviews.

3. Study Approach

The assessment of potential specialty crop production was determined on the basis of current specialty crop production, climatic suitability and soil suitability for specialty crop production in Halton Region with emphasis on the Primary Study Area. Mapping of crop types was generated for all of the area but the detailed analysis and field inspections were limited to the Primary Study Area.

Census of agriculture data, MPAC agricultural land classifications and on-site observations were used to determine current specialty crop production in the study area. Climatic and soil ratings for specialty crop production were based on published data for Ontario conditions.

4. Ongoing Specialty Crop Production in Halton Region

In support of the specialty crop analysis, a variety of statistics from various sources were used. **Tables 1 and 2** summarize the number of farms and crop acreages for commodities that were considered as part of the specialty crop evaluation using 2006 Statistics Canada data.

Table 1: Area of Specialty Crops in Ontario and Halton Region, 2006

Geographic Location	Area in Acres - Specialty Crops				
	Fruit	Vegetable	Mushroom	Greenhouse	Nursery Product & Sod
Ontario	135,298	282,734	5,394	53,686	118,099
Halton	2,944	1,296	x	1,354	4,232
Oakville	x	x	0	x	0
Burlington	x	x	x	80	361
Milton	762	1,067	0	344	2,086
Halton Hills	1,825	179	x	x	1,785

x - data suppressed due to confidentiality restrictions
 Source: Statistics Canada Census of Agriculture, 2006



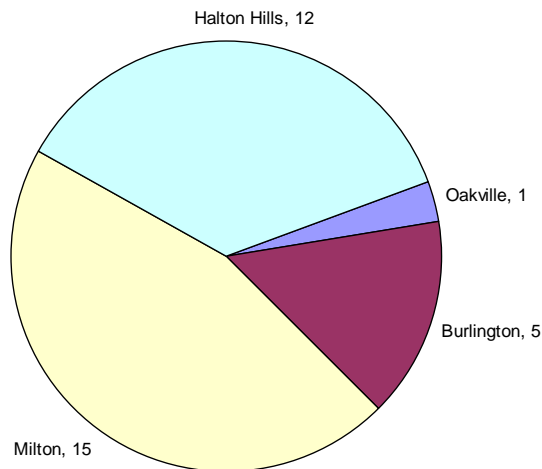
Table 2: Number of Specialty Crop Operations in Ontario and Halton Region, 2006

Geographic Location	Number of Operations - Specialty Crops				
	Fruit	Vegetable	Mushroom	Greenhouse	Nursery Product & Sod
Ontario	1,887	1,517	68	1,379	969
Halton	33	19	2	32	35
Oakville	2	1	0	1	0
Burlington	5	3	1	4	8
Milton	10	12	0	16	21
Halton Hills	16	3	1	11	6

Source: Statistics Canada Census of Agriculture, 2006

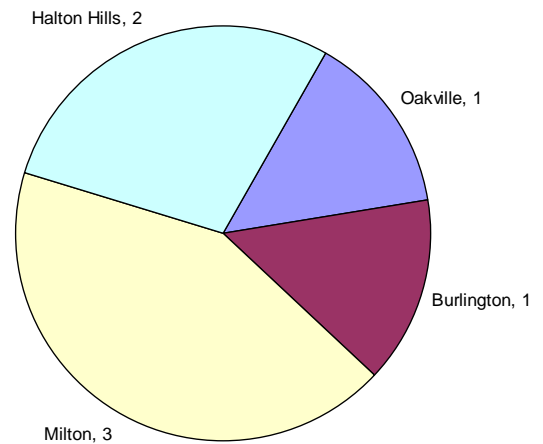
Figures 1a, 1b and 1c provide a summary of greenhouse production in Halton.

Figure 1a - Halton Region Number of Geenhouses - Flowers, 2006



Source: Statistics Canada Census of Agriculture, 2006

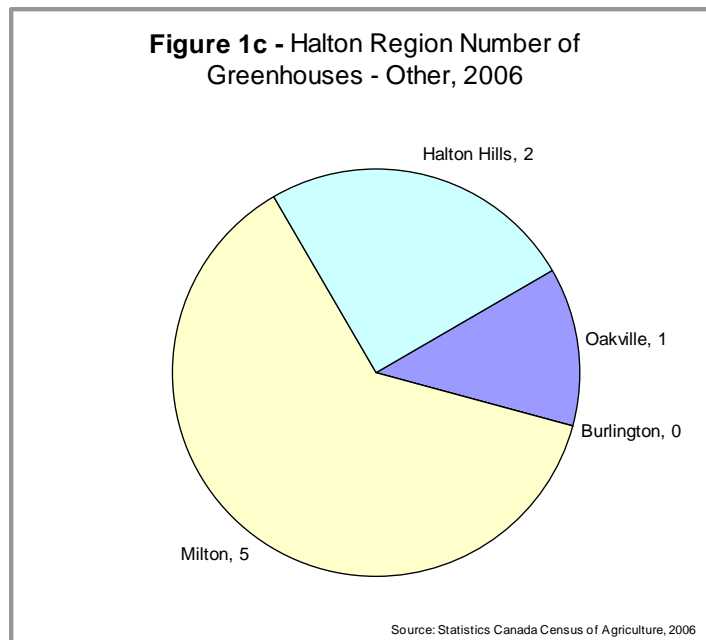
Figure 1b - Halton Region Number of Geenhouses - Vegetables, 2006



Source: Statistics Canada Census of Agriculture, 2006



Figures 1a, b and c and Maps 2 and 3 (attached) show the distribution of greenhouse crops in the study area. Milton and Halton Hills are observed to be the dominant location of greenhouse production of flowers and vegetable crops.



MPAC mapping of farm classes was used to assess geographical distribution of agricultural operations. **Map 4** is the MPAC farm class data for crops that were considered in the specialty crop evaluation. This mapping confirms the presence of a cluster of operations in east Milton, a cluster of nursery operations east of Georgetown and a variety of operations in the rural area of Halton Hills.

To gain a clearer understanding of the type, status and distribution of crop production and identify potential specialty crop areas, field inspections were conducted of the Primary Study Area. Field observations generally supported MPAC mapping of specialty crop production.

5. Climate for Agricultural Production

Halton Region is situated in three climatic regions (Huron Slopes, South Slopes, and Lake Erie Counties) as described by Brown et al., 1968. The Lake Erie Counties region has a climate that is modified by proximity to the Great Lakes. While this region has mean annual heat unit values of 3100, the existing land use is urban.

MAP 2

APPENDIX C

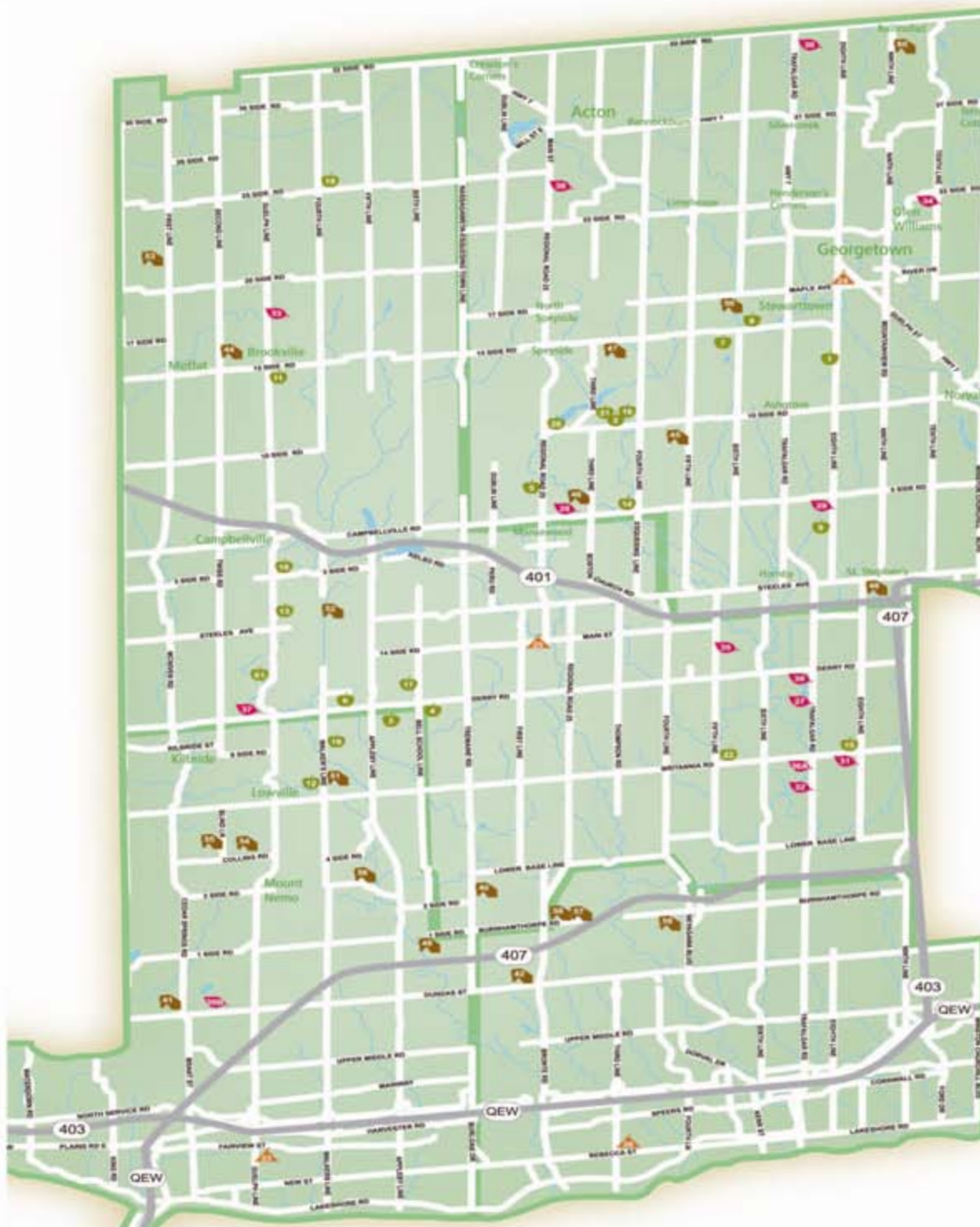
SUSTAINABLE HALTON PHASE 2

AN AGRICULTURE / COUNTRYSIDE

VISION

FARM TYPES

-  Farmer's Markets
 -  Farm-Fresh Produce & Entertainment
 -  Nurseries & Garden Centres
 -  Horse Farms with Recreational Activities
 -  Sell Christmas Trees
 -  See Farm Safety Tips
- Number of map correspond to numbers in farm listings

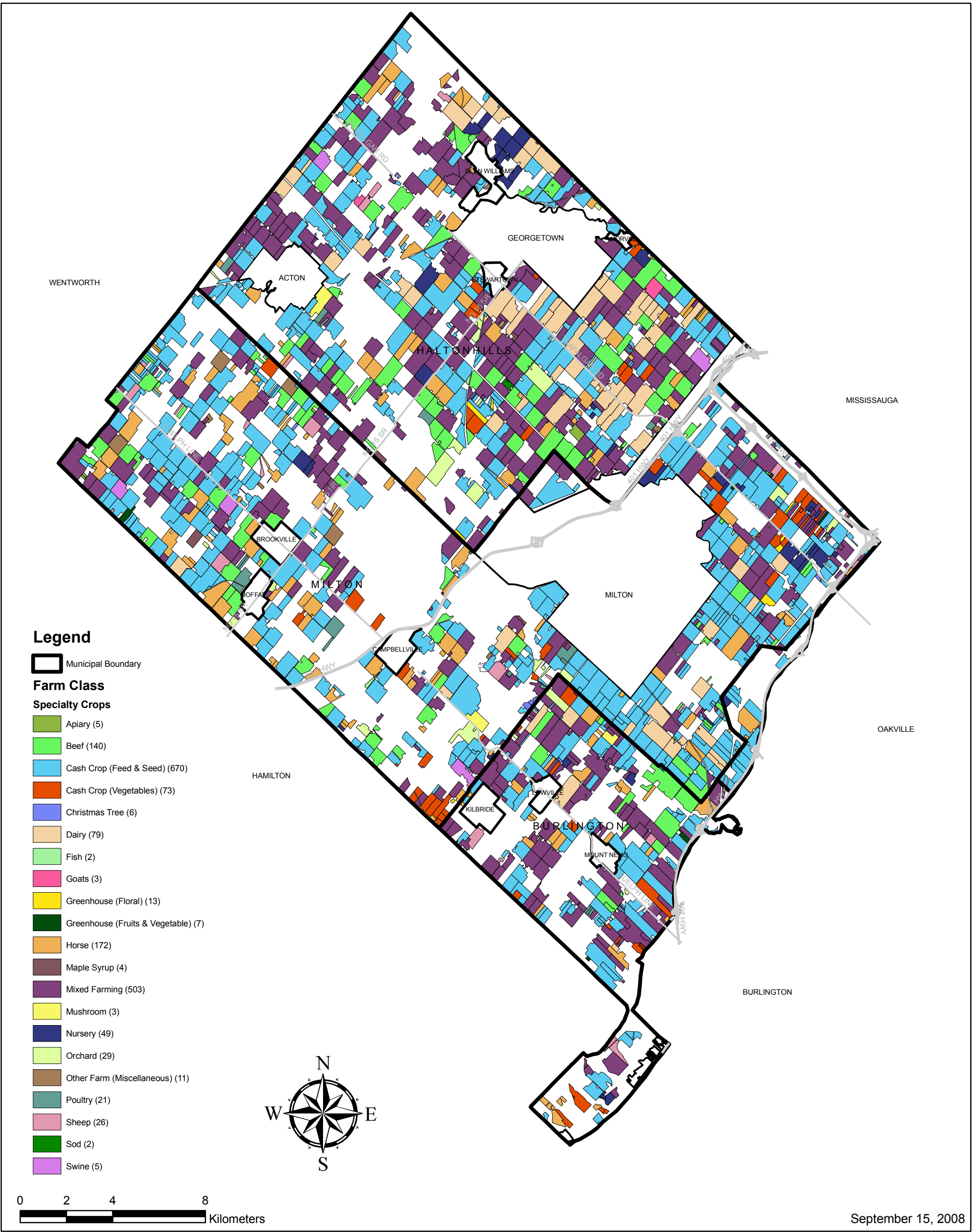


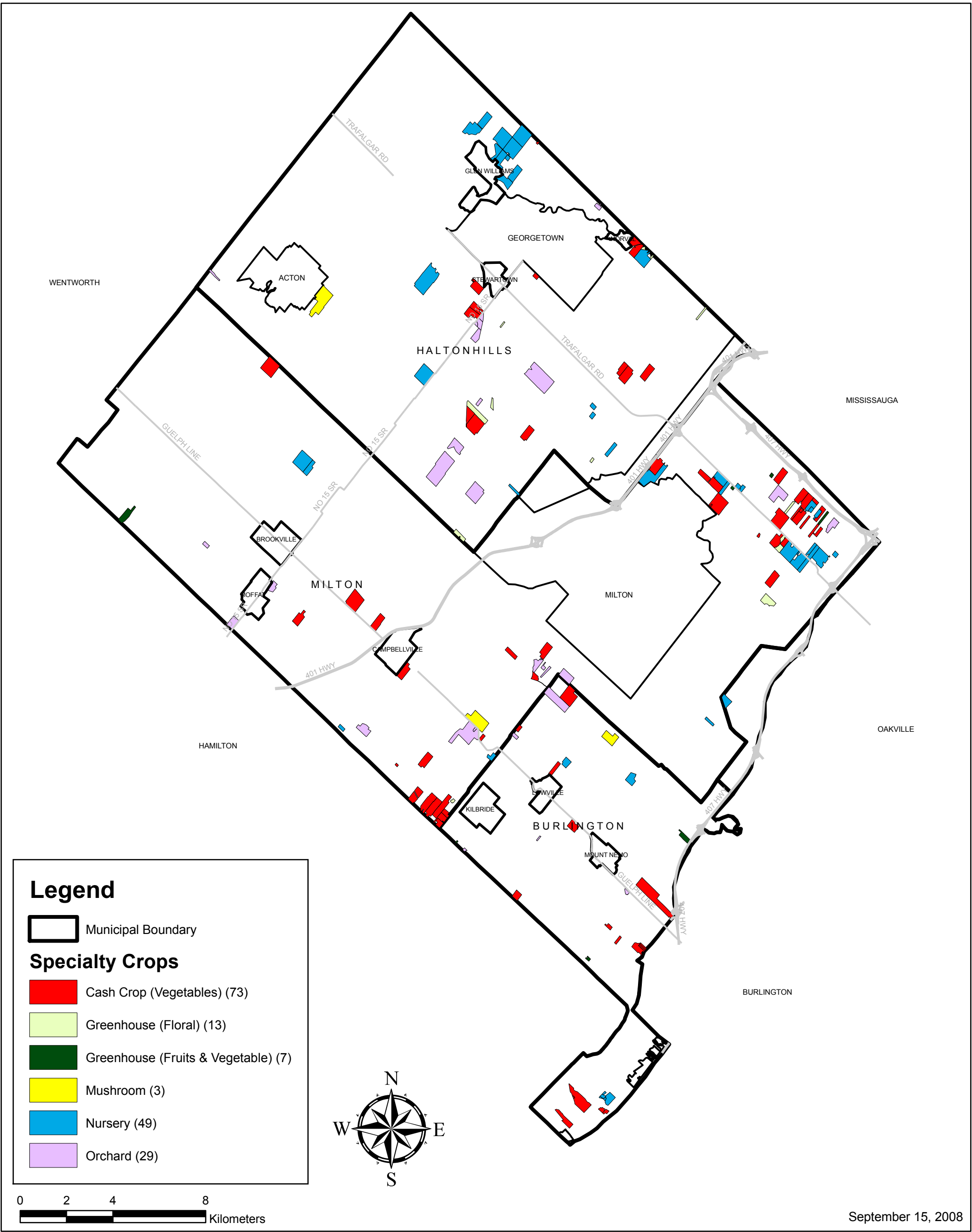
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SUSTAINABLE HALTON



Source: Halton Region
<http://www.halton.ca>





The South Slopes climatic region has mean annual heat unit values of 2900 and encompasses a large part of the agricultural land of Halton Region. The Primary Study Area is located in this climatic region. This region has an average 203-day growing season and a 145-day frost-free period.

The Huron slopes climatic region have mean annual heat unit values of 2700 and is located furthest from the modifying effects of the Great Lakes in the northern reaches of Halton.

6. Soil Capability for Specialty Crop Production

Climatic suitability for specialty crops

Brown and Place, 1969 have developed climatic ratings for horticultural crops in Southwestern Ontario based on average annual heat units, growing season frosts and low winter temperatures. Hardy fruit trees such as apples, pears and plums that are susceptible to low winter temperatures were rated as very good for areas with 2900 heat units. The climate of much of Halton Region would be suitable for the production of these hardy fruit trees. Perennial fruit trees such as apricots, peaches, sweet cherries and grapes (venifera and hybrid) that are very susceptible to low winter temperatures were only recommended for areas with > 3100 heat units. The climate of Halton Region would not be conducive to commercial production of these fruits.

Fruit and vegetable crops susceptible to spring and fall frosts such as sweet corn, pumpkins, tomatoes, strawberries and green beans were rated as good for areas within heat unit zones of 2900. The climate of Halton Region would be suitable for the production of these fruit and vegetable crops.

Generally, the climate of Halton Region will support the production of cold-tolerant annuals and warm season annuals. Hardy tree fruits such as apple and pear are also suitable for economic production in Halton Region.



Soil suitability for specialty crops

Soil survey reports for the Niagara Region, the Regional Municipality of Haldimand-Norfolk and Brant Counties have included agricultural capability ratings for both common field crops and specialty crops. The specialty crops rating system consisted of seven classes ranging from good to unsuitable. Presant, 1990 compiled the soil, water and climatic requirements for the rating of selected horticultural crops grown in southern Ontario. This soil rating system for horticultural crops was used to rate soils for horticultural crops currently grown in the study area.

The dominant soils in the Primary Study Area are the Oneida and Chinguacousy soil series. These soils are well and imperfectly drained clay loam to silty clay loam textured till materials respectively. Relatively small acreages of sandy and gravelly soils are located in the Primary Study Area. The Fox and Burford soils are well drained with sandy loam or gravelly sandy loam textures. Imperfectly drained soils such as the Brady and Berrien series are also located in the Primary Study Area.

The soils of the Primary Study Area were rated for the production of horticultural crops including: apples, strawberries, sweet corn, pumpkins and cabbage (Table 3). These horticultural crops were selected on the basis of census crop data and field observations of current horticultural crop production.

Table 3 Rating of Soils for Horticultural Crop Production

Soil Type	Apples	Strawberries	Sweet Corn	Pumpkins	Cabbage
Oneida	VG	G	G	G	G
Chinguacousy	G	G-F	G	G-F	G-F
Fox	G	G	G	G	F
Brady	G	G	G	G	G
Burford	G	G	G	G	F
Berrien	G	G	G	G	G

Rating of Very Good (VG), Good (G) and Fair (F)



While nursery and greenhouse crops are not recognized as specialty crops as defined by the PPS, nursery (trees and shrubs) and greenhouse crop production of vegetables and flowers are important horticultural production systems in the Province and contribute significantly to farm incomes.

Statistics Canada (2006) indicates the occurrence of 35 nursery and sod operators and 4,232 ac. of nursery and sod cropland in Halton Region. Field observations revealed that many of the large nursery operations are located in the Primary Study Area on sandy to loam textured soils.

Greenhouse based horticultural production (flowers) were also observed in the Primary Study Area. Statistics Canada (2006) reported 32 greenhouse operators in the Region. Figures 1a, 1b and 1c illustrate the number and distribution of greenhouse operations in the Region.

7. Potential for Specialty Crop Production in Primary Study Area

- a) Halton Region has the soil and climatic conditions to support the production of a wide range of specialty crops. Heat units, winter temperatures and early/late season frosts limit potential production of the tender fruit crops.
- b) Most specialty crop production observed in Halton Region was located in areas outside of the Primary Study Area. The sloping land below the Niagara Escarpment was the location of many specialty crop producers.
- c) Vegetable (sweet corn, pumpkin) and fruit/berry (apple, strawberry) production were notable specialty crops in the Region.
- d) The soils of the Primary Study Area are suited for the production of specialty crops. Both apple and vegetable crop production was observed in the Primary Study Area but the land area devoted to these crops was small.



- e) The predominant horticultural activity in the Primary Study Area was the nursery and greenhouse (glass and plastic) operations. Many of these operations were located on the sandy loam textured soils that offered flexibility in terms of planting dates, traffic ability, and planting of bare root stock.



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APPENDIX D

LEAR Evaluation

HAAC Final Comments

Halton Agricultural Advisory Committee (HAAC)

Committee Report on the Regional LEAR Study

NOTE: Comments in this report refer to the Sept. 15, 2008 draft of report 3.03 and to the Feb. 20, 2009 draft of report 3.04.

Introduction

In January 2009 the Halton Agricultural Advisory Committee (HAAC) appointed a sub-committee to review the Land Evaluation and Area Review (LEAR) study that was conducted to identify prime agricultural lands and areas in Halton, as part of the much larger Sustainable Halton Official Plan.

The sub-committee reported its findings, comments and recommendations to HAAC at a special meeting convened for this purpose on February 23, 2009. The sub-committee's report was endorsed by HAAC.

The report is divided into sections:

- A. Overall Assessment and Major Concerns
- B. Response to the Recommendations
- C. Response to the Conclusions
- D. Additional Thoughts re Farm Land Development
- E. Going Forward – HAAC's Recommendations to the Region re Policies and Programs that will protect what is left of agriculture in Halton in a viable and sustainable manner

Section A.

Overall Assessment and Major Concerns

Upon review of the LEAR study, HAAC is of the opinion that the LEAR was conducted properly, applied correctly and explained well.

However, there are three major areas of concern that negatively impact the overall acceptance of the study.

- The designation of Specialty Crop Lands

- Comparisons with the Greenbelt
- Failure to move forward with Urban Intensification

1. *Specialty Crop Lands*

HAAC disagrees with the designation “Specialty Crop Lands” as used in the report.

On a provincial basis, OMAFRA only uses these words (Specialty Crop Lands) in planning terms for two regions of Ontario. The Niagara Tender Fruit and Wine Region and the Holland Marsh. Other areas such as the Bradford Marsh and Thedford Marsh are larger than the single farms in Halton that are designated in the report, but they (Bradford and Thedford) are not considered large enough to gain specialty crop status.

There are several farms in the Halton study area that do grow a large variety of vegetable and fruit crops. Much of this horticultural production is very dependent on soil type, available heat units, irrigation etc. but the long term success of many of these farms is due to the expertise and management ability of the individual farmer/owner and the nearby markets.

For example, an apple farm (10th Side Road and 6th Line) formerly owned by Peter McCarthy was an apple farm as long as he was there to manage it. A fruit and vegetable farm (Concession 4, Halton Hills) owned by Bert Andrews has been a successful operation for many years and a well-known farm in Halton’s agri-tourism sector. However, the farm is currently for sale and if not purchased as an on-going business by someone with the same level of horticultural and marketing expertise as the current owner this land may well revert to cash crops.

To designate farms in Halton such as these, and others, as specialty crop farms because of current cropping practices and land use would, in HAAC’s judgement, represent a serious error in planning. These farms could be growing what might be considered a “specialty” or “exotic” crop this year but next year and perhaps many years thereafter grow traditional crops of wheat, soybeans and grain corn.

HAAC considers that farm management, knowledge, ability, financing and available markets are critical factors – as well as soil suitability – in determining land use.

2. *Comparisons With Greenbelt*

HAAC is deeply concerned with the report’s frequent comparison of the Study Area with the Greenbelt.

HAAC does not accept the Provincial Government’s contention that the Greenbelt was primarily instituted to save land for agricultural use, nor do we accept that land included in the Greenbelt was designated using the same rigorous standards that were applied in this report.

The Halton Region study area was very consistently scored through the LEAR study. However the same is not true for the Greenbelt, where **transparency** was not evident. HAAC strongly suggests there should be **no equivalency** between the Greenbelt and land use designation in the Study Area.

3. *Urban Intensification/Densification*

HAAC believes that urban intensification should have been applied years ago.

To plan for urban intensification beginning in 2015 is somewhat like closing the barn door after the horse has bolted.

HAAC believes that had the Region made a strong move to intensification several years ago this policy endorsement may well have made a difference on the total land area needed for further development. For example, Milton's proliferation of sprawling, single-family development will be mostly complete by 2015. To introduce intensification at that point is too late – the horse will be gone !

Section B.

NOTE: Commentary is in reference to recommendations (section 8) as contained in a draft version of the report, dated Sept. 15, 2008. A copy of these recommendations, which subsequently changed, is attached for reference. (See pgs. 27 & 28)

HAAC response to LEAR Study recommendations.

1. Establishment of strong, effective planning policies that are consistently implemented on a farmer friendly basis will be necessary. The Region must also be cognisant of how other planning entities such as the Niagara Escarpment Commission and Conservation Halton interpret and implement policies and regulations that affect farm property owners –e.g. Generic Regulations, Source Water Protection and Species At Risk – if the Region wants farmers and landowners to continue to farm.
2. The conclusion indicates that a permanent food producing agricultural presence will continue to be difficult to accommodate in Halton Region, for the reasons already given. A basic challenge is that soil is only one variable, and that capital, labour needs, and management expertise are equal factors.
3. The greenhouse sector can survive on non-prime land. The nursery industry is a non-food agricultural industry and has taken a segment of the land base. Viability and the ability to provide a family living are much more important than further restrictive designations on the land.
4. See our comments re Greenbelt.

5. See our comments re Specialty crops.
6. East of Milton the area around the Eighth Line and Trafalgar Road (area 5 on map 1) exhibits some characteristics of a vegetable crop area. But this could be temporary if there is not the expertise to continue, along with a return on investment for the farm owners.
7. No change recommended.
8. No change recommended.
9. We have concern about the availability and proximity of service infrastructure necessary for agriculture to flourish.
10. The tools to support a viable agricultural sector in Halton could in part be the *Going Forward* section at the end of this report, and definitely in the well-stated *Agriculture Countryside Vision Phase 3* report (pages 19- 30). Once again we reiterate that policies and regulations that are restrictive, and come with a “no compensation” clause, are not the way to encourage and support agriculture for the future.
11. See above.
12. “Places to Grow” must be the prime urban growth vehicle, with densification to start immediately, and no “nimby” excuses or delays.
13. Even with Regional planning support, agricultural survival in Halton is not guaranteed unless provincial policies, and regulations are much more farmer friendly, and come with a **vision** of the real contribution made by agriculture. Implementing such a vision may make agriculture sustainable in Halton after 2031.

Section C

NOTE: Commentary is in reference to conclusions (section 7) as contained in a draft version of the report, dated Sept. 15, 2008. A copy of these recommendations, which subsequently changed, is attached for reference. (See pgs. 25 & 26)

HAAC response to the LEAR Study Conclusions.

1. No change recommended.
2. Non-food agriculture in Halton is a strong and productive sector. The livestock sector is largely in decline and particularly the dairy sector which is now down to 9 operations. There is also concern that there has been considerable change in other sectors since the most recent census date.
3. No change recommended.

4. There is a shifting in the commodity profile to the production of crops geared to a readily available urban market. The region has been supportive of this change to local food, in the production of its brochure “Simply Local” and its membership in the GTA Agricultural Action Committee.
5. As has been discussed before, soil type is not the only factor determining what is grown where. Crop production also depends on management ability and markets as well.
6. There are scattered locations where vegetables are presently grown in the Study Area, notably in east Milton.
7. No change recommended.
8. The LEAR study shows consistency. Whether the limit for prime agricultural land should be 7.5 rather than 6.0, to take into account the errors induced by the large unit size chosen is open for debate.
“Places to Grow” densification must not wait to be implemented until the proposed date of 2015. The longer it is delayed, the more urban sprawl will take place into agricultural areas.
9. This conclusion should read: The Greenbelt contains some prime, but more less-than-prime agricultural land, while the LEAR Study (white belt) area contains prime agricultural land.
10. This conclusion should read: The Study Area will have less agricultural land after growth to 2031 is accommodated, but should be as contiguous as possible and as near to infrastructure services as possible.
11. No change recommended.
12. No change recommended.
13. The Greenbelt has done little to support agriculture except for some minor funding from the Greenbelt Foundation for some Environmental Farm Plan categories and farmers markets. We are not sure that there will be additional support in the future for agricultural operators in the Greenbelt.
14. To improve agricultural viability for certain crops, further fragmentation of agricultural areas and interfaces with urban areas should be minimized.
15. If the Region wishes to sustain agriculture, large contiguous areas have the best potential.
16. No change recommended.
17. Halton Region does support a permanent, successful, agricultural sector but it cannot be done by strong consistent planning policies only. It requires vision at both the Provincial and Federal levels. Farmer friendly regulations, together with farmer friendly resolutions

to an increasing number of urban-rural differences can be helped by mediation facilitated at the Regional level.

18. As above.
19. Sustainable agriculture is a large component of a healthy community. Agriculture must be seen as part of the solution, not only for food production but also energy production and environmental protection.
20. The Region has a strong consistent record, of recognizing the value of the agricultural lands within its boundaries and protecting this resource for future generations. This will become more critical.

Section D

Additional Thoughts.

With the consistency shown in the LEAR scoring, we have applied some different criteria to provide guidance on which 3000 to 4000 hectares of land should be taken, when needed, to satisfy the Provincial demand for urban growth. With the bulk of the land in Halton that is situated in the Greenbelt in the northwest quadrant of the Region, and with the goal to maintain contiguous parcels of farm land, then it would seem that the lands around Georgetown should not be built upon.

When one examines the history of land ownership in the Region over the past half-century, one notices that as urban pressures squeezed farmers out of areas such as Clarkson, Woodbridge and Brampton many of these farm families purchased land in North Halton. While a number of these farmers were breeders and exporters of purebred cattle and chose the area because of its proximity to the international airport many others made their choice based on the easier worked, more forgiving land around Georgetown, rather than lands south of Milton. Other than CN amassing a parcel of land south of Milton for a rail yard, no significant land changes have taken place in this part of Halton, other than to speculator/developers. Although the land (south Milton) scores well under a LEAR study because of its soil type, primarily clay, and it is relatively stone free and flat, it requires drainage to be productive. From a livestock perspective water availability can be a serious limitation.

Section E

Going Forward

Farmers are very much in favour of protecting prime agricultural land, sustainability, stewardship, permanency, simply local foods, future economic planning and environmental enhancements but not at the expense of the farm families now on the land. It would seem that present Official Plans of the Municipalities of Oakville, Burlington,

Milton, Halton Hills and the Region of Halton already protect Prime Agricultural Land from development.

HAAC requests the Region of Halton to hold consultative public meetings where farmland owners can have input before any recommendations for farmland permanency are made..

The Region should be proud that once again it is ahead of the curve in actually having some vision for agriculture – something the Province does not have. The Region is also a very strong supporter of the GTA Agricultural Action Plan and many of the actions in that Plan refer to the support tools necessary if agriculture is to survive in this near-urban environment.

There are many potential projects that can be “put on the table,” some of which will need Regional and/or Provincial help with no direct remuneration to the landowner and others which may involve compensation or financial assistance.

All municipalities are aware of the farm property tax rebate program and they have differing feelings about its use and implementation. There are options under that program to further reduce, below 25%, the taxation rate. Some municipalities have already made such concessions and HAAC recommends the Region review these options as a means of encouraging the agricultural base of the Region. HAAC affirms that when land is not being used for agriculture it should be taxed at a higher rate.

The implementation of the Greenbelt Act has meant that in some cases people who are not farmers’ are moving into the Region, putting a mansion in the middle of their newly purchased property and potentially taking what had been a farm out of production. This practice needs to be addressed and where it is abusive to the tax system and where productive farm land is not being used for its highest purpose – agriculture – it should be stopped.

Throughout the Sustainable Halton process, we have tended to focus on agricultural land being changed to residential or residential/industrial. However, in the past five years we have seen legislation from both the provincial and federal government that has placed additional regulation and designation on farmland. Legislation such as Generic Regulations, Source Water Protection and Endangered Species – with no hint of compensation – are becoming harder and harder for farmers and landowners to bear. The sweeping introduction of a natural heritage designation at the Regional level is seen as potentially very restrictive and punitive.

Farmers have long been considered the environmental stewards of land. They will not knowingly contaminate their land, or do things that would affect their livelihood and quality of life. We need planners to be mindful that when restrictive land-use legislation is being prepared there should, through consultation with HAAC, be a full review of the potential impact of the legislation/regulations on agriculture. Further, we ask the Region to encourage all Conservation Authorities operating within Halton, all of whom enforce

such legislation, to be mindful of the practical agricultural interpretation to avoid driving agriculture out of the Region.

HAAC notes there is provincial legislation, called the Farm Practices Protection Act, often referred to as “The Right To Farm” legislation. Support is needed from the Regional government, and all other levels of government, to enforce or back up this Act to prevent nuisance complaints from impeding normal farm operations and in effect driving the remaining farmers from the Region.

Further, we encourage the Region to seriously consider such programs as ALUS (Alternative Land Use Systems) and payment for Ecological Goods and Services (EGS). Programs of this type are currently being supported by the Federal Government and provincially by governments in Manitoba and PEI. Ontario farm organizations need assistance in the promotion of such programs at both upper levels of Government.

The minimum distance separation (MDS) standards need to be imposed realistically at the rural-urban interface. Applying MDS standards from the lot line rather than from the barn would greatly assist the continuance of on-farm livestock production. Farmers have been advised that a “cloud on title” cannot be applied at this interface. However, HAAC believes it is time to promote this idea again at the provincial level. The least that should be done is to change the established real estate disclosure to include full disclosure of proximity to an active farming area.

The Provincial government has recently introduced the Cosmetic Pesticide Ban. HAAC is concerned that this legislation will lead to additional weed pressure at the rural/urban interface. Moreover, this legislation of the provincial government calls into question the regulatory authority of the federal Pest Management Regulatory Agency (PMRA) which approves the sale and use of pesticide products.

With the explosion of development there has been a loss of terrain for wildlife. Consequently, many wild species are intensifying on the remaining land base, devastating farm crops, injuring and killing farm livestock, and damaging livestock feed. A revised compensation package that reflects today’s values is urgently needed. This is a municipal responsibility. Further, assistance to bring crop compensation to the attention of the Ministry of Natural Resources would be appreciated rather than these substantial losses being buried in crop insurance statistics.

From a planning standpoint, agriculture is a very diversified and ever-changing animal. Through the GTA AAC, we are encouraging more on-farm production to better supply the large and diverse GTA population. With this will come the need for more processing, shipping and storage facilities for crops and livestock. Regional support is needed to have MPAC correctly designate such facilities as value adding or value retention. This will allow farmers the opportunity to move ahead, diversify and stay in business, and not face taxation levels that make many projects unsustainable. For example, local abattoirs must be encouraged if the local food movement is to become reality for the livestock industry.

To maintain and encourage livestock production in the agricultural area, HAAC requests that for areas where there is a shortage of water for livestock – often caused by the increased ground water usage of municipalities – that water be provided from the municipal drinking water system.

Another emerging issue is the use of farmland products and by-products in the production of energy. Such items as bio-digesters and other technologies for energy generation were not considered in the last OP. This equipment is, or soon will be, very much a part the ever-changing rural scene. Projects such as co-generation and production alongside the Region's landfill site or other relevant facilities should be considered because the availability of co-generated heat and power is conducive to greenhouse development. Such systems represent a win for the environment, a win for local food production and a win for rural development and sustainability.

With the recent increase in the cost of inputs for agriculture, HAAC requests the Region to take a serious look at better utilization of bio-solids and reconsider changing them into fertilizer products. With today's cost structure bio-solids do have value and should be seen as a win-win proposition for the Region and the farmers.

Looking to the future, HAAC recommends a revision of the Development Charges Act to allow for a small portion to be set aside to form a venture capital fund for innovative agricultural initiatives, including funding start-up opportunities for young farmers.

HAAC did receive a presentation by Sue Coverdale, from Hamilton Region, explaining her role in economic development and also serving as a watchdog on Hamilton Planning and other departments with respect to decisions that have an impact on agriculture. HAAC recommends that such a champion/advocacy role also be present in Halton Region's staff complement. In addition this staff member would be responsible for promoting Halton to the food processing industry of the world. There are six million people within two hours and 30 million people within 12 hours driving time of Halton Region.

We feel now is the appropriate time – especially when the Region itself is questioning the province's right to impose future population increases, without forwarding an increase in infrastructure dollars – for a study to be conducted quantifying the contribution that agricultural land makes to the tax base. This will be part of this year's aims and objectives for HAAC.

HAAC thanks the Region for the opportunity to become integrally involved in the Sustainable Halton process. It is encouraging to note that Regional planners also realize that help will be needed to sustain the agriculture that will be left after this planning process is implemented.

This paper is respectfully submitted by the members of the HAAC sub-committee:

Sandy Grant, Lee Nurse, Lieven Gevaert and Peter Lambrick

This paper approved and endorsed in principle by HAAC at a special meeting,

February 23, 2009.

Final version approved unanimously by HAAC,

March 3, 2009.

(Notes have been added to Page 1 and Sections B and C for clarification, April 7, 2009)

6.2. Aggregates

Most of the significant aggregate resources in Halton are found in the Greenbelt. Since this area is already under protective policies, the implications of aggregate versus agricultural land in the Greenbelt are not as significant. The province assumes the position that aggregates can be extracted from prime agricultural land and then the land can be rehabilitated to its former agricultural use. While this is debatable, it is a position that the province has adopted.

In the PSA, the largest area of significant aggregate resources is the area of shale deposits in Halton Hills. Since this is an area that has the potential for long term agricultural production, this could be an issue. However since provincial mapping of the shale deposits is not finalized, it is premature to comment on this. Additional assessment of the impact of aggregates on agriculture will have to be deferred until the conclusions of the aggregate component of Sustainable Halton are available.

6.3. Other Uses

Other uses in the countryside that compete with agriculture for the land base include waste disposal sites, transportation facilities, golf courses, cemeteries, churches, land extensive recreation facilities and rural estate residences. Not only do these uses compete with agriculture for land, once established they often create conflicts for agriculture and negatively impact a much larger portion of the agricultural area than just the land upon which they are located. They fragment agricultural areas, create conflicts over agricultural practices, reduce the critical mass of farms required to support farm based services and generally weaken the integrity of the agricultural area. For a strong agricultural area to survive, these incursions need to be prevented.

Clearly there are certain uses that locate in the rural area because of the availability of relatively cheap land. This is not a reasonable planning rationale for allowing these uses in the countryside. Certain uses such as land extensive recreational amenities and cemeteries may have to be accommodated in the rural area. However generally all uses with no rural or agricultural connection, should be located in urban areas.

The policies should prevent the establishment of intrusive uses and protect the integrity of agricultural areas. Where it is appropriate, or necessary to locate a potentially conflicting use in the rural area, this must be carefully managed to maintain the integrity of the agricultural area.

7. CONCLUSIONS

The analysis done for this report leads to a number of conclusions.

- The PSA in Halton is a prime agricultural area as defined in the PPS and conversion of land within it for non agricultural purposes must satisfy the policies of the Growth Plan and the PPS.
- Agriculture in Halton continues to be a strong and productive sector.

- The uncertainties associated with the future of agriculture in Halton are having an impact on the sector that is evident in changes in commodity profiles.
- There is some shifting in the commodity profile to the production of crops geared to a readily available urban market.
- Halton does have specialty crops many of which are located in the Greenbelt.
- There are scattered locations where specialty crop production is occurring in the PSA, notably in east Milton.
- Certain areas of east Milton where there is specialty crop production are characterized by smaller lot sizes and fragmentation.
- The PSA qualifies as a prime agricultural area and is subject to the policies protecting agricultural land both in the Growth Plan and the PPS.
- The Greenbelt contains significant areas of prime agricultural land.
- There is sufficient land base in the PSA to support a viable agricultural industry after growth to 2031 is accommodated.
- The area south of Milton scored highest in the LEAR, but is vulnerable to the potentially adverse impacts of urban development in relatively close proximity.
- Halton Hills has good potential for long term agricultural production, because of the extent of the area and its relative remoteness from large areas of urban development.
- Close connection to the Greenbelt will provide additional support for agricultural operators.
- To improve agricultural viability; fragmentation of agricultural areas and interfaces with urban areas should be minimized.
- Large contiguous areas have the best potential for long term agriculture.
- In designating a Natural Heritage System, attention should be given to minimizing the impact on agricultural production by creating a partnership that benefits agriculture while protecting the environment. Farmers' role as stewards of the environment should be recognized and the right to farm enforced.
- Halton has the potential to support a permanent, successful agricultural sector if it is supported by strong consistently applied policies.
- A successful agriculture sector requires more than planning policies for support.
- Agriculture is an essential component of healthy sustainable communities.
- The Region has a strong, consistent record, of recognizing the value of the agricultural lands within its boundaries, protecting the resource for future generations and supporting the sector. This is an essential component of a sustainable community.

To meet the goals of the Growth Plan, the Region must designate additional land in the PSA to accommodate urban growth. Obviously the process is difficult with many diverse considerations that must be weighed and considered through the Sustainable Halton process. This evaluation has confirmed the value of the agricultural resource in the PSA which requires that decisions on accommodating growth must be made with full regard for the obligation to protect this resource for future generations.

8. RECOMMENDATIONS

Arising from this analysis there are a number of recommendations that should be considered as the Sustainable Halton process evolves.

1. A permanent agricultural presence should be maintained in Halton. Establishment of strong, effective planning policies that are implemented on a consistent and rigorous basis is essential if permanency is to be achieved.
2. A permanent agricultural presence can be accommodated in different locations that exhibit different characteristics and therefore support different types of production.
3. The greenhouse and nursery sector has a significant presence in Halton. Areas where these activities occur should be protected as prime agricultural areas.
4. To ensure that potential benefits of the Greenbelt are recognized and linkages created, the agricultural area designated in the PSA should be in close proximity or contiguous with the Greenbelt. Strong linkages should be established and maintained.
5. Regionally significant specialty crop areas were noted along the base of the Escarpment in Halton Hills and should be incorporated in the prime agricultural area.
6. The area east of Milton along the Eight Line and Trafalgar Road, Area 5 on Map 1, exhibits characteristics of a specialty crop area and should be managed as such. However the fragmented nature of the land base may make the long term survival of agriculture in this area challenging.
7. The area south of Milton, Areas 2 and 3 on Map 1, which scored highest in the LEAR evaluation, could be impacted by potentially conflicting uses. However, because of the value of the resource in this area and the potential for linkages with the Greenbelt, consideration should be given to maintaining a significant area of permanent agriculture in this area.
8. The Halton Hills area south and west of Georgetown, Area 1 on Map 1, has the best potential as a permanent agricultural area. To support this, the integrity of the area needs to be protected. Interfaces with urban development should be minimized, the right to farm vigorously enforced and fragmentation of agricultural areas avoided.

9. Information about the number and nature of agriculturally related businesses that support and rely on the agricultural sector in Halton should be assembled. This should form the basis for an economic development strategy to support agriculture.
10. To support an ongoing, viable agricultural sector, a comprehensive set of tools is required. Recommendations regarding these tools will be contained in a separate report. However essential to success will be a foundation of strong, rigorously implemented policies that have the support of all of the residents of Halton and implementation of economic development policies that support agriculture.
11. Prime agricultural areas in the Greenbelt should be designated as Prime Agricultural Areas to reinforce their importance to agricultural production.
12. All areas within the PSA, not required to accommodate the growth mandated by the province should be designated Prime Agricultural Area.
13. To achieve Halton's goal of creating a sustainable, healthy community, the Region's established position of supporting agriculture as a pillar of land form permanence should be continued and strengthened.